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July 4, 2022

Mr. Kirk Abbott, P.E. **Project Engineer** Capital Improvements City of San Marcos 630 E. Hopkins San Marcos, Texas 78666

Sent Via: E-MAIL

Re: **Barnes Drive Wastewater Improvements**

Proposal for Professional Engineering Services

Dear Mr. Abbott:

Enclosed is our proposal to provide design, bid, and construction phase services for the Barnes Drive Wastewater Improvements project. Attached to this letter are the following:

- Exhibit 1 Scope of Services
- Exhibit 2 Fee Estimate
- Exhibit 3 Schedule

We appreciate the opportunity to work with the City of San Marcos on this project. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Thomas M. Owens, PE

TOM-O-S

Project Manager

PROJECT UNDERSTANDING

The project consists of the installation of approximately 600 linear feet of 6-inch diameter gravity wastewater line along Barnes Drive in front of the El Milagro facility. The new wastewater line will redirect wastewater flow from El Milagro to a nearby wastewater line to the southwest to make additional capacity available in the wastewater line on the northeast, currently serving the facility.

The below Scope of Services includes the tasks to develop the Construction Plans and Technical Specifications for the improvements and assist the City with Bid and Construction Phase Services.

SCOPE OF SERVICES

A. Phase A – Preliminary Phase (30%)

- Project Management and QA/QC: This task includes routine communication with the City; managing subconsultants, manpower, budgets, and schedules; invoicing; implementing and monitoring of QA/QC efforts; and other activities associated with managing the project.
- 2. Meetings all meetings are assumed to be held virtually.
 - a. Kick-off Meeting: K Friese + Associates (KFA) will prepare for and attend one kick-off meeting with the City to kick off the project.
 - b. Status Meetings: One status meeting is assumed to discuss the pipeline route options.
 - c. 30% Comments Review Meeting: Meet with the City to review the 30% Design Submittal and receive the City's comments.

3. Data Collection/Review

- a. KFA will obtain and review reports, studies, as-builts, and other data related to the project. This will include the City's current utility GIS layers.
- b. Identify Utility Providers: KFA will review the as-builts and survey data and coordinate with the City to determine utility service providers in the vicinity of the project and to request the plans and/or schematics of their utility lines within the project area.
- c. KFA will conduct one site visit to field verify collected data and identify discrepancies.

4. Field Investigations

a. Design Survey - Plummer will conduct a design survey to include topography and surface features within the survey limits, trees 9-inches and larger, and visible utility information. Plummer will provide two on-site horizontal and vertical control points. Survey limits to consist of the Barnes Drive southeast right-of-way boundary to 50-feet outside the northwest right-of-way boundary, including 75-feet beyond the initiation and termination manholes.



- b. Subsurface Utility Locates: It has been assumed that the City will provide subsurface utility locates through the City's on-call contract. KFA will coordinate with the City to identify the locations.
- c. Geotechnical Investigation: No Geotechnical Investigation will be performed for this project
- 5. Pipeline Alignment Evaluation: Using the collected information, up to two pipeline alignments will be evaluated considering system integration, existing utility interference, traffic control, and cost.
- 6. Project Permitting/Design Requirements: KFA will determine project permitting and design requirements for local, state, and federal entities. Based on a preliminary review it is anticipated that only City approvals will be required.
- 7. Identify Utility Providers and Conflicts: Develop a Utility Conflicts Analysis Table based on the 30% design.
- 8. Develop Construction Cost Estimates: A Class C (± 25%) opinion of probable cost for the preferred route will be developed.
- 9. Deliverables:
 - a. Draft Preliminary Engineering Design Memorandum: A Design Memorandum will be prepared summarizing the investigation and recommendations. At a minimum the Design Memorandum will include:
 - i. 30% Plan & Profile Sheets of the preferred alignment for the wastewater line using the survey and gathered information and showing existing and proposed appurtenances, and proposed workspace. Sheets shall be 11" x 17" at a scale of 1" = 40'.
 - ii. Class C (± 25%) opinion of probable cost for the preferred route
 - iii. Permitting requirements and associated timeframes
 - iv. Updated Design and Construction Schedule
 - v. KFA will provide one (1) electronic copy in pdf format of the Draft Design Memorandum to the City.
 - vi. GIS Submittal Checklist
 - vii. CIP Plan Review Checklist
 - b. Final Preliminary Engineering Design Memorandum: Following the review meeting with the City, KFA will address City comments and submit a Final Preliminary Engineering Design Memorandum in pdf Format and electronic copy of the 30% Design Plans in DWG format.

B. Phase B – Design Phase (60%/90%/100%)

- Project Management and QA/QC: This task includes routine communication with the City; managing subconsultants, manpower, budgets, and schedules; invoicing; implementing and monitoring of QA/QC efforts; and other activities associated with managing the project.
- 2. Meetings all meetings are assumed to be held virtually.



- a. Comments Review Meetings: Two project meetings with the City have been budgeted for the Barnes Drive Design Phase to review the City's comments on the 60% and 90% submittals.
- b. Project Meetings: Three project meetings have been budgeted for the Design Phase to be scheduled when needed.
- 3. Construction Plans: KFA shall prepare construction plans suitable for public bidding to include notes, plan and profile sheets, details, environmental protection, traffic control, construction phasing, and work and storage locations. For the purposes of this proposal the plan set is assumed to be 11" x 17" paper, plan and profile sheets are assumed to be at 1" = 40' horizontal and 1" = 10' vertical scale. The construction plans will be in accordance with City of San Marcos CADD Standards and will contain the following:
 - c. Cover Sheet/Index
 - d. Project Layout
 - e. General Notes (Estimated Number of Sheets: 2)
 - f. Quantities: Quantities will be indicated by sheet
 - g. Erosion Control
 - i. SWPPP (TxDOT Template) (Estimated Number of Sheets: 2)
 - ii. EPIC (TxDOT Template)
 - iii. E&S Plan
 - h. Traffic Control Narrative and typical details (Estimated Number of Sheets: 6)
 - i. Wastewater Line Plan and Profile Sheets (Estimated Number of Sheets: 2)
 - j. Bypass Pumping Plan and Profile Sheet (Estimated Number of Sheets:1)
 - k. Waterline Relocation Sheet (Estimated Number of Sheets:1)
 - I. Details (Estimated Number of Sheets: 2)

4. Deliverables:

- m. 60%: One pdf electronic copy. The 60% submittal will contain the following:
 - i. Construction Plans full set **not** including quantity sheets
 - ii. Technical Specifications
 - 1. Table of Contents
 - Engineer's Opinion of Probable Construction Cost: A Class B estimate (± 10%) will be provided.
 - iv. Construction Project Schedule: KFA will develop a Construction Schedule for the project consisting of design, bid and construction phases. The schedule will be updated during design.
 - v. CIP Plan Review Checklist
 - vi. GIS Submittal Checklist
- n. 90%: One pdf electronic copy. The 90% submittal will contain the following:



- i. Construction Plans full set including quantity sheets
- ii. Technical Specifications
 - 1. List of Standard Technical Specifications
 - Special Provisions to the Standard Technical Specifications
 - 3. COSM Adopted Specifications
 - 4. Project Specific/Special Technical Specifications
- iii. Engineer's Opinion of Probable Construction Cost: A Class B estimate (± 10%) will be provided.
- iv. Construction Project Schedule: KFA will update the Construction Schedule for the project.
- v. Bid Form in Excel Format
- vi. Response to 60% Comments
- vii. CIP Plan Review Checklist
- o. 100% Submittal: One pdf electronic copy of the full submittals and one (1) CAD copy of the sealed plans will be provided. The 100% submittal will contain the following:
 - i. Construction Plans
 - ii. Technical Specifications (PDF)
 - iii. Bid Form in Excel Format
 - iv. Engineer's Opinion of Probable Construction Cost: A Class B estimate (± 10%) will be provided.
 - v. Construction Project Schedule: KFA will update the Construction Schedule for the project.
 - vi. Response to 90% Comments
 - vii. GIS Submittal Checklist
 - viii. CIP Plan Review Checklist
 - ix. Construction Check List

C. Phase C - Bid Phase

- 1. Project Management: This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
- 2. Attend Pre-Bid Meeting: Assist the City in conducting pre-bid meeting and developing the agenda.
- 3. Answer Questions: Coordinate with the City for issuing responses to technical questions and requests for additional information. KFA will issue addenda to Purchasing, as necessary and provide conformed plans per changes made during this process, if any.



- 4. Bid Tabulation and Recommendation of Award: Review all bids and evaluate them for responsiveness and bid amount. KFA will also check references, by telephone, of the three low bidders, and will prepare a letter summarizing the review and evaluation and include recommendations for award of the contract for construction, or other action as may be appropriate. The City shall make the final decision on the award of the contract for construction and the acceptance or rejection of all bids.
- 5. Deliverables: KFA will incorporate addenda items in the Construction Plans and issue a "Conformed" set of plans for construction.
 - a. Conformed Plans: Provide one (1) electronic copy of Construction Plans in pdf, one (1) CAD copy, two (2) 22" x 34" plan sets, and four (4) 11" x 17" plan sets

D. Phase D - Construction Phase

- 1. Project Management: This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
- 2. Pre-Construction Conference: Attend a pre-construction conference for the project with the City, Contractor, and other parties as appropriate.
- 3. Construction Meetings and Site Visits: Attend regular construction meetings with the City, Contractor, and other parties as appropriate. KFA will visit the site to check the progress of the work and verify general conformance with the project plans and technical specifications. For budgeting purposes, we have assumed two combined site visits/meetings.
- 4. Submittal Review: KFA will review submittals and maintain a log of submittal and return dates and approval status.
- 5. Response to Requests for Information/Modifications: KFA will respond to all requests for information (RFI's) from the Contractor related to possible clarifications of plans and technical specifications.
- 6. Pay Application Review: Review Contractor's Pay Applications after quantity concurrence by the City's Construction Inspector.
- 7. Review of Change Orders: Provide review of all Contractors' requests for Change Orders and coordinate Change Orders with the City as appropriate.
- **8.** Substantial and Final Completion: Participate in two site visits to determine outstanding items and document "punch list items". KFA will issue an Engineer's Concurrence for Project Acceptance when the contract requirements have been met.

E. Phase E – Record Drawings

- 1. Record Drawing Survey: Plummer will perform a survey of installed appurtenances and invert elevations.
- 2. Record Drawings: Review the Contractor's redline as-built drawings, incorporate deviations from the construction drawings, and incorporate as-built survey as appropriate. KFA will deliver one set of 11" x 17" pdf electronic copy, and one CAD copy for review.
- 3. Deliverables: After review, two sets of 22" x 34" drawings, two sets of 11" x 17" drawings, one pdf electronic copy and one CAD copy will be delivered to the City. The surface to



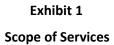
grid conversion scale factor for GIS will also be provided. The GIS Submittal Checklist will be provided.

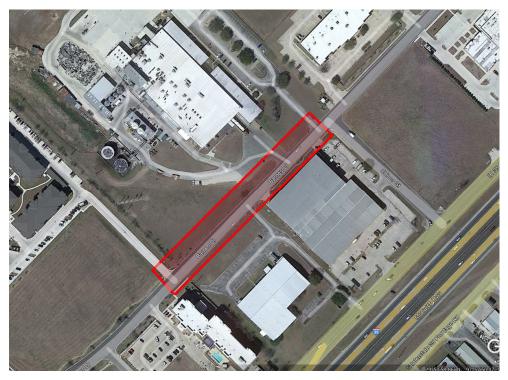
ASSUMPTIONS AND SUPPLEMENTAL SERVICES

- 1. Survey of downstream appurtenances: The City has identified three manholes and two cleanouts downstream of the project area that may require an elevation survey. This work will be separately authorized under the Supplemental Services budget.
- Easements: Budget has been included in Supplemental Services for one Temporary Workspace/Proposed Easement Sketch and one Permanent Easement Sketch with Field Notes.
- 3. Subsurface Utility Locates: It has been assumed that the City will provide subsurface utility locates through the City's on-call contract.
- 4. Right-of-Entry: The City will acquire right-of-entry from El Milagro for survey and design activities.
- 5. Stormwater Permitting: Since the project will disturb less than one acre, coverage under the TCEQ Construction General Permit is not required.
- 6. Antiquities Permit: It has been assumed that the Texas Historical Commission will not require an investigation or monitoring during construction for antiquities and that no investigations will be required prior to construction. It is also assumed that a Texas Historical Commission letter will not be required as the site is not near any known historical sites, will disturb less than 5,000 cubic yards, and the project area is less than five-acres.
- 7. The City will perform bid advertising and printing/distribution of bid document.
- 8. The City will provide required construction administration and inspection services outside of the services listed in this Scope of Work.
- 9. The City will provide materials testing and sampling during construction.



SURVEY SCOPE OF SERVICES





Site Description ('Subject Area'): The 'subject area' will extend 50' beyond the northwest curb of Barnes Drive and include to right of way line on the southeast side of Barnes Drive, and will extend 75' past the manholes at either end of the highlighted area.

Street Address: 400 BARNES DR, SAN MARCOS, TX 78666

Legal Description: Lot 1, Block 3, THERMON IND PARK #2 UNIT #2

Central Appraisal District Parcel ID No.: R45651

ENGINEERING DESIGN SURVEY WITH BOUNDARY SURVEY

CONSULTANT will produce an Engineering Design Survey that meets the standards set forth by the Texas Board of Professional Engineers and Land Surveyors. Topographic information (elevations) will conform to the Texas Society of Professional Surveyors, Category 6, Condition II - Topographic Survey standards set forth by the Texas Society of Professional Surveyors. The CONSULTANT will find property monuments delineating the right-of-way and lot boundaries within the Subject Area. CONSULTANT will set a minimum of two (2) benchmarks and survey the Subject Area at an interval not to exceed a 50 foot grid. The Subject Area will extend 50 feet into Lot 1, Block 3, THERMON IND PARK #2, UNIT #2, to the right-of-way line on the southeast side of Barnes Drive and extend an additional 75 feet past the manholes found on the northeast and southwest extents of the highlighted area above to produce a one (1) foot contour interval. CONSULTANT will coordinate with the City of San Marcos ("City") to provide SUE services. CONSULTANT will locate the City markings. CONSULTANT will research non-City utilities present on the Subject Area prior to mobilization and a reasonable attempt to acquire records will be made. Level B SUE (reference ASCE Manual C-1 38-02) will be performed on toneable underground utilities (Gas, Telecom, and Electric). Electronic depths will be provided at 25' intervals along located toneable utilities. Non-toneable utilities (water, sanitary sewer, storm sewer) will be placed based on

the record locations, adjusted to found above ground features. CONSULTANT will survey visible above ground improvements (buildings, fences, driveway, etc.) and visible evidence of utilities (valves, manholes, meters, etc.) within the project site. CONSULTANT will locate the flowlines of culverts, storm manholes and other features that are used to convey or contain storm waters. Electronic depths will be provided at points along located toneable utilities in a CAD base file format. The Engineering Design Survey map will depict the elevation contours, right-of-way lines, above ground visible improvements, evidence of utilities, underground utility lines found, benchmarks, culverts with flowline elevations, and other storm water features. Lines and other information representing the perimeter of the property shown on the Engineering Design Survey will be for general descriptive purposes only. The survey data will be referenced to the Texas Coordinate System of 1983, South Central Zone (NAD 83 (2011)) and the North American Vertical Datum of 1988 (NAVD88, Geoid 18). All coordinate will be grid values.

Deliverables will be in electronic file format (Civil 3D 2021), no hard copy maps will be produced. A signed and sealed "Survey Certificate" will be issued in a memorandum format stating:

"The survey data collected between the dates on [date] and [date] provided to K-Friese and Associates was surveyed under my direction and supervision. This survey data is referenced to the Texas Coordinate System of 1983, South Central Zone (NAD 83 (2011)) with elevations referenced to the North American Vertical Datum of 1988 (NAVD88, Geoid 18). All coordinates are grid values."

AS-BUILT SURVEY

CONSULTANT will produce an As-Built Survey of 2 or 3 manholes to include rim elevations and pipe flowlines for the newly constructed manholes. The manholes will be referenced to the previous project datum.

Deliverables will be in electronic file format (Civil 3D 2021), no hard copies will be produced. A signed and sealed "Survey Certificate" will be issued in a memorandum format stating:

"The survey data collected between the dates on [date] and [date] provided to K-Friese and Associates was surveyed under my direction and supervision. This survey data is referenced to the Texas Coordinate System of 1983, South Central Zone (NAD 83 (2011)) with elevations referenced to the North American Vertical Datum of 1988 (NAVD88, Geoid 18)."

ASSUMPTIONS:

1. CLIENT will provide right-of-entry to CONSULTANT onto the Subject Site.

EASEMENT SURVEY

CONSULTANT will write an easement description and draft an easement sketch to accompany the description for one (1) easement parcel across Lot 1, Block 3, THERMON IND PARK #2 UNIT #2, that meets the standards set forth by the Texas Board of Professional Engineers and Land Surveyors. The preparation of the easement dedication document will not be part of this task.

EXHIBIT 2 FEE ESTIMATE BARNES DRIVE WASTEWATER IMPROVEMENTS

Tas	•	Principal Hrs	Senior Engineer Hrs	Project Manager Hrs	Project Engineer Hrs	Senior Technician Hrs	Admin Hrs	Total Hrs	Labor Cost \$	Plummer \$	Total Subconsultants \$	Expenses \$	Total Cost \$
Pha	se A - Preliminary Phase (30%)								<u> </u>	· ·	· ·		
1	Project Management and QA/QC	1	4	4			4	13	\$2.645		\$0		\$2.645
2	Project Meetings (3)			4	4		•	8	\$1,680		\$0		\$1,780
3	Data Collection/Review			2	8	4		14	\$2,040		\$0		\$2,090
4	Field Investigations			2	4	4		10	\$1,560	\$6,000	\$6,000		\$7,560
5	Pipeline Alignment Evaluation			4	8	4		16	\$2,640		\$0		\$2,640
6	Project Permitting/Design Requirements			1	1			2	\$420		\$0		\$420
7	Identify Utility Providers/Conflicts			1	4			5	\$780		\$0		\$780
8	Construction Cost Estimates			1	4			5	\$780		\$0		\$780
9	Deliverables												
	a Draft Preliminary Engineering Design Memorandum			4	16	8		28	\$4,080		\$0		\$4,080
	b Final Preliminary Engineering Design Memorandum			2	8	4		14	\$2,040		\$0		\$2,040
Sub	total Phase A	1	4	25	57	24	4	115	\$18,665	\$6,000	\$6,000	\$150	\$24,815
Pha	Phase B - Design Phase (60%/90%/100%)												
1	Project Management and QA/QC	1	12	12			4	29	\$6,445		\$0		\$6,445
2	Meetings			8	12			20	\$3,840		\$0		\$4,040
3	Construction Plans			30	90	90		210	\$30,600		\$0	\$200	\$30,800
4	Deliverables												
	a 60% Submittal			2	8	4		14	\$2,040		\$0		_
	b 90% Submittal			2	16	4		22	\$3,000		\$0		\$3,000
	c 100% Submittal			2	8	4		14	\$2,040		\$0		\$2,040
Sub	total Phase B	1	12	56	134	102	4	309	\$47,965	\$0	\$0	\$400	\$46,325
Pha	se C - Bid Phase												
1	Project Management	1		1	1		1	4	\$850		\$0		\$850
2	Pre-Bid Meeting			4	4			8	\$1,680		\$0	\$100	\$1,780
	Answer Questions			2	4			6	\$1,080		\$0		\$1,080
4	Bid Tabulation and Recommendation of Award			1	4			5	\$780		\$0		\$780
5	Deliverables - Conformed Plans			1	2	2		5	\$780		\$0		\$980
Sub	total Phase C	1	0	9	15	2	1	28	\$5,170	\$0			\$5,470
					*								



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EXHIBIT 2 FEE ESTIMATE BARNES DRIVE WASTEWATER IMPROVEMENTS

		Senior	Project	Project	Senior		1	Labor		Total		Total
Task	Principal	Engineer	Manager	Engineer	Technician	Admin	Total	Cost	Plummer	Subconsultants	Expenses	Cost
	Hrs	Hrs	Hrs	Hrs	Hrs	Hrs	Hrs	\$	\$	\$	\$	\$
Phase D - Construction Phase												
1 Project Management	1		4			4	9	\$1,945		\$0		\$1,945
2 Construction Mtgs & Site Visits (2)			8	8			16	\$3,360		\$0	\$200	\$3,560
3 Pre-Construction Conference			4	4			8	\$1,680		\$0	\$100	\$1,780
4 Submittal Review			2	8			10	\$1,560		\$0		\$1,560
5 RFI's			2	4	2		8	\$1,320		\$0		\$1,320
6 Pay Application Review			1	2			3	\$540		\$0		\$540
7 Change Orders			4	4			8	\$1,680		\$0		\$1,680
9 Substantial and Final Completion			4	8			12	\$2,160		\$0	\$200	\$2,360
Subtotal Phase D	1	0	29	38	2	4	74	\$14,245	\$0	\$0	\$500	\$14,745
Phase E - Post Construction Phase												
Record Drawings and Survey			1	4	4	1	10	\$1,365	\$2,000	. ,		\$3,365
2 Deliverables			11	1			2	\$420		\$0	, , , ,	\$620
Subtotal Phase E	0	0	2	5	4	1	12	\$1,785	\$2,000	\$2,000	\$200	\$3,985
Basic Scope Total	4	16	121	249	134	14	538	\$87,830	\$8,000	\$8,000	\$1,550	\$95,340
SUPPLEMENTAL SERVICES							T			T		
One Temp Workspace/Proposed Easement Exh		1	1	4	8	1	14	\$1,845		\$0		\$1,845
2 One Permanent Esmt Sketch/Field Notes			1	2	2		5	\$780	\$2,000			\$2,780
Z One i emianent Esmi Okcien/i icia i votes							0	\$0	Ψ2,000	\$0	 	\$0
Subtotal Phase E	0	0	2	6	10	1_	19	\$2,625	\$2,000		\$0	\$4,625
TOTAL BASIS AND SUBBLEMENTAL SERVICES		40	400	055	444	45		000.4==	040.000		04.550	#00.00=
TOTAL BASIC AND SUPPLEMENTAL SERVICES	4	16	123	255	144	15	557	\$90,455	\$10,000	\$10,000	\$1,550	\$99,965

The hours listed above are an estimate. The hours assigned to the Phase are not exclusive to the Phase which they are assigned.

The total fee will not exceed the total contract amount as discussed in Article 2.

The hourly rates of this contract shall apply to throughout the remainder of this contract and to all change in services.

Payment to the ENGINEER will be made as follows:

- 1. Basic Services The amounts of these invoices will be based upon the extent of work completed by the Engineer on an hourly basis.
- 2. Supplemental Services The Engineer will receive approval in writing before performing supplemental services. The amounts of these invoices will be based upon the extent of work completed by the Engineer on an hourly basis.
- 3. Reimbursable expense Reimbursable expenses including such things as expenses for plotting, reproduction of documents, auto travel mileage (current IRS approved mileage rate), delivery charges, long distance communications, freight, and state accessibility will be invoiced with appropriate backup documentation.

Invoice and Time of Payment

Invoices will be prepared in a format approved by the City prior to submission of the first monthly invoice. Invoices shall be submitted monthly and paid within 30 days.

Hourly Billing Rates:	
Principal	\$325.00
Senior Engineer	\$175.00
Project Manager	\$300.00
Design Engineer	\$160.00
Project Engineer	\$120.00
Senior Technician	\$120.00
Admin	\$105.00



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SURVEY FEE ESTIMATE

Exhibit 2

Compensation

Basic Services of Consultant

Client shall pay Consultant for Basic Services of Engineer rendered for "Scope of Services" as provided in this agreement. Fees shall be paid per Article 7 of the General Terms and Conditions.

Compensation for the following Services actually completed shall be paid on a lump sum basis:

Description		Lump Sum Amount
Engineering Design Survey with Boundary Survey As-Built Survey Easement Survey	\$ \$ \$	6,000.00 plus tax 2,000.00 non taxable 2,000.00 plus tax
TOTAL LUMP SUM AMOUNT	\$	10,000.00 plus applicable tax

Any services requested that are not specifically covered under the scope of services above (meetings, expenses, exhibit preparations, etc.) will be considered as "Additional Services" and negotiated prior to the additional services commencing.

EXHIBIT 3 SCHEDULE BARNES DRIVE WASTEWATER IMPROVEMENTS

PROJECT SCHEDULE

74	Calendar Days to completed Draft PER and 30% submittal
18	Calendar Days to completed Final PER and 30% submittal
39	Calendar Days to completed 60% submittal
39	Calendar Days to completed 90% submittal
11	Calendar Days to completed 100% submittal
109	Calendar Days anticipated for construction

