ATTACHMENT 1
SCOPE OF SERVICES & COMPENSATION
COLORADO SAND DRIVE

WORK SUMMARY

K Friese and Associates, Inc. (KFA) will provide the necessary engineering and technical services for the development of the plans, specifications and estimates (PS&E) and contract documents to design Colorado Sand Drive from Kelly Lane south to the proposed Copper Mine Drive, Copper Mine Drive from the northbound service road to the existing Hendrickson High School service road, and Autumn Slate Drive from Colorado Sand Drive to Benning Drive. The project will include design for a four-lane minor arterial roadway with a 90-foot wide right-of-way along Colorado Sand Drive and a section to be determined along Autumn Slate and Copper Mine Drives. The design will include sidewalks on both sides of the streets, illumination in accordance with City standards and traffic signal modifications at the proposed intersection of Copper Mine Drive and the northbound SH 130 service road.

Also included in this project is the design of a 12-inch or 16-inch waterline. The proposed alignment will follow all proposed streets in the project in an assignment to be coordinated with the City. It is assumed for this proposal that the City will make the waterline size determination and provide direction to the design team.

KFA will perform design services related to the design and plan production for this project in accordance with the latest available City of Pflugerville requirements, including the ENGINEERING DESIGN GUIDELINES & CONSTRUCTION STANDARDS, the latest UNIFIED DEVELOPMENT CODE, and City of Pflugerville Standard Details and Specifications. Special details and specifications will be developed for the project when necessary.

KFA shall include the tasks and deliverables more fully described in the following task descriptions.

PROJECT MANAGEMENT (LUMP SUM TASKS)

1. Overall Project Management – KFA will conduct internal meetings, schedule work, and coordinate on an ongoing basis with the City and project team. This task includes coordinating with subconsultants on field work, work products, and deliverables.

2. City of Pflugerville Meetings – Meetings will be conducted with the City as shown in the project schedule and after each submittal to discuss the City's comments. Three (3) meetings have been assumed. Time is included in this task for meeting preparation and documentation of the meeting.

PHASE I – PRELIMINARY ENGINEERING PHASE (LUMP SUM TASKS)

1. Kick-off Meeting and Initial Site Visit and Reconnaissance – KFA will conduct a kick-off meeting with the design team and an initial site visit to walk the project alignment, coordinate field work, discuss project schedule, and identify issues. The City will be invited to attend the site visit.

2. Data Gathering – KFA will compile and forward a list of data needs for items typically retained by the City, such as as-built drawings. KFA will review existing subdivision plats and plans and roadway and utility plans from adjacent projects. Commonly available data items, such as floodplain mapping will be obtained directly by KFA.

3. Environmental Documentation – Cox/McLain Environmental Consulting, Inc. (CMEC) will provide environmental consulting services for the preparation of an environmental technical memo, which is intended to document compliance with environmental regulations that are applicable to a City-funded project, in addition to an Archeological Survey for compliance with the Antiquities Code of Texas. The environmental technical memo will consist of the following tasks:

    a. Archeological Resources – Archival research will be performed in the files of the Texas Historical Commission (THC) Atlas Sites Database, the Texas Archeological Research Laboratory (TARL), and/or any other relevant archives for information on previous cultural resource investigations in the vicinity of the project area. The results of the research will be integrated into an application for a Texas Antiquities Permit to be submitted to the THC. A field survey will be carried out per TCH guidelines. CMEC anticipates that backhoe trenching will be required in addition to shovel testing.

    b. Water Resources – CMEC will collect data on surface water streams and other existing water resources and the potential for pollution during construction and from the completed facility. The 100-year floodplain, as defined by FEMA will be identified and the impacts of the project will be assessed. Potential for impacts to groundwater will be discussed. CMEC wetlands specialists will perform evaluations of wetlands and waters of the U.S. in all areas potentially affected by the project. Wetland field delineations will be conducted and wetland data sheets will be prepared and included in the report index. This task will include a determination of the type of permit (if any) that will be needed from the U.S. Army Corps of Engineers. Any 404 permit preparation would be carried out under an additional scope and budget.

    c. Biological Resources – CMEC biologists will describe project area biological resources including vegetation communities and wildlife habitat. Ecologically sensitive resources, including potential threatened or endangered species habitat, will be identified and their potential to affected by project construction and operation will be assessed and described in the environmental report.

    d. Hazardous Materials – A database search of previously recorded hazardous material sites in the project area will be conducted and a summary letter incorporated into the environmental report. A Phase 1 Environmental Site Assessment is not included in this scope.

e. Preparation of Environmental Tech Memo/Comment Response – This task includes the writing and production of a complete environmental technical memorandum and revisions in response to comments from the City of Pflugerville.

4. Design Survey – Inland Geodetics, LP (Inland) will perform a design survey consisting of trees, surface features, property lines and 1-foot topographic lines suitable for design of the roadway and waterline. Inland will perform sufficient research of property records from various sources to analyze and develop an exhibit of the record ROW and property configurations for the affected tracts. Inland will produce numbered individual parcel plats with metes and bounds descriptions for one (1) ROW parcel and three (3) easements.

5. Geotechnical Investigation and Pavement Design – Fugro Consultants, Inc. (Fugro) will perform eight (8) geotechnical borings at a depth of ten-feet (10') below existing grade along the proposed roadway and waterline alignments; conduct appropriate laboratory testing; and summarize the field investigation results and bedding, earthwork, and pipe design recommendations in a Geotechnical Report. The report will also include pavement design recommendations for the proposed roadway improvements.

6. Roadway Schematic – KFA will prepare a roll plot schematic of the proposed roadways showing edge of pavement, culvert crossings, sidewalks, driveways and intersections. The schematic design tasks will include:

    a. Preliminary intersection designs at Autumn Slate, Copper Mine and the northbound service road of SH 130,
    b. Preliminary roadway profiles and cross-sections to determine slope easement locations, if necessary,
    c. Preliminary drainage design; including sizing of storm sewer trunk lines and cross culverts,
    d. Preliminary quantities.

7. TxDOT Coordination – KFA will coordinate the Copper Mine Drive/SH 130 Service Road intersection improvements with TxDOT. It is anticipated that during the preliminary phase KFA will meet with TxDOT to review the proposed improvements and obtain general concurrence. Final approval of the improvements by TxDOT will occur during final design of the improvements.

PHASE II – DESIGN & BID PHASE (LUMP SUM TASKS)

1. Construction Plans – KFA will produce the following sheets (11" x 17" Full-Size) as appropriate for the revised roadway design. QA/QC is included in each sheet task.

    a. MISCELLANEOUS PLANS

1. TITLE SHEET (1 Sheet)
2. INDEX OF SHEETS (1 Sheet)
3. QUANTITY/SUMMARY SHEETS (6 Sheets) –
    1. Roadway Quantities
    2. Summary of Drainage Structures and Erosion Control
    3. Summary of Pavement Markings and Traffic Controls
    4. Illumination and Signal Summary
    5. Waterline Quantity Summary
    6. Summary of Small Signs
4. GENERAL NOTES (2 Sheets)
5. HORIZONTAL ALIGNMENT DATA & SURVEY CONTROL (1 Sheet)

b. ROADWAY PLANS & GEOMETRY

1. TYPICAL SECTIONS (1 Sheet) – Existing and proposed typical sections
2. ROADWAY PLAN AND PROFILE SHEETS (4 Sheets)

c. GRADING AND DETAILS

1. CROSS-SECTIONS – (13 Sheets) KFA will complete design cross-sections at 100-foot stations and other locations as necessary for the determination of cut and fill quantities and to further refine the design vertical geometry.
2. INTERSECTION DETAIL SHEETS (2 Sheets) – KFA will provide intersection details for the Colorado Sand and Autumn Slate, Colorado Sand and Copper Mine, Colorado Sand and Hendrickson High School Driveway, and Copper Mine and SH 130 service road intersections as necessary including a 1”=40’ scale plan view and spot grading at all PC, PT, edge of pavement and street tie-ins.
3. ROADWAY DETAILS (5 Sheets) – KFA will include miscellaneous detail sheets for the project.

d. DRAINAGE PLANS

1. DRAINAGE AREA MAP (1 Sheet)
2. CULVERT HYDRAULIC CALCULATIONS (2 Sheets)
3. CULVERT LAYOUTS (2 Sheets)
4. DETENTION POND GRADING PLAN (1 Sheet) – (1 Sheet)
5. STORM SEWER PLAN & PROFILE SHEETS (4 Sheets)
6. STORM SEWER HYDRAULIC CALCULATIONS (2 Sheets)
7. DRAINAGE DETAIL SHEETS (5 Sheets)

e. TRAFFIC CONTROL PLANS

1. SEQUENCE OF CONSTRUCTION NARRATIVE (1 Sheet)

2. TRAFFIC CONTROL PLAN SHEETS (2 Sheets)
3. TRAFFIC CONTROL STANDARD SHEETS (5 Sheets)

f. SIGNING, MARKING AND SIGNALIZATION

1. SIGNING AND PAVEMENT MARKING LAYOUTS (3 Sheets)
2. TRAFFIC SIGNAL PLAN SHEETS (8 Sheets)
3. SIGNING AND PAVEMENT MARKING STANDARDS (5 Sheets)

g. EROSION CONTROL SHEETS

1. STORMWATER POLLUTION PREVENTION PLAN (1 Sheet)
2. EROSION CONTROL PLAN SHEETS (3 Sheets)
3. EROSION CONTROL STANDARD SHEETS (3 Sheets)

h. ILLUMINATION SHEETS

1. ILLUMINATION PLAN SHEETS (3 Sheets)
2. ELECTRICAL CIRCUIT DIAGRAMS (1 Sheet)
3. STREET LIGHT BASE DETAIL (1 Sheet)
4. ILLUMINATION STANDARD SHEETS (7 Sheets)

i. WATERLINE SHEETS

1. WATERLINE PLAN & PROFILE SHEETS (4 Sheets)
2. WATERLINE STANDARD SHEETS (5 Sheets)

2. Opinion of Probable Construction Cost – KFA will prepare and submit an engineer's opinion of probable construction cost in Microsoft Excel format at the 60% and 100% and Final submittals to the City.

3. Construction Duration Estimate – KFA will prepare and submit an estimated construction schedule reflecting construction duration for each phased construction task.

4. Contract Documents – KFA will prepare a set of construction contract documents in accordance with City of Pflugerville Standards including:

a. CONTRACT REQUIREMENTS
1. Invitation for Bids
2. Instructions to Bidders
3. Proposal and Bid Schedule
4. Statement of Materials Incorporated into Realty Improvements
5. Bid Bond
6. Statement of Bidder's Experience
7. Agreement
8. Performance Bond
9. Payment Bond

10. General Conditions
11. Special Conditions of Agreement

b. Technical Specifications and Provisions
    1. City of Pflugerville Standard Specifications
    2. Special Technical Specifications
    3. Special Provisions

5. Permitting - For purposes of this proposal, it is assumed that the final roadway and utility design will require the following permits:

    a. TCEQ Chapter 290 Review – KFA will prepare and submit the required documentation to TCEQ per Chapter 290 for approval of waterline construction.

    b. TCEQ NPDES – A Contractor and Owner NOI will be prepared in conjunction with the SWPPP plans. The SWPPP will be provided to the Contractor awarded the project.

    c. TDLR (TAS) Review – KFA will prepare and submit the required documentation for a review and approval of the pedestrian facilities in accordance with TDLR/TAS regulations.

    d. TxDOT Permitting – KFA will provide the engineering data and required permit submittal information and drawings to TxDOT for review and permitting of the connection of Copper Mine Drive to the northbound service road of SH 130 and associated traffic signal modifications.

6. Bid & Award – KFA will assist the City of Pflugerville with contract administration during the bid phase of the project.

    a. Bid Solicitation – KFA will coordinate with the Pflugerville Pflag to publish the Invitation for Bid. We have assumed that the publication costs will be directly charged to the City by the newspaper and an expense has not been included.
    b. Bid Document Distribution – KFA will coordinate with a local print shop to distribute plans and project manuals to interested bidders.
    c. Pre-Bid Conference – KFA will attend the pre-bid conference, document any questions and responses provided at the meeting, and issue a follow-up addendum if necessary.
    d. Addenda Preparation – KFA will interpret plans and specifications and draft addenda, as necessary, for issuance. One (1) addendum has been assumed for budgeting purposes.
    e. Bid Opening and Review – KFA will attend the public bid opening, tabulate the bids, and perform a review of the bid tabulation and Contractor's qualifications. KFA will issue a Recommendation for Award based on the lowest responsive bidder.

f. Contract Award – Following award of the Contract by the City, KFA will assemble the necessary Contract Documents and coordinate with the Contractor and City for execution.
g. Conforming Documents – Addenda items will be incorporated into a set of "conformed" documents. We have included reproduction of 8 sets of conformed documents to be issued for construction (4 to City; 4 to Contractor).

PHASE III – CONSTRUCTION PHASE (TIME & MATERIALS TASKS)

1. Construction Phase Services – KFA will assist the City of Pflugerville with contract administration during the construction phase of the project. We understand the City of Pflugerville will provide required construction inspection services, and have assumed that the construction duration will be approximately 6 months. KFA's services will include:

    a. Pre-Construction Conference – KFA will attend a pre-construction conference with the City, Contractor, and other parties as appropriate, and prepare the meeting minutes.
    b. Progress Meetings and Site Visits – KFA will attend regular construction meetings with the City, Contractor, and other parties as appropriate, including preparing the meeting minutes. KFA will visit the site and conduct construction meetings approximately every two weeks when construction is in progress to verify that the work is generally in conformance with the plans and specifications. For budgeting purposes, we have assumed sixteen (16) meetings/site visits.
    c. Construction Materials Testing – Fugro will provide construction materials testing services including earthwork, concrete, and asphalt testing.
    d. Submittal Review – KFA will maintain a log of all Contractor submittals, track review progress, review and approve submittals, and distribute submittals to the appropriate parties.
    e. Pay Estimate Review – KFA will review the Contractor's pay estimates after approval by the City of Pflugerville's on-site Inspector and make recommendations for payment.
    f. Preparation of Change Orders – KFA will review all Contractor's requests for Change Orders and prepare Change Orders as appropriate. For budgeting purposes we have assumed two (2) change orders.
    g. Requests for Information (RFIs) – KFA will provide answers to requests for information (RFI's) from Contractor as related to possible conflicts and clarifications needed between plans and specifications. Five (5) RFI's have been assumed.
    h. Contract Close-out. KFA will attend a final project walk-thru, document "punch list items", and issue an Engineer's Concurrence for Project Acceptance letter. KFA will also notify TCEQ and other jurisdictional agencies of project completion.
    i. Record Drawings. KFA will use the Contractor's redline as-built drawings to document as-built conditions in the final record drawings. KFA will

supply the City of Pflugerville with one set of reproducible record drawings and provide one set of record drawings in .pdf format.

ASSUMPTIONS MADE FOR THIS PROPOSAL

1. Permit Review and Processing Fees are not included in the attached fee.
2. The City will directly reimburse any publications for bid advertisement.
3. No permanent water quality controls are included in the above scope of services.
4. Utility relocation design and construction are not included with this proposal.

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK	KFA	Cox-McLain	Inland	BGE	Fugro	Total Labor Cost
PROJECT MANAGEMENT (LUMP SUM)						
1. Overall Project Management	$ 6,692.00	$ -	$ -	$ -	$ -	$ 6,692.00
2. Meetings	$ 4,412.00	$ -	$ -	$ -	$ -	$ 4,412.00
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)						
1. Kick-Off Meeting & Site Reconnaissance	$ 2,108.00	$ -	$ -	$ -	$ -	$ 2,108.00
2. Data Gathering	$ 846.00	$ -	$ -	$ -	$ -	$ 846.00
3. Environmental Documentation	$ -	$ -	$ -	$ -	$ -	$ -
a. Archeological Resources	$ -	$ 4,094.00	$ -	$ -	$ -	$ 4,094.00
b. Water Resources	$ -	$ 1,339.80	$ -	$ -	$ -	$ 1,339.80
c. Biological Resources	$ -	$ 1,403.06	$ -	$ -	$ -	$ 1,403.06
d. Hazardous Materials	$ -	$ 1,132.80	$ -	$ -	$ -	$ 1,132.80
e. Preparation of Environmental Technical Memo	$ -	$ 2,576.04	$ -	$ -	$ -	$ 2,576.04
4. Design Survey	$ -	$ -	$ 34,568.00	$ -	$ -	$ 34,568.00
5. Geotechnical Investigation and Pavement Design	$ -	$ -	$ -	$ -	$ 4,530.00	$ 4,530.00
6. Preliminary Engineering & Roadway Schematic	$ 16,292.00	$ -	$ -	$ 17,911.00	$ -	$ 34,203.00
7. TxDOT Coordination	$ 2,510.00	$ -	$ -	$ -	$ -	$ 2,510.00
PHASE II - DESIGN & BID PHASE (LUMP SUM)						
1. Construction Plans	$ -	$ -	$ -	$ -	$ -	
a. 1. TITLE SHEET	$ 1,237.00	$ -	$ -	$ -	$ -	$ 1,237.00
a.2. INDEX OF SHEETS	$ 691.00	$ -	$ -	$ -	$ -	$ 691.00
a.3. QUANTITY/SUMMARY SHEETS	$ 6,400.00	$ -	$ -	$ -	$ -	$ 6,400.00
a.4. GENERAL NOTES	$ 2,724.00	$ -	$ -	$ -	$ -	$ 2,724.00
a.5. HORIZONTAL ALIGNMENT DATA	$ 1,752.00	$ -	$ -	$ -	$ -	$ 1,752.00
b.1. TYPICAL SECTIONS	$ 3,220.00	$ -	$ -	$ -	$ -	$ 3,220.00
b.2. ROADWAY PLAN & PROFILES	$ 8,712.00	$ -	$ -	$ -	$ -	$ 8,712.00
c.1. CROSS-SECTIONS	$ 7,900.00	$ -	$ -	$ -	$ -	$ 7,900.00
c.2. INTERSECTION DETAIL SHEETS	$ 4,436.00	$ -	$ -	$ -	$ -	$ 4,436.00
c.3. ROADWAY STANDARDS	$ 1,918.00	$ -	$ -	$ -	$ -	$ 1,918.00
d.1. OVERALL DRAINAGE AREA MAPS & RUNOFF COMPUTATIONS	$ 3,936.00	$ -	$ -	$ -	$ -	$ 3,936.00
d.2. CULVERT HYDRAULIC CALCULATIONS	$ 3,956.00	$ -	$ -	$ -	$ -	$ 3,956.00
d.3. CULVERT LAYOUTS	$ 4,408.00	$ -	$ -	$ -	$ -	$ 4,408.00
d.4. DETENTION POND GRADING PLAN	$ 5,288.00	$ -	$ -	$ -	$ -	$ 5,288.00
d.5. STORM SEWER PLAN & PROFILES	$ 6,070.00	$ -	$ -	$ -	$ -	$ 6,070.00
d.6. STORM SEWER & INLET HYDRAULIC CALCULATIONS	$ 3,956.00	$ -	$ -	$ -	$ -	$ 3,956.00
d.7. DRAINAGE STANDARDS	$ 1,614.00	$ -	$ -	$ -	$ -	$ 1,614.00
e.1. SEQUENCE OF CONSTRUCTION NARRATIVE	$ 1,422.00	$ -	$ -	$ -	$ -	$ 1,422.00
e.2. TRAFFIC CONTROL PLANS	$ 3,776.00	$ -	$ -	$ -	$ -	$ 3,776.00
e.3. TRAFFIC CONTROL STANDARDS	$ 1,614.00	$ -	$ -	$ -	$ -	$ 1,614.00
f.1. SIGNING AND PAVEMENT MARKING PLANS	$ 2,626.00	$ -	$ -	$ -	$ -	$ 2,626.00
f.2. TRAFFIC SIGNAL PLANS	$ -	$ -	$ -	$ -	$ -	$ -
f.3. SIGNING AND PAVEMENT MARKING STANDARDS	$ 1,382.00	$ -	$ -	$ 20,431.00	$ -	$ 21,813.00
g.1. STORMWATER POLLUTION PREVENTION PLAN	$ 731.00	$ -	$ -	$ -	$ -	$ 731.00
g.2. EROSION CONTROL PLANS	$ 2,586.00	$ -	$ -	$ -	$ -	$ 2,586.00
g.3. EROSION CONTROL STANDARDS	$ 1,462.00	$ -	$ -	$ -	$ -	$ 1,462.00
h.1. ILLUMINATION PLANS	$ -	$ -	$ -	$ -	$ -	$ -
h.2. ELECTRICAL CIRCUIT DIAGRAMS	$ -	$ -	$ -	$ 7,087.00	$ -	$ 7,087.00
h.3. STREET LIGHT BASE DETAIL	$ -	$ -	$ -	$ 1,650.00	$ -	$ 1,650.00
h.4. ILLUMINATION STANDARDS	$ -	$ -	$ -	$ 1,650.00	$ -	$ 1,650.00
i.1. WATERLINE PLAN AND PROFILE SHEETS	$ 12,360.00	$ -	$ -	$ 265.00	$ -	$ 12,625.00
I.2. WATERLINE STANDARDS	$ 2,546.00	$ -	$ -	$ -	$ -	$ 2,546.00
2. Opinion of Probable Construction Cost	$ 1,482.00	$ -	$ -	$ -	$ -	$ 1,482.00
3. Construction Duration Estimate	$ 1,298.00	$ -	$ -	$ -	$ -	$ 1,298.00
4. Contract Documents	$ 3,544.00	$ -	$ -	$ -	$ -	$ 3,544.00
5. Permitting	$ -	$ -	$ -	$ -	$ -	
a. TCEQ Chapter 290 Review	$ 417.00	$ -	$ -	$ -	$ -	$ 417.00
b. TCEQ NPDES	$ 417.00	$ -	$ -	$ -	$ -	$ 417.00
c. TDLR Review Submittal	$ 1,510.00	$ -	$ -	$ -	$ -	$ 1,510.00
d. TxDOT Permitting	$ 1,740.00	$ -	$ -	$ -	$ -	$ 1,740.00
6. Bid and Award Phase Services	$ -	$ -	$ -	$ -	$ -	
a. Bid Solicitation	$ 1,584.00	$ -	$ -	$ -	$ -	$ 1,584.00
b. Bid Document Distribution	$ 844.00	$ -	$ -	$ -	$ -	$ 844.00
c. Pre-Bid Conference	$ 1,064.00	$ -	$ -	$ -	$ -	$ 1,064.00
d. Addenda Preparation	$ 2,626.00	$ -	$ -	$ -	$ -	$ 2,626.00
e. Bid Opening and Review	$ 1,388.00	$ -	$ -	$ -	$ -	$ 1,388.00
f. Contract Award	$ 1,488.00	$ -	$ -	$ -	$ -	$ 1,488.00
g. Conforming Documents	$ 1,222.00	$ -	$ -	$ -	$ -	$ 1,222.00
LUMP SUM LABOR COST	**$ 152,207.00**	**$ 10,545.70**	**$ 34,568.00**	**$ 48,994.00**	**$ 4,530.00**	**$ 250,844.70**
LUMP SUM DIRECT EXPENSES	**$ 875.00**	**$ 1,571.00**	**$ 3,640.00**	**$ 572.00**	**$ 7,214.00**	**$ 13,872.00**
LUMP SUM TOTAL	**$ 153,082.00**	**$ 12,116.70**	**$ 38,208.00**	**$ 49,566.00**	**$ 11,744.00**	**$ 264,716.70**
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)						
1. Construction Phase Services	$ -	$ -	$ -	$ -	$ -	$ -
a. Pre-Construction Conference	$ 1,528.00	$ -	$ -	$ -	$ -	$ 1,528.00
b. Progress Meetings and Site Visits (16)	$ 6,604.00	$ -	$ -	$ -	$ -	$ 6,604.00
c. Construction Materials Testing	$ -	$ -	$ -	$ -	$ 5,456.00	$ 5,456.00
d. Submittal Review	$ 6,616.00	$ -	$ -	$ 1,020.00	$ -	$ 7,636.00
e. Pay Estimate Review	$ 1,402.00	$ -	$ -	$ -	$ -	$ 1,402.00
f. Preparation of Change Orders	$ 3,208.00	$ -	$ -	$ 2,786.00	$ -	$ 5,994.00
g. RFI Response	$ 1,440.00	$ -	$ -	$ 2,040.00	$ -	$ 3,480.00
h. Contract Closeout	$ 2,238.00	$ -	$ -	$ -	$ -	$ 2,238.00
i. Record Drawings	$ 2,842.00	$ -	$ -	$ -	$ -	$ 2,842.00
TIME & MATERIALS LABOR COST	**$ 25,878.00**	**$ -**	**$ -**	**$ 5,846.00**	**$ 5,456.00**	**$ 310,770.10**
TIME & MATERIALS EXPENSES	**$ 650.00**	**$ -**	**$ -**	**$ -**	**$ 8,223.40**	**$ 8,873.40**
TIME & MATERIALS TOTAL	**$ 26,528.00**	**$ -**	**$ -**	**$ 5,846.00**	**$ 13,679.40**	**$ 46,053.40**
TOTAL PROJECT COST	**$ 179,610.00**	**$ 12,116.70**	**$ 38,208.00**	**$ 55,412.00**	**$ 25,423.40**	**$ 310,770.10**

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK Hourly Rate: K Friese & Associates, Inc.	SHEETS/ UNITS	PRINCIPAL $ 200.00	PROJECT MANAGER $185.00	SENIOR ENGINEER $145.00	ENGINEER $116.00	EIT $81.00	SR. ENGR. TECH. $76.00	ADMIN $65.00	Sub Total Hours	Hr/Unit	KFA Labor Cost
		Hours									
PROJECT MANAGEMENT (LUMP SUM)											
1. Overall Project Management		8	20		12				40		$ 6,692.00
2. Meetings		4	12		12				28		$ 4,412.00
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)											
1. Kick-Off Meeting & Site Reconnaissance			4	4	4	4			16		$ 2,108.00
2. Data Gathering				2	2	4			8		$ 846.00
6. Preliminary Engineering & Roadway Schematic			4	16	32	80	40		172		$ 16,292.00
7. TxDOT Coordination			2	4		8	12		26		$ 2,510.00
PHASE II - DESIGN & BID PHASE (LUMP SUM)											
1. Construction Plans											$ -
a. 1. TITLE SHEET	1			1	4	4	4		13	13.0	$ 1,237.00
a.2. INDEX OF SHEETS	1			1	2	2	2		7	7.0	$ 691.00
a.3. QUANTITY/SUMMARY SHEETS	6		2	6	12	24	24		68	11.3	$ 6,400.00
a.4. GENERAL NOTES	2		2	2	4	16	4		28	14.0	$ 2,724.00
a.5. HORIZONTAL ALIGNMENT DATA	1		2	2	4	4	4		16	16.0	$ 1,752.00
b.1. TYPICAL SECTIONS	2		2	2	6	8	16		34	17.0	$ 3,220.00
b.2. ROADWAY PLAN & PROFILES	4		4	12	16	24	32		88	22.0	$ 8,712.00
c.1. CROSS-SECTIONS	13		4	4	8	36	36		88	6.8	$ 7,900.00
c.2. INTERSECTION DETAIL SHEETS	4		2	2	6	8	32		50	12.5	$ 4,436.00
c.3. ROADWAY STANDARDS	5			2	6	4	8		20	4.0	$ 1,918.00
d.1. OVERALL DRAINAGE AREA MAPS & RUNOFF COMPUTATIONS	1		2	2	12	12	12		40	40.0	$ 3,936.00
d.2. CULVERT HYDRAULIC CALCULATIONS	2		2	2	12	16	8		40	20.0	$ 3,956.00
d.3. CULVERT LAYOUTS	2		2	6	6	8	24		46	23.0	$ 4,408.00
d.4. DETENTION POND GRADING PLAN	2		2	6	8	16	24		56	28.0	$ 5,288.00
d.5. STORM SEWER PLAN & PROFILES	4		2	4	12	16	32		66	16.5	$ 6,070.00
d.6. STORM SEWER & INLET HYDRAULIC CALCULATIONS	2		2	2	12	16	8		40	20.0	$ 3,956.00
d.7. DRAINAGE STANDARDS	5			2	6	4	4		16	3.2	$ 1,614.00
e.1. SEQUENCE OF CONSTRUCTION NARRATIVE	1		1	1	4	4	4		14	14.0	$ 1,422.00
e.2. TRAFFIC CONTROL PLANS	3		2	2	8	12	16		40	13.3	$ 3,776.00
e.3. TRAFFIC CONTROL STANDARDS	5			2	6	4	4		16	3.2	$ 1,614.00
f.1. SIGNING AND PAVEMENT MARKING PLANS	3		2		6	8	12		28	9.3	$ 2,626.00
f.3. SIGNING AND PAVEMENT MARKING STANDARDS	5			2	4	4	4		14	2.8	$ 1,382.00
g.1. STORMWATER POLLUTION PREVENTION PLAN	1		1		2	2	2		7	7.0	$ 731.00
g.2. EROSION CONTROL PLANS	3		1	1	6	8	12		28	9.3	$ 2,586.00
g.3. EROSION CONTROL STANDARDS	3		2		4	4	4		14	4.7	$ 1,462.00
i.1. WATERLINE PLAN AND PROFILE SHEETS	4		4	12	16	24	80		136	34.0	$ 12,360.00
I.2. WATERLINE STANDARDS	5			2	6	8	12		28	5.6	$ 2,546.00
2. Opinion of Probable Construction Cost			2		4	8			14		$ 1,482.00
3. Construction Duration Estimate			2		8				10		$ 1,298.00
4. Contract Documents			4	4	8	16			32		$ 3,544.00
5. Permitting											$ -
a. TCEQ Chapter 290 Review			1		2				3		$ 417.00
b. TCEQ NPDES			1		2				3		$ 417.00
c. TDLR Review Submittal			2		6	2	2	2	14		$ 1,510.00
d. TxDOT Permitting			4		6		4		14		$ 1,740.00
6. Bid and Award Phase Services											$ -
a. Bid Solicitation			4			4		8	16		$ 1,584.00
b. Bid Document Distribution						4		8	12		$ 844.00
c. Pre-Bid Conference			4			4			8		$ 1,064.00
d. Addenda Preparation			2	4	4	8	4	4	26		$ 2,626.00
e. Bid Opening and Review			4			8			12		$ 1,388.00
f. Contract Award				4		8		4	16		$ 1,488.00
g. Conforming Documents				2		4	8		14		$ 1,222.00
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)											
1. Construction Phase Services											
a. Pre-Construction Conference			4		4	4			12		$ 1,528.00
b. Progress Meetings and Site Visits (16)				4	24	40			68		$ 6,604.00
c. Construction Materials Testing											$ -
d. Submittal Review			2	6	24	32			64		$ 6,616.00
e. Pay Estimate Review				2	4	8			14		$ 1,402.00
f. Preparation of Change Orders				4	4	16	8	4	36		$ 3,208.00
g. RFI Response				4	2	4	4				$ 1,440.00
h. Contract Closeout				4	2	16		2			$ 2,238.00
i. Record Drawings			2			8	24		34		$ 2,842.00
TOTALS HOURS:	90	12	123	144	364	586	530	32	Row Total = 1,791 Column Total = 1,753		
LABOR COST:		$ 2,400	$ 22,755	$ 20,880	$ 42,224	$ 47,466	$ 40,280	$ 2,080			$ 178,085.00
		0.7%	7.0%	8.2%	20.8%	33.4%	30.2%	1.8%			$ 178,085.00

LUMP SUM DIRECT EXPENSES:							
	Travel:						
	Mileage	500	miles			$0.55 per mile	$275.00
	Copies:						
	Reproduction	2500	copies			$0.20 per copy	$500.00
	Media (mylar)		sheets			$1.50 per sheet	
	Misc Expenses:						
	Express delivery	5	each			$20.00 per each	$100.00
						TOTAL	**$875.00**
TIME AND MATERIALS EXPENSES:							
	Travel:						
	Mileage	1000	miles			$0.55 per mile	$550.00
	Copies:						
	Reproduction		copies			$0.20 per copy	
	Media (mylar)		sheets			$1.50 per sheet	
	Misc Expenses:						
	Express delivery	5	each			$20.00 per each	$100.00
						TOTAL	**$650.00**
TOTAL EXPENSES:							**$ 1,525**
TOTAL PROJECT COST:							**$ 179,610**

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK Hourly Rate: Cox/McLain Environmental Consultants, Inc.	SHEETS/ UNITS	Sr. Env. Scientist II $ 138.00	Environ. Prof. II $100.63	Environ. Prof. I $86.25 Hours	Enviro. Staff II $71.88	Enviro Staff I $63.25	Enviro Tech II $51.75	Sub Total Hours	Hr/Unit	Labor Cost
PROJECT MANAGEMENT (LUMP SUM)										
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)										
a. Archeological Resources		6		32		8		46		$ 4,094.00
b. Water Resources		2	4		6	2	2	16		$ 1,339.80
c. Biological Resources		1	6		6	2	2	17		$ 1,403.06
d. Hazardous Materials		1		2	10		2	15		$ 1,132.80
e. Preparation of Environmental Technical Memo		6	4	4	4	8	4	30		$ 2,576.04
PHASE II - DESIGN & BID PHASE (LUMP SUM)										
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)										$ -
TOTALS HOURS:		**16**	**14**	**38**	**26**	**20**	**10**	Column Total = 124 Row Total = 124		
LABOR COST:		**$ 2,208**	**$ 1,409**	**$ 3,278**	**$ 1,869**	**$ 1,265**	**$ 518**			**$ 10,545.70**
		12.9%	**11.3%**	**30.6%**	**21.0%**	**16.1%**	**8.1%**			**$ 10,545.70**

LUMP SUM EXPENSES:						
	Travel:					
	Mileage	100	miles	$0.55	per mile	$55.00
	Per diem		days	$25.00	per day	
	Lodging		nights	$100.00	per night	
	Copies:					
	Reproduction	100	copies	$0.10	per copy	$10.00
	Media (mylar)		sheets	$1.50	per sheet	
	Misc Expenses:					
	Hazardous Materials database search	1	each	$250.00	per each	$250.00
	Express delivery	4	each	$14.00	per each	$56.00
	Backhoe/trackhoe/Gradall & operator	1	day	$1,200.00	per day	$1,200.00
TOTAL EXPENSES:						**$ 1,571.00**
TOTAL PROJECT COST:						**$ 12,116.70**

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK Hourly Rate: Inland Geodetics, LP	SHEETS/ UNITS	2 Man Crew $ 125.00	3 Man Crew $143.00	Proj. Manager $125.00	RPLS $114.00	Technician $85.00	GPS Tech $85.00	Admin $46.00	Sub Total Hours	Hr/Unit	Labor Cost
					Hours						
PROJECT MANAGEMENT (LUMP SUM)											
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)											
4. Design Survey		24	66	4	34	120	84	9	341		$ 34,568.00
PHASE II - DESIGN & BID PHASE (LUMP SUM)											
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)											$ -
TOTALS HOURS:		**24**	**66**	**4**	**34**	**120**	**84**	**9**	Column Total = 341 Row Total = 341		
LABOR COST:		**$ 3,000**	**$ 9,438**	**$ 500**	**$ 3,876**	**$ 10,200**	**$ 7,140**	**$ 414**			**$ 34,568.00**
		7.0%	**19.4%**	**1.2%**	**10.0%**	**35.2%**	**24.6%**	**2.6%**			**$ 34,568.00**

LUMP SUM EXPENSES:						
	Travel:					
	Mileage		miles		per mile	
	Per diem		days		per day	
	Lodging		nights		per night	
	Copies:					
	Reproduction		copies		per copy	
	Media (mylar)		sheets		per sheet	
	Misc Expenses:					
	GPS Unit	168	Hour		$15.00 per hour	$2,520.00
	ATV's	9	Day		$55.00 per Day	$495.00
	DEED/ROW Copies	1	LS		$625.00 per LS	$625.00
TOTAL EXPENSES:						**$ 3,640.00**
TOTAL PROJECT COST:						**$ 38,208.00**

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK Hourly Rate: Brown & Gay, Inc.	SHEETS/ UNITS	Sr. Proj. Manager $ 198.00	Sr. Engineer $175.00	Project Engineer $145.00	Design Engineer $110.00	EIT $90.00	CADD $75.00	Sub Total Hours	Hr/Unit	Labor Cost
		Hours								
PROJECT MANAGEMENT (LUMP SUM)										
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)										
6. Preliminary Engineering & Roadway Schematic		7	5	22	86		40			$ 17,911.00
PHASE II - DESIGN & BID PHASE (LUMP SUM)										$ -
f.3. SIGNING AND PAVEMENT MARKING STANDARDS	8	7	19		60	8	112			$ 20,431.00
h.2. ELECTRICAL CIRCUIT DIAGRAMS	3	4	5	20		28				$ 7,087.00
h.3. STREET LIGHT BASE DETAIL	1		2	4		8				$ 1,650.00
h.4. ILLUMINATION STANDARDS	1		2	4		8				$ 1,650.00
i.1. WATERLINE PLAN AND PROFILE SHEETS	5		1			1				$ 265.00
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)										
d. Submittal Review				4	4					$ 1,020.00
f. Preparation of Change Orders		2	2	8	8					$ 2,786.00
g. RFI Response				8	8					$ 2,040.00
TOTALS	**18**									
HOURS:		**20**	**36**	**70**	**166**	**53**	**152**	Raw Total = 497		
LABOR COST:		**$ 3,960**	**$ 6,300**	**$ 10,150**	**$ 18,260**	**$ 4,770**	**$ 11,400**			**$ 54,840.00**
		4.0%	**7.2%**	**14.1%**	**33.4%**	**10.7%**	**30.6%**			**$ 54,840.00**

LUMP SUM EXPENSES:						
Travel:						
Mileage	400	miles		$0.56	per mile	$222.00
Per diem		days		$25.00	per day	
Lodging		nights		$100.00	per night	
Copies:						
Reproduction	1000	copies		$0.10	per copy	$100.00
Media (mylar)	100	sheets		$1.00	per sheet	$100.00
Misc Expenses:						
Express delivery	5	each		$30.00	per each	$150.00
TOTAL EXPENSES:						**$ 572.00**
TOTAL PROJECT COST:						**$ 55,412.00**

City of Pflugerville - Colorado Sand Drive
Budget Summary

TASK Hourly Rate: Fugro Consultantants, Inc.	SHEETS/ UNITS	Principal $ 180.00	Sr. Project Manager $165.00	Project Manager $155.00	Graduate Engineer $95.00	Drafting $65.00	Word Process. $55.00	SR Technician $48.00	Technician $43.00	Sub Total Hours	Hr/Unit	Labor Cost
		Hours										
PROJECT MANAGEMENT (LUMP SUM)												
PHASE I - PRELIMINARY ENGINEERING PHASE (LUMP SUM)												
5. Geotechnical Investigation and Pavement Design		1	8		28	4	2			43		$ 4,530.00
PHASE II - DESIGN & BID PHASE (LUMP SUM)												
PHASE III - CONSTRUCTION PHASE (TIME & MATERIALS)												
c. Construction Materials Testing				4				4	108	116		$ 5,456.00
TOTALS HOURS:		**1**	**8**	**4**	**28**	**4**	**2**	**4**	**108**	Column Total = 159 Row Total = 159		
LABOR COST:		**$ 180**	**$ 1,320**	**$ 620**	**$ 2,660**	**$ 260**	**$ 110**	**$ 192**	**$ 4,644**			**$ 9,986.00**
		0.6%	**5.0%**	**2.5%**	**17.6%**	**2.5%**	**1.3%**	**2.5%**	**67.9%**			**$ 9,986.00**

LUMP SUM DIRECT EXPENSES:								
	Travel:							
	Mileage		miles			per mile		
	Per diem		days			per day		
	Lodging		nights			per night		
	Copies:							
	Reproduction		copies			per copy		
	Media (mylar)		sheets			per sheet		
	Misc Expenses:							
	Laboratory Expenses	1	each			$2,560.00	per each	$2,560.00
	Field Investigation	1	each			$4,654.00	per each	$4,654.00
							TOTAL	**$7,214.00**
TIME AND MATERIALS EXPENSES								
	CMT Expenses							
	Laboratory Expenses	1	each			$1,730.00	per each	$1,730.00
	Testing Expenses	1	each			$ 6,493.40	per each	$6,493.40
							TOTAL	$8,223.40
TOTAL EXPENSES:								**$15,437.40**
TOTAL PROJECT COST:								**$ 25,423.40**

SERVICES TO BE PROVIDED BY THE SUBCONSULTANT TO THE ENGINEER

Cox|McLain Environmental Consulting, Inc. (hereafter CMEC), sub-consultant to **K. Friese & Associates, Inc.** (hereafter the Engineer), will provide environmental consulting services for proposed improvements along Colorado Sands Drive, east of SH 130 and south of Kelly Lane in the City of Pflugerville in Travis County, Texas. This Scope of Services provides for the preparation of an environmental technical memo, which is intended to document compliance with environmental regulations that are applicable to a City-funded project, in addition to an Archeological Survey for compliance with the Antiquities Code of Texas.

A. Investigate Environmental Considerations; Report Preparation

A.1 Archeological Resources

Archival research will be performed in the electronic and mapping files of the Texas Historical Commission (THC) Atlas Sites database, the Texas Archeological Research Laboratory (TARL), and/or any other relevant archives for information on previous cultural resource investigations conducted and previously recorded sites and historic properties in the vicinity of the project's Area of Potential Effect (APE). The results of this research will be integrated into an application for a Texas Antiquities Permit to be signed by the City's representative and submitted to the THC. After a valid Antiquities Permit is obtained, a field survey will be carried out and documented per THC/Council of Texas Archeologists (CTA) guidelines. Due to the depth of local soils and the lack of development in the project area, CMEC anticipates that backhoe trenching will be required in addition to shovel testing. CMEC assumes that ROW acquisition will occur after fieldwork and that collection of artifacts will not be required (collection is required only on public land).

A.2 Water Resources

CMEC will collect data on surface water streams and other existing water resources and the potential for pollution during construction and from the completed facility. The 100-year flood plain, as delineated by FEMA, will be identified and the impacts of the proposed project will be assessed. Potential for impacts to groundwater will be discussed; no Geologic Assessment is required (the project is outside the Edwards Aquifer Recharge, Contributing, or Transition Zones).

CMEC wetlands specialists will perform evaluations of wetlands and waters of the U.S. in all areas potentially affected by the proposed project. Wetland field delineations will be conducted and wetland data sheets will be prepared and included in the report appendix. This task will include a determination of the type of permit (if any) that will be needed from the U.S. Army Corps of Engineers (USACE). The permit determination will be summarized in the report. Any 404 permit preparation would be carried out under an additional scope and budget.

A.3 Biological Resources

CMEC biologists will describe project area biological resources including vegetation communities and wildlife habitat. Ecologically sensitive resources, including potential threatened or endangered species habitat, will

be identified and their potential to be affected by project construction and operation will be assessed and described in the environmental report. A wildlife habitat assessment for suitability for endangered species will be conducted by CMEC. Because much of the project area has been previously disturbed, there is a low likelihood for suitable habitat, and no presence/absence surveys are anticipated.

A.4 Hazardous Materials

A database search of previously recorded hazardous material sites in the project area will be conducted and a summary incorporated into the environmental report. During field visits, project environmental staff will identify sites within and near the project corridor that may pose a potential hazardous materials risk. A Phase I Environmental Site Assessment is not included in this Scope of Services.

A.5 Environmental Tech Memo Preparation/Comment Response

This task includes the writing and production of a complete environmental technical memorandum, as well as revisions in response to comments from the Engineer and the City of Pflugerville. Only generalized, preliminary mitigation measures will be presented where adverse impacts may potentially occur; detailed mitigation plans are not part of this Scope of Services. This task includes the submittal of five (5) unbound copies of the draft environmental tech memo (the Engineer/City of Pflugerville review) and 5 unbound copies of the revised final tech memo.

B. Assumptions

- All necessary rights-of-entry will be secured by the Engineer/surveyor.
- This scope assumes that no formal public involvement opportunities will be held for the proposed improvements.
- Assumes that a tech memo (for a project using only local {City} funds) would be adequate, and no NEPA document (under Corps or TxDOT review) would be required. If a determination is made that use of the existing USACE easement would trigger the need for a NEPA evaluation, an additional scope and budget would be required.

C. Exclusions

The following tasks are <u>not</u> covered in this scope of work and may or may not be necessary. If deemed necessary, these tasks could be conducted under a separate or supplemental work authorization.

- Preparation of a NEPA document (CatEx, Environmental Assessment, or EIS);
- Formal Section 10(a) Endangered Species Act consultation, including preparation of a stand-alone Biological Assessment;
- Presence/absence surveys for endangered species;
- Construction phase services, including preparation of Environmental Permits, Issues and Commitments (EPIC) sheets;
- Work extending beyond the specified limits of the project at the time of this work order;

- Any Section 404 permit preparation or agency correspondence;
- Hazardous materials Phase I & Phase II ESAs;
- Reconnaissance or intensive historic structures surveys or assessments of eligibility, or management recommendations for any historic structures;
- Archeological site testing, or data recovery (services beyond a pedestrian survey);
- Participation in any public involvement meeting or activity by CMEC staff; and
- Litigation support.

INLAND GEODETICS
PROFESSIONAL LAND SURVEYORS

1504 Chisholm Trail Road
Suite 103
Round Rock, TX 78681
512-238-1200
512-238-1251 fax

8 May 2012

Joe Skidmore, P.E.
THRU: Ryan Bell, P.E.
K Friese & Associates, Inc.
TBPE Firm Number 6535
1120 South Capital of Texas Highway
Building 2, Suite 100
Austin, Texas 78746

RE: Engineering Design Surveying
Project: City of Pflugerville – Colorado Sands Blvd. Topographic/ROW Survey

Mr. Skidmore:

Inland Geodetics, LP (Inland) is pleased to submit our proposal for professional land surveying services related to the above referenced project. Our proposal is to generate topographic design data for the COP Colorado Sands Blvd. Project. The area will encompass topographic survey for a 200 foot corridor beginning at and including the intersection of Kelly Lane, thence southerly and cross-country for approx. 3500 feet to a proposed intersection with the NBFR of SH 130 at the FM 685 overpass. The area will also include an area at the FM 685 Overpass of SH 130 for signal design. The survey area also includes a 1.5 acre area of land for detention pond design. The limits of survey were taken from an exhibit from Mr. Bell via email dated 4 May 2012. Below is a specific list of our proposed Scope of Services and estimated costs.

SCOPE OF SERVICES

A. Topographic/Engineering Design Survey

1. Inland will recover, establish or utilize established control in the immediate area. The values will be relative to NAD 83 Texas State Plane Coordinates, Central Zone 4203 (scaled to surface values). Vertical Datum will be GPS Orthometric heights and projected through the length of the project. A vertical Benchmark control system will be established along the project route at approximately 1000 foot intervals via differential leveling techniques.
2. Inland will collect spot elevations and grade breaks along the project route. The data will include curbs, gutters, driveways, portions of parking areas, visible utilities, drainage features, trees (ornamentals and/or 8" and up dbh, if any) and any improvements within the defined area. Inland will generate a 1 foot contour interval DTM file of the project area. NOTE: reasonable attempts for measurements at silted drainage structures will be performed. Significant excavation of silt could result in seeking of additional fees for data acquisition.
3. Inland will perform sufficient research of property records from various sources to analyze and develop an exhibit of the record ROW and property configurations for the affected tracts. Inland will perform sufficient field work to recover property corners and highway monuments to aid in the analysis and reconstruction of the tracts where parcels will be acquired, estimated at 1 parcel and 3 easements (total 4) for this proposal. Final deliverables will be numbered individual parcel plats with metes and bounds descriptions. Inland will place durable monuments on the acquired property corners as depicted within the ROW parcel metes and bounds description.
4. Inland will place a utility location request with the "One Call" system for designating of the underground utilities within the project limits (except drainage channels).
5. Inland will prepare a letter requesting Right of Entry onto private properties for surveying purposes for the affected properties. An Excel spreadsheet of the names, addresses and response will be logged and updated as needed. This file will become one of the project deliverables.
6. Inland will utilize the data collected along the Project corridor in the Field Survey to produce a digital terrain model (DTM), 2D MicroStation planimetric file, and a 3D MicroStation DTM (tin) file including break-lines and contours. Survey field notes and supporting electronic data will be made available upon request or as stated above. Inland will prepare a horizontal and vertical control layout exhibit which will include the benchmark system callouts. Utility contact sheets will be forwarded to the project manager.

The ESTIMATED T & M (not to exceed w/o authorization) fee for the above services: **$ 38,208.00**

NOTE: This proposal understands that KFriese & Associates will provide a VALID and CURRENT Tax Exempt Resale Certificate issued from the City of Pflugerville for the purchase of taxable land surveying services as a component of their deliverables. A copy of this certificate will be forwarded to Inland Geodetics, LP in lieu of incurring sales tax charges for the boundary surveying portion of this proposal.

The estimated fee proposed above are based on personnel time required to perform the described Scope of Services. Additional time requirements resulting from project scope changes, plan revisions, field recovery of or discrepancies of control provided will be considered reasonable cause for us to seek additional compensation for services not included in these amounts.

Sincerely,

M. Stephen Truesdale
Registered Professional Land Surveyor
Licensed State Land Surveyor
Inland Geodetics, LP

BROWN & GAY ENGINEERS, INC.

May 16, 2012

Mr. Ryan Bell
K. Friese & Associates, Inc.
1120 S. Capital of Texas Highway
The Setting II, Suite 100
Austin, Texas 78746

Subject: Proposal for Traffic Signal and Illumination Design Services
Colorado Sand Drive in Pflugerville, Texas

Dear Mr. Bell:

Brown & Gay Engineers, Inc. appreciates the opportunity to submit this proposal for preparing plans for traffic signal modifications and roadway illumination for the construction of Colorado Sand Dr in the City of Pflugerville.

The plans will be prepared in compliance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), TxDOT's standards, and the City of Pflugerville requirements. The design of the proposed signal will need coordination with TxDOT Austin District. The following are the scope of services, budget and schedule.

A. SCOPE OF SERVICES

Brown & Gay Engineers, Inc. (BGE) will prepare plans, general notes and estimates for traffic signal and illumination construction. The traffic signal plans will include modifying the existing diamond traffic signal to accommodate the proposed Colorado Sand Dr connection to the existing FM 685 @ SH 130 intersection. The roadway illumination plans will include illumination along the Proposed Colorado Sand Dr from SH 130 to Kelly Ln. These plans will be inserted in the overall set of roadway construction plans for the subject project. BGE will perform the following tasks:

1) Preliminary Engineering Phase (PER)

a) Traffic Signal

i) Field review of the project location by design staff to verify survey information, perform field observations, identify signal pole locations, identify electrical service location and verify signal controller type and capability to accommodate the proposed signal expansion.

ii) Meet with the City and TxDOT Austin District to discuss the requirements of the project. It is anticipated that the additional signals will run off the existing diamond-type controller located on the southwest corner of the interchange, provided enough signal conduit capacity is available across the bridge.

iii) Based on survey information to be provided by the Client, prepare a base layout of the intersection showing the intersection geometry and right-of-way.

iv) Obtain utility information from the Client and contact utility companies to obtain additional information as needed. Show the utility information on the plans, and coordinate with the power company for electric service.

v) Prepare preliminary traffic signal plans showing existing poles to remain, proposed signal pole locations, proposed signal head indications, proposed pedestrian facilities to meet ADA requirements, and proposed conduit runs.

vi) Prepare preliminary construction cost estimate.

b) Roadway Illumination

i) Field review of the project location by design staff to verify survey information, perform field observations, identify signal pole locations and identify electrical service location.

ii) Meet with the City to discuss the requirements of the project.

iii) Prepare illumination plan sheets using roadway base files provided by the prime consultant.

iv) Obtain utility information from the Client and contact utility companies to obtain additional information as needed. Show the utility information on the plans, and coordinate with the power company for electric service.

v) Perform photometric analysis in accordance with AASHO Roadway Lighting Design Guide to determine pole type(s) and locations.

vi) Prepare preliminary illumination plans showing pole locations and conduit runs.

vii) Prepare preliminary construction cost estimate.

2) Design Phase

a) Traffic Signal

i) Prepare the following plan sheets:
(1) General Notes
(2) Summary of traffic signal quantities
(3) Existing Conditions Layout
(4) Proposed Traffic Signal Layout
(5) Signal Phasing and Wiring Charts
(6) Proposed Traffic Signal Elevations
(7) Proposed Intersection Pavement Marking, Signing and Ramps Layout
(8) Traffic signal pole and foundation standard sheets with quantities

ii) Select and prepare all applicable TxDOT standard sheets for traffic signal construction.

iii) Prepare construction cost and construction time estimates.

iv) Meet with client to review plans at 60% and 90% completion levels.

v) Prepare final mylar plans, general notes and estimates.

vi) Deliverables will include 11" x 17" mylar plans, two paper sets for each milestone review submittal, two paper sets for the final submittal, and a CD with all Microstation files for the project.

b) Roadway Illumination

i) Prepare the following plan sheets:
(1) General Notes
(2) Summary of illumination quantities
(3) Roadway Illumination Plan Sheets
(4) Electrical Circuit Diagrams
(5) Proposed Illumination Pole and Foundation Details

ii) Select and prepare all applicable standard sheets.

iii) Prepare construction cost and construction time estimates.

iv) Meet with client to review plans at 60% and 90% completion levels.

v) Prepare final mylar plans, general notes and estimates.

vi) Deliverables will include 11" x 17" mylar plans, two paper sets for each milestone review submittal, two paper sets for the final submittal, and a CD with all Microstation files for the project.

3) Bid and Construction Phase

a) The Engineer will perform the following tasks if requested by the Client:

i) Provide technical consultation during construction and respond to RFIs.

ii) Review shop drawing submittals from the contractor for traffic signal and illumination equipment.

iii) Perform final signal inspection and provide punch list of items that need attention prior to final acceptance.

B. BUDGET

The proposed fee for these services is an amount of $ 55,412 (Fifty Five Thousand Four Hundred Twelve Dollars) as shown below. See the attached budget summary for a breakdown of the fee.

Preliminary Engineering and Design Phase	$49,566.00	(Lump Sum)
Bid and Construction Phase	$5,846.00	(T&M not to exceed)
Total	$55,412.00	

Invoices will be prepared monthly based on a percent complete for preliminary engineering and design phase services. Invoices for the bid and construction phase will be invoiced at the hourly billing rates shown in Attachment "A". Invoices will be submitted monthly and will be payable upon

receipt of the invoice. Any other services not listed in the scope of work but requested by the Client will be performed as additional services at the hourly billing rates in Attachment "A".

C. SCHEDULE

Deliverables will be submitted in accordance with the overall project schedule.

D. ITEMS TO BE FURNISHED BY THE CLIENT

1. The Client will furnish the following items:
   - Cad files of the proposed roadway showing roadway features, drainage features, utilities, right-of-way and any other relevant features.
   - Existing and proposed underground and overhead utility information
2. The Client will bid the project for construction.
3. The City will provide traffic data.

If you have any questions or need additional information please contact me at (512) 879-0407.

Sincerely,

Federico J. Mendoza, PE, PTOE
Director, Traffic Engineering
Brown & Gay Engineers, Inc.

FUGRO CONSULTANTS, INC.

8613 Cross Park Drive
Austin, Texas 78754
Phone: 512-977-1800
Fax: 512-973-9966

K Friese & Associates, Inc.
1120 S. Capital of Texas Highway
The Setting II, Suite 100
Austin, Texas 78746

Proposal No. 04.30121025
May 16, 2012

Attention: Mr. B. Ryan Bell, P.E.

Proposal for Geotechnical Investigation, Pavement Thickness Design, and Construction Materials Testing
Colorado Sands
Pflugerville, Texas

Fugro Consultants, Inc. (Fugro) is pleased to be selected to perform a Geotechnical Investigation, Pavement Thickness Design, and Construction Materials Testing for the above referenced project. The project will consist of approximately 3,200 linear feet of new roadway and 16-inch waterline installation. We understand the waterline will be 4 to 5 ft below existing grade. Our understanding of the project is based on the information provided by Mr. Ryan Bell of K Friese & Associates. We have received a site plan layout showing the proposed roadway/waterline alignment and have made a brief site visit. Currently, the site is a cultivated field with tall to very tall grass which will either need to be cut and harvested by the farmer or cleared prior to our mobilization to stake borings and complete the drilling to avoid a fire hazard.

The geotechnical investigation and pavement thickness design will include field, laboratory, and engineering phases. The following sections of this proposal describe the scope of our services, a cost estimate, an estimated schedule, the scope of services for construction materials testing, and proposed terms and conditions.

Field Investigation

According to published geologic mapping of the Austin area[1], and based on previous investigations within the nearby Falcon Pointe housing development, the site is underlain by Austin Group limestone in the northern half, and Taylor clay to the south. Fugro proposes to drill eight (8) 10-ft deep borings, approximately one every 500 linear feet, within the proposed Colorado Sands roadway alignment. Total drilling footage will be 80 feet.

[1] Garner, L.E. and Young, K.P. (1976), "Environmental Geology of the Austin Area: An Aid to Urban Planning," Report of Investigation No. 86, Bureau of Economic Geology, The University of Texas at Austin, Plate VII (reprinted 1992).

Laboratory Testing

Laboratory tests (natural water contents, Atterberg limits, and partial gradation analyses) will be performed to classify soil strata and evaluate plasticity. Unconfined compression tests will be conducted on selected intact soil and/or rock specimens to evaluate the compressive strength of the subsurface strata. Soluble sulfate tests, and PH and PI lime series tests will be conducted on pavement subgrade samples. Pressure swell tests will be performed to evaluate the swelling characteristics of the subgrade soils.

Engineering Report

Engineering analyses of the results of the field and laboratory data will be made to develop the pavement thickness design, and recommendations for the utility installation. Specifically, the report will include the following:

1. Boring location plan;
2. General subsurface conditions, including boring logs with descriptions of strata, summaries of laboratory test results, and water levels obtained at the time of drilling;
3. Flexible pavement thickness design and construction recommendations based on traffic data provided by the City of Pflugerville, and using the 1993 AASHTO and the City of Pflugerville procedures;
4. General discussion of OSHA trench safety for cost estimation purposes (actual design, installation, and performance of trench safety excavation systems are the responsibility of the contractor);
5. General comments regarding excavation potential; and
6. Recommendations for pipe bedding and backfilling procedures, with corresponding modulus of soil reaction, E', for buried pipe.

An electronic (PDF) copy and four hard copies of the report will be submitted unless otherwise requested.

Cost Estimate

Based on the scope of work outlined above and the attached Fee Schedule G-2012, our estimated fee is presented on Attachment 1. The cost estimate is based on the following assumptions:

1. Design traffic loads will be provided by others;
2. The road centerline will be staked by others prior to our mobilization in the field;
3. Fugro will stake the boring locations based on the provided site plan;
4. Boring locations will be readily accessible with truck-mounted drilling equipment;
5. A budget for limited site clearing and hourly rate for difficult maneuvering of the drill rig is planned;
6. We will notify Texas811 (One Call) at least 48 hours prior to our mobilization to the site;
7. A site plan with topographic contours will be provided by others in AutoCAD format to facilitate reporting;
8. Boring locations will be marked in the field after drilling for others to obtain locations and elevations. We will obtain latitude and longitude coordinates at the boring locations using a hand-held GPS device; and
9. Right of Entry will be provided by others.

The estimated fee may be exceeded if site conditions are significantly different than anticipated or changes in work are required or requested. However, the estimated fee will not be exceeded without the client's prior authorization. Required additions to the above scope of services would be invoiced in accordance with the attached fee schedule.

Schedule

Weather and site conditions permitting, field operations can start within a week after formal authorization to proceed. Field operations will take approximately 1 week to complete. Under normal circumstances, laboratory testing and report preparation will take an additional 3 to 4 weeks to complete. We will keep you verbally informed of our findings as they become available.

Scope of Services for Construction Materials Testing

We anticipate that our scope of services will consist of:

- Earthwork Testing;
- Concrete Testing; and

- Asphalt Testing.

For placement and compaction of fill, backfill, natural subgrade, and pavement base material, we will provide a soil technician when requested to perform required field density tests to monitor the contractor's compliance with specifications. Laboratory tests will consist of Atterberg limits, gradation analyses, and moisture density relationships. Additional field and laboratory testing will be required for stabilized subgrades as itemized in our fee estimate.

When anticipate that the Owner will provide inspection of the concrete reinforcement prior to structural concrete placements. If requested, we are available to observe the reinforcing prior to concrete placement. Bar size, spacing, splicing, cleanliness, and cover will be examined for compliance with the approved structural drawings.

When requested, our duties for cast-in-place concrete monitoring will be slump testing, molding compression test cylinders, and concrete compression testing. Concrete will be observed for slump at the point of placement, and one set of concrete cylinders will be cast at the specified frequency. Air content will be tested for concrete exposed to weather. Our fees do not include control of the initial curing environment of the compression test cylinders.

When requested, our technicians will also perform laboratory testing on the hot mix asphaltic concrete (HMAC). We will cut cores for determining field density and in-place thickness. Laboratory testing will include molding of test specimens, laboratory densities, voids in mineral aggregate, determination of maximum theoretical density, asphalt content, and gradation.

Our field technician(s) will immediately report results of field observations directly to the on-site job superintendent and owner's representative. We will assist the superintendent in identification and correction of any observed non-compliances with project specifications. In no case will our technician direct the contractor's operations, waive specifications, or make final acceptance of the contractor's work. Written reports will be transmitted electronically.

The scope of services and estimate proposed herein does not include:

- Inspection of any items at off-site suppliers and fabrication plants; it is assumed that suppliers and fabrication plants employed by the contractor have their own QA/QC program to satisfy the project requirements.

- Standby time, trips to site for cancellations without notice, retesting, reinspection, or testing services for the contractor's convenience or internal Quality Control; and
- Overtime (see footnotes of Schedule CMT-2012 for definition).

Terms and Conditions

Fees for field work, laboratory testing, and report preparation are outlined in Fee Schedule G-2012 and CMT-2012. Schedule 40.01 describes general contractual conditions including identification of client, on-site responsibilities and risks, warranty, invoicing procedures, and record and sample maintenance. Schedule 40.01 is attached to this proposal.

Materials testing services are for quality control purposes only. In no way are our personnel responsible for the job site safety of others, nor do they have stop-work authority. However, our personnel will conduct their work in a safe, workman-like manner, and will observe work-site safety requirements.

The following statement is required by Fugro's Insurance Company. Fugro's scope of work does not include the investigation, detection, or design related to the presence of any Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

* * *

To indicate acceptance of this proposal, please have the signature block on the following page signed by a duly authorized representative of the client and initial on the following page the services you authorize us to perform, and return one copy to us for our files. Whoever signs below is identified as our Client as used throughout Schedule 40.01 attached. Please indicate which scope is authorized. We appreciate the opportunity to submit this proposal and look forward to working with you on this project. Please call us if we can be of any additional assistance.

Sincerely,

FUGRO CONSULTANTS, INC.
TBPE Firm Registration No. F-299

John S. Landwermeyer, P.E.
Senior Project Manager

Johnny F Flores, P.E.
Senior Project Manager

Attachments

- Attachment 1 – Fugro Cost Estimates
- Attachment 2 – K Friese Cost spreadsheet
- Schedule 40.01
- Fee Schedules G-2012 and CMT-2012

C L I E N T:

_____
Firm Name

_____
Authorizing Signature

_____
Typed Name & Title

_____
Date

Attachment 1
Cost Estimate for Geotechnical Investigation and Pavement Thickness Design
Colorado Sands
Pflugerville, Texas

1. Field Investigation		**Quantity**	**Unit**	**Rate**	**Subtotal**
Coordination, Utility Clearance, Supervision, Staking of Borings					
	Mobilization and Demobilization	1	ls	$200.00	$200.00
	Drilling and Sampling - Soil	55	ft	$16.00	$880.00
	Standard Penetration tests	8	each	$23.00	$184.00
	Rock Coring - Soft Rock	25	ft	$26.00	$650.00
	Backfilling Boreholes	80	ft	$8.00	$640.00
	Hourly Charge for Light Clearing/Difficult Access/Coordination	12	hrs	$175.00	$2,100.00
				Subtotal	**$4,654.00**

2. Laboratory Investigation		**Quantity**	**Unit**	**Rate**	**Subtotal**
	Natural Moisture Contents	8	test	$15.00	$120.00
	Atterberg Limits	8	test	$65.00	$520.00
	Sieve Analysis	8	test	$65.00	$520.00
	Unconsolidated-undrained triaxial compression test	2	test	$65.00	$130.00
	Unconfined Compression Test, Rock	3	test	$60.00	$180.00
	Soluble Sulfate (TEX-145-E)	3	test	$80.00	$240.00
	PH Lime Series	1	test	$250.00	$250.00
	PI Lime Series	1	test	$300.00	$300.00
	Pressure Swell	2	test	$150.00	$300.00
				Subtotal	**$2,560.00**

3. Engineering and Technical Services		**Quantity**	**Unit**	**Rate**	**Subtotal**
Geotechnical Analyses and Report					
	Senior Consultant/Project Principal	1	hrs	$180.00	$180.00
	Senior Project Manager	8	hrs	$165.00	$1,320.00
	Graduate Professional	28	hrs	$95.00	$2,660.00
	Word Processing	2	hrs	$55.00	$110.00
	Drafting	4	hrs	$65.00	$260.00
				Subtotal	**$4,530.00**

TOTAL ESTIMATED COST	**$11,744.00**

Proposal No. 04.30121025
5/16/2012

Attachment 1
Cost Estimate for Construction Materials Testing
Colorado Sands
Pflugerville, Texas

Description	Test Method	Qty	Unit Price	Extension	Subtotal	Staff Fees
Earthwork						
Field Density Tests						
Roadway Subgrade, Base	TEX 115E, Part I	20 ea	$14.00	$280.00		$0.00
Water Line Backfill	TEX 115E, Part I	30 ea	$14.00	$420.00		$0.00
Storm Sewer Backfill	TEX 115E, Part I	15 ea	$14.00	$210.00		$0.00
Drainage Structure Backfill	TEX 115E, Part I	20 ea	$14.00	$280.00		$0.00
Misc site grading, embankment	TEX 115E, Part I	20 ea	$14.00	$280.00		$0.00
Soil-Lime pH Series	TEX 121E, Part III	2 ea	$195.00	$390.00		$0.00
Soil-Lime Field Gradation	TEX 101E, Part III	4 ea	$30.00	$120.00		$0.00
Technician		60 hr	$43.00	$2,580.00		$2,580.00
Overtime		0 hr	$53.00			
Trip Charge		15 ea	$42.00	$630.00	$5,190.00	$0.00
Laboratory Testing for Soil						
Proctor Density	TEX 114E	5 ea	$210.00	$1,050.00		$0.00
Atterberg Limits	TEX 104, 105, 106E	5 ea	$55.00	$275.00		$0.00
Sieve Analysis	TEX 110E, 111E	5 ea	$55.00	$275.00	$1,600.00	$0.00
Laboratory Testing for Pavement Base						
Proctor Density	TEX 113E	0 ea	$210.00	$0.00		$0.00
Atterberg Limits	TEX 104, 105, 106E	0 ea	$55.00	$65.00		$0.00
Sieve Analysis	TEX 110E, 111E	0 ea	$55.00	$65.00		$0.00
Triaxial	TEX 117E	0 ea	$150.00	$0.00		$0.00
Wet Ball	TEX 116E	0 ea	$150.00	$0.00	$130.00	$0.00
Reinforcing Steel Inspections						
Sr. Technician		0 hr	$48.00	$0.00		$0.00
Overtime		0 hr	$58.00			
Trip Charge		0 ea	$42.00	$0.00	$0.00	$0.00
Concrete Placement - Structural						
Concrete Cylinders	ASTM C31, C39	32 ea	$17.00	$544.00		$0.00
Concrete Beams	ASTM C31, C78	0 ea	$40.00	$0.00		$0.00
Air Content Tests	ASTM C173, C231	8 ea	$15.00	$120.00		$0.00
Technician		48 hr	$43.00	$2,064.00		$2,064.00
Overtime		0 hr	$53.00			
Trip Charge		16 ea	$42.00	$672.00	$3,400.00	$0.00
Hot-Mix Asphaltic Concrete						
Sr. Technician		4 hr	$48.00	$192.00		$192.00
Overtime		0 hr	$58.00			
Asphalt Coring Equipment		4 hr	$20.00	$80.00		$80.00
Trip Charge		4 ea	$42.00	$168.00	$440.00	$0.00
Laboratory Testing for Asphalt						
Bulk Density/VMA	TEX 207F	4 set	$110.00	$440.00		$0.00
AC Content/Gradation	TEX 236F, 200F	4 ea	$200.00	$800.00		$0.00
Max Theoretical Density	TEX 227F	4 ea	$60.00	$240.00		$0.00
Specific Gravity of Asphalt core	TEX 207F	4 ea	$42.00	$168.00	$1,648.00	$0.00
Project Management						
Project Manager, P.E.		4 hr	$155.00	$620.00		$620.00
Report Production	Billed at 5% of total fees			$651.40	$1,271.40	$0.00
	Total Estimated Cost				**$13,679.40**	

\\Austingeotech\Data\WORKFILE\GEO\PROPS\2012\04.30121025 Colorado Sands\[Att 1b - CMT Estimate.XLS]Sheet1

GENERAL CONDITIONS FOR TECHNICAL SERVICES

1. Parties to This Agreement
   CLIENT as used herein is the entity who authorizes performance of services by Fugro Consultants, Inc. (FUGRO) under the conditions stated herein. FUGRO as used herein includes, Fugro Consultants, Inc., its employees and officers, and its subcontractors and sub-consultants (including affiliated corporations).
2. On-site Responsibilities and Risks
   2.1 Right-of-Entry. Unless otherwise agreed, CLIENT will furnish unfettered rights-of-entry and obtain permits as required for FUGRO to perform the fieldwork.
   2.2 Damage to Property. FUGRO will take reasonable precautions to reduce damage to land and other property caused by FUGRO's operations. However, CLIENT understands that damage may occur and FUGRO's fee does not include the cost of repairing such damage. If CLIENT desires FUGRO to repair and/or pay for damages, FUGRO will undertake the repairs and add the pre-agreed cost to FUGRO's fee.
   2.3 Toxic and Hazardous Materials. CLIENT will provide FUGRO with all information within CLIENT's possession or knowledge as to the potential occurrence of toxic or hazardous materials, or Biological Pollutants (as defined in 9. below) at the site being investigated. If unanticipated toxic or hazardous materials, or biological pollutants are encountered, FUGRO reserves the right to demobilize FUGRO's field operations at CLIENT's expense. Remobilization will proceed following consultation with FUGRO's safety coordinator and CLIENT's acceptance of proposed safety measures and fee adjustments.
   2.4 Utilities and Pipelines. While performing FUGRO's fieldwork, FUGRO will take reasonable precautions to avoid damage to subterranean and subaqueous structures, pipelines, and utilities. CLIENT agrees to defend, indemnify, and hold FUGRO harmless for any damages to such structures, pipelines, and utilities that are not called to FUGRO's attention and/or correctly shown on plans furnished to FUGRO.
   2.5 Site Safety. FUGRO is not responsible for the job site safety of others, nor does FUGRO have stop-work authority over work by others. However, FUGRO will conduct its work in a safe, workman-like manner, and will observe the work-site safety requirements of CLIENT that have been communicated to FUGRO in writing.
3. Standard of Care
   3.1 FUGRO will perform its services consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same location.
   3.2 CLIENT acknowledges that conditions may vary from those encountered at the location where borings, surveys, or explorations are made and that FUGRO's data, interpretations, and recommendations are based solely on the information available to FUGRO, and FUGRO is not responsible for the interpretation by others of the information developed.
4. **Limitation of Remedies**
   To the greatest extent permitted by law, CLIENT's sole remedy against FUGRO for claims and liabilities in any way arising out of or directly or indirectly related to FUGRO's work for CLIENT will not exceed an aggregate limit of $50,000 or the amount of FUGRO's fee, whichever is greater, regardless of the legal theory under which remedy is sought, whether based on negligence [whether sole or concurrent, active or passive], breach of warranty, breach of contract, strict liability or otherwise. In the event CLIENT does not wish to limit FUGRO's remedy to this sum, and if CLIENT requests in writing prior to acceptance of this Agreement, FUGRO agrees to negotiate a greater remedy amount in exchange for an increase in scope and fee appropriate to the project and remedy risks involved. .
5. Invoices and Payment
   At FUGRO's discretion, invoices will be submitted at the completion of task elements, or monthly for services rendered. Payment is due upon presentation of FUGRO's invoice and is past due thirty- (30) days from invoice date. CLIENT agrees to pay a financing charge of one percent (1%) per month (or the maximum rate allowable by law, whichever is less), on past due accounts, and agrees to pay attorney's fees or other costs incurred in collecting any delinquent amount.
6. Data, Records, Work Product and Report(s), and Samples
   Data, Records, Work Product and Report(s) are FUGRO's property. All pertinent records relating to FUGRO's services shall be retained for a minimum of two (2) years after completion of the work. CLIENT shall have access to the records at all reasonable times during said period. FUGRO will retain samples of soil and rock for a minimum of 30 days after submission of FUGRO's report unless CLIENT advises FUGRO otherwise. Upon CLIENT's written request, for an agreed charge FUGRO will store or deliver the samples in accordance with CLIENT's instructions.
7. Indemnification
   FUGRO and CLIENT shall indemnify each other from any claims, damages, losses, and costs, including, but not limited to, reasonable attorney's fees and litigation costs, to the proportionate extent caused by each party's own negligence, including the negligence of the indemnifying party, and its employees, affiliated corporations, officers, and sub-tier parties in connection with the project.
8. Consequential Damages
   Notwithstanding any other provision of this Agreement, CLIENT and FUGRO waive and release any claim against the other for loss of revenue, profit or use of capital, loss of services, business interruption and/or delay, loss of product, production delays, losses resulting from failure to meet other contractual commitments or deadlines, downtime of facilities, or for any special, indirect, delay or consequential damages resulting from or arising out of this Agreement, or as a result of or in connection with the work, and whether based on negligence (whether sole or concurrent, active or passive), breach of warranty, breach of contract, strict liability or otherwise.
9. Biological Pollutants
   FUGRO's scope of work does not include the investigation, detection, or design related to the presence of any Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms. CLIENT agrees that FUGRO will have no liability for any claim regarding bodily injury or property damage alleged, arising from, or caused directly or indirectly by the presence of or exposure to any Biological Pollutants. In addition, CLIENT will defend, indemnify, and hold harmless FUGRO from any third party claim for damages alleged to arise from or be caused by the presence of or exposure to any Biological Pollutants. If CLIENT requests in writing prior to acceptance of this Agreement, FUGRO will negotiate a greater limitation amount, and remove CLIENT's responsibilities, in exchange for an increase in fee to develop an expanded scope of work to provide biological pollutant protection.
10. Acceptance of Agreement
    These GENERAL CONDITIONS have been established in large measure to allocate certain risks between CLIENT and FUGRO. FUGRO will not initiate service without formal agreement on the terms and conditions set forth in these GENERAL CONDITIONS. Acceptance or authorization to initiate services shall be considered by both parties to constitute formal acceptance of all terms and conditions of these GENERAL CONDITIONS. Furthermore, all preprinted terms and conditions on CLIENT's purchase order or purchase order acknowledgment forms are inapplicable to these GENERAL CONDITIONS and FUGRO's involvement in CLIENT's project.
11. Termination of Contract
    CLIENT and FUGRO may terminate services at any time upon ten (10) days written notice. In the event of termination, CLIENT agrees to fully compensate FUGRO for services performed including reimbursable expenses to the termination date, as well as demobilization expenses. FUGRO will terminate services without waiving any claims or incurring any liability.

FEE SCHEDULE FOR GEOTECHNICAL FIELD, LABORATORY AND ENGINEERING SERVICES

1.	**Field Investigation**		
1.1.	Mobilization and demobilization, per mobilization:		
1.1.1	Drill truck, water truck and crew	$	5.00/mile
1.1.2	All-terrain drill rig and crew		Upon Request
1.2.	All-terrain vehicle with drill rig (additional charge)	$	600.00/day
1.3.	Drilling and sampling:		
1.3.1	Drilling and sampling with 3-inch, thin-walled tube sampler, continuous to 10.0 ft, 5.0-ft intervals thereafter	$	16.00/foot
1.3.2	Continuous drilling and sampling with 3-inch, thin-walled tube sampler or split-spoon sampler	$	32.00/foot
1.4.	Standard penetration tests	$	23.00/each
1.5.	TxDOT cone penetration tests	$	29.00/each
1.6.	Rock coring, NQ or similar core barrel:		
1.6.1	Drilling in soft rock (Austin Chalk, Eagle Ford Shale, etc.)	$	26.00/foot
1.6.2	Drilling in hard rock or cavitated rock (Edwards, Buda, Glen Rose, Georgetown, and Walnut Formations)	$	32.00/foot
1.7.	Wash or auger borings drilled and logged from cuttings:		
1.7.1	Soil	$	14.00/foot
1.7.2	Rock	$	22.00/foot
1.8.	Casing of boreholes	$	18.00/foot
1.9.	Hourly charges for boring layout, excessive time spent gaining access to boring locations, backfilling boreholes, cleaning up site, installing piezometers, and for other reasons beyond our control	$	175.00/hour
1.10.	Rental of concrete core drilling equipment or equipment to gain site access, or traffic control devices		Cost + 15%
1.11.	Materials for piezometers, grouting, etc.		Cost + 15%
1.12.	Surveying or other outside contractors		Cost + 15%
1.13.	Traffic control		Upon Request
1.14.	Per diem for out-of-town assignments, per person	$	135.00/night
1.15.	High-pressure steam cleaner	$	400.00/day
1.16.	OVA meter		Upon Request
1.17.	Steel drums for drill cuttings (delivered)	$	65.00/each
1.18.	Plugging boreholes with bentonite/concrete slurry	$	8.00/foot
1.19.	Cone penetrometer testing	$	3,450.00/day

2. Laboratory Tests

2.1.	Natural water content and soil classification	$	15.00/each
2.2.	Plastic and liquid limits	$	65.00/each
2.3.	Free swell test	$	115.00/each
2.4.	Pressure swell test	$	150.00/each
2.5.	Uniaxial pressure-strain test	$	75.00/each
2.6.	Sieve analysis (Nos. 4, 40, and 200 sieves)	$	65.00/each
2.7.	Percent material passing a single sieve	$	45.00/each
2.8.	Minus No. 200 sieve	$	45.00/each
2.9.	Hydrometer analysis	$	200.00/each
2.10.	Unit dry weight determination and natural water content	$	18.00/each
2.11.	Unconfined compression test, soil	$	55.00/each
2.12.	Unconfined compression test, rock	$	60.00/each
2.13.	Unconsolidated-undrained triaxial compression test	$	65.00/each
2.14.	Standard Proctor (ASTM D-698) compaction test	$	210.00/each
2.15.	Modified Proctor (ASTM D-1557) compaction test	$	210.00/each
2.16.	TxDOT (TEX-113-E) compaction test	$	210.00/each
2.17.	California Bearing Ratio (CBR)	$	225.00/point
2.18.	Consolidation test, 7-load increments	$	750.00/each
	Additional load increments	$	100.00/each
2.19.	Permeability of silt or clay	$	325.00/each
2.20.	Specific gravity	$	65.00/each
2.21.	Volumetric shrinkage	$	90.00/each
2.22.	Soluble Sulfates (TEX-145-E)	$	80.00/each
2.23.	Chemical and analytical testing by outside laboratory		Cost + 15%

3. Engineering and Technical Personnel

3.1.	Senior Consultant/Project Principal	$	180.00/hour
3.2.	Senior Project Manager	$	165.00/hour
3.3.	Project Manager	$	155.00/hour
3.4.	Project Engineer	$	135.00/hour
3.5.	Laboratory Manager	$	135.00/hour
3.6.	Project Geologist	$	125.00/hour
3.7.	Graduate Professional	$	95.00/hour
3.8.	Senior Engineering Technician	$	75.00/hour
3.9.	Technician and Draftsperson	$	65.00/hour
3.10.	Word Processor	$	55.00/hour

4. Report Reproduction and Miscellaneous

4.1.	Outside services, printing, reproduction, etc.		Cost + 15%
4.2.	Outside technical assistance		Cost + 15%
4.3.	Transportation	$	0.60/mile

Rates for other tests and services quoted on request.

Fugro Consultants, Inc.
Austin, Texas
Fee Schedule CMT-2012

FEES FOR CONSTRUCTION MATERIALS TESTING SERVICES

		Regular Time(1)	Overtime(2)
1.	**Field Technicians**		
1.1.	Technician (NICET Level I or equivalent)	$ 43.00/hour	$ 53.00/hour
1.2.	Senior Technician (NICET Level II, TxDOT Level 1A/1B, Associate Welding Inspector, or equivalent)	$ 48.00/hour	$ 58.00/hour
1.3.	Senior Supervising Technician (NICET Level III, TxDOT Level II, or equivalent)	$ 85.00/hour	$ 95.00/hour
1.4.	Certified Welding Inspector	$ 72.00/hour	$ 82.00/hour

		Unit Rate
2.	**Field Testing and Equipment**	
2.1.	Transportation (Minimum $0.60/mile)	$ 42.00/trip
2.2.	Nuclear Density Tests (In addition to technician time)	$ 14.00/test
2.3.	Torque Wrench	$ 20.00/day
2.4.	Dye Penetrant & Magnetic Particle Supplies	Cost + 15%
2.5.	Ultrasonic Testing Equipment	$ 20.00/hour
2.6.	Asphalt Coring Equipment	$ 20.00/hour
2.7.	Concrete Coring Equipment	$ 20.00/hour
2.8.	Concrete Core Bit Charges	+ bit charge
2.8.1	3 inch-diameter Core	$ 2.00/inch
2.8.2	4 inch-diameter Core	$ 3.00/inch
2.8.3	6 inch-diameter Core	$ 5.00/inch
	(Other sizes quoted upon request)	
2.9.	Floor Flatness/Floor Levelness Equipment (ASTM E1155)	$ 125.00/day
2.10.	Air Content of Fresh Concrete (ASTM C173, C231)	$ 15.00/each
2.11.	Unit Weight of Fresh Concrete (ASTM C138)	$ 30.00/each
2.12.	Soil-Lime Field Gradation (TEX-101-E, Part III)	$ 30.00/each
2.13.	Center-Pull Ram, Gauge and Hand Pump (pull test)	$ 30.00/test

3.	**Laboratory Testing - Soil**	
3.1.	Natural Moisture Content (TEX-103-E)	$ 15.00/each
3.2.	Atterberg Limits (TEX-104, 105, 106-E)	$ 65.00/each
3.3.	Sieve Analysis - Soil (Nos. 4, 40, and 200, ASTM D422)	$ 65.00/each
3.4.	Percent Passing No. 200 Sieve (TEX-111-E)	$ 45.00/each
3.5.	Moisture Density Relationship (ASTM D 698), (ASTM D 1557), (TEX-113-E), (TEX-114-E)	$ 210.00/each
3.6.	Texas Triaxial Compression Test on Base Material (TEX-117-E Part II)	$1,050.00/set of 7
3.7.	Wet Ball Mill (TEX-116-E)	$ 150.00/each
3.8.	Permeability of Silt or Clay (ASTM D 5084)	$ 325.00/each
3.9.	Sample Remolding	$ 50.00/each
3.10.	Sample Preparation (Soils with P.I. >25, or TEX-101-E)	$ 50.00/sample
3.11.	Soil pH (TEX-128-E)	$ 55.00/each
3.12.	Soil-Lime pH Series (6 points, TEX-121-E, Part III)	$ 195.00/set
3.13.	Soluble Sulfates (TEX-145-E)	$ 80.00/each
3.14.	Hydrometer (ASTM D422)	$ 200.00/each

4.	**Laboratory Tests - Concrete and Cement**	
4.1.	Concrete Mix Design	Quoted on Request
4.2.	Aggregate Sieve Analysis (ASTM C136)	$ 65.00/each
4.3.	Specific Gravity of Aggregate (ASTM C127, 128)	$ 65.00/each

4.4.	Absorption of Aggregate (ASTM C127, 128)	$ 65.00/each
4.5.	Unit Weight of Aggregate (ASTM C29)	$ 65.00/each
4.6.	Concrete Cylinder Compressive Strength (ASTM C39)	$ 17.00/each
4.7.	Beam Flexural Strength (ASTM C 78)	$ 45.00/each
4.8.	Mortar Cube Compressive Strength (ASTM C780)	$ 17.00/each
4.9.	Grout Specimen Compressive Strength (ASTM C1019)	$ 40.00/each
4.10.	Concrete Masonry Unit Strength (ASTM C140)	$ 75.00/each
4.11	Concrete Masonry Unit Prism Strength (ASTM C1314)	$ 175.00/each
4.12.	Drilled Core Compressive Strength (ASTM C42)	$ 60.00/each

5. Laboratory Testing - Asphalt and Roofing

5.1.	Mix Design (Hveem or Marshall Method)	Quoted on Request
5.2.	Molding Test Specimens, 3 per set (TEX-206-F), Bulk Density (TEX-207-F), and Stability (TEX-208-F)	$ 110.00/set
5.3.	Determine Maximum Theoretical Density (TEX-227-F)	$ 60.00/each
5.4.	Stripping Test	$ 75.00/each
5.5	Asphalt Content (w/correction) & Gradation (TEX-236-F, 200-F), oven	$ 235.00/each
5.6.	Asphalt Content (w/out correction) & Gradation (TEX-236-F, 200-F), oven	$ 200.00/each
5.7.	Bulk Specific Gravity of Asphalt Core (TEX-207-F)	$ 40.00/each
5.8.	Roof Ballast Sieve Analysis	$ 50.00/each
5.9.	Oven Dried Moisture Content of Roofing Materials	$ 25.00/each
5.10.	Asphalt Content and Gradation (ASTM D2172), extraction	$ 350.00/each

6. Laboratory Testing - Structural Steel

6.1.	Weld Procedure and Welder Qualification Testing Rates	Quoted on Request
6.2.	Laboratory Density of Field Cut Fireproofing	$ 40.00/each

7. Report Preparation

Test report preparation, review, and initial electronic distribution will be invoiced at a flat rate of 5% of total fees invoiced. Special requests for archived report retrieval, re-distribution, faxing, hard-copy mailing, and preparation of engineered reports and submittals will be invoiced at the following rates:

7.1.	Word Processing	$ 50.00/hour
7.2.	Drafting	$ 75.00/hour
7.3.	Reproduction	$ 0.15/copy
7.4.	Postage	Cost

8. Engineering Consultation

8.1.	Senior Consultant or Project Principal	$ 180.00/hour
8.2.	Project Manager	$ 155.00/hour
8.3.	Project Engineer, Laboratory Manager	$ 135.00/hour
8.4.	Geologist	$ 125.00/hour
8.5.	Graduate Professional	$ 95.00/hour

9. Outside Services ..... **Cost + 15%**

Notes: (1) Minimum call-out charge for CMT technician and equipment or sample pick-up is 2 hours. Minimum call-out charge for CWI technician is 4 hours. Charges are accrued portal to portal.

(2) Overtime rates are applicable to time worked in excess of 8 hours per day, Monday through Friday; hours worked before 7:00 am and after 6:00 pm; and all hours worked on Saturdays, Sundays, and holidays.