



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item number: 4.e

Title:

Recommendation to Award Agreement for Engineering Services for Sub-basin SC02 Flow Monitoring Study to Engineering Enterprises, Inc.

Presenter:

Tim Wilson

Meeting: Government Services Committee

Date: September 26, 2016

Proposed Cost: \$60,594

Budgeted Amount: \$75,000

Not Budgeted: ☐

Executive Summary (if not budgeted please explain):

At the July 2016 Government Services Committee meeting, Jeff Freeman from EEI presented the St. Charles required EPA CMOM program. The approach of the program was to divide the sewer collection system into twelve sub-basins.

Each sub-basin was divided into three phases, each phase lasting one year. The first year of the project consists of infiltration and inflow sewer flow monitoring. The second year of the project would include a sewer system evaluation survey. The final year of the sub-basin would include rehabilitation.

As detailed in the CMOM plan that is budgeted for FY 16/17, City Staff is requesting to start flow monitoring sub-basin SC02. Sub-basin SC02 was selected as a starting point due to the problematic history in the 10th street area. The sub-basin is generally located between Prairie Street to the north, the Fox River to the east, Gray Street to the south, and Randall Road to the west. Flow monitoring will include eight (8) flow monitors for an eight (8) week period of time while local weather data is collected. At the completion of the Phase I (flow monitoring) recommendations will be made for phase two, which is the Sewer System Evaluation Survey.

	Step 1: Flow Monitoring		Step 2: Sewer System Evaluation Survey		Step 3: Rehabilitation		Totals
Year	Annual Subbasin	Budgeted Cost	Annual Subbasin	Budgeted Cost	Annual Subbasin	Budgeted Cost	Total Budgeted Cost
FY17	SC02	\$ 75,000	-	\$ -	-	\$ -	\$ 75,000
FY18	WOR - West	\$ 77,300	SC02	\$ 103,000	-	\$ -	\$ 180,300
FY19	SC05_R3 & SC05_T1	\$ 79,600	WOR - West	\$ 106,100	SC02	\$ 371,400	\$ 557,100

Attachments (please list):

- * EEI Agreement for Consulting Engineering Services for Sub-basin SC02 Flow Monitoring Study
- * EEI CMOM Presentation

Recommendation/Suggested Action (briefly explain):

Recommendation to Award Agreement for Engineering Services for sub-basin SC02 Flow Monitoring Study to Engineering Enterprises Inc. for a fixed fee amount of \$60,594.



Engineering Enterprises, Inc.

August 12, 2016

Mr. Tim Wilson
Public Works Manager - Environmental Services
City of St. Charles
Two East Main Street
St. Charles, IL 60174

**Re: Subbasin SC02 Flow Monitoring Study
City of St. Charles, Kane & DuPage Cos., IL**

Dear Mr. Wilson:

In accordance with your request, enclosed for your review and consideration are two copies of our proposed agreement for the Subbasin SC02 Flow Monitoring Study within the City's sanitary sewer network. This study is part of the City's overall Inflow and Infiltration Reduction Program. Inflow & Infiltration (I/I) investigations are meant to delineate problematic areas of the system that are prime candidates for further sewer system evaluation work and appropriate rehabilitation.

The attached agreement includes a detailed scope of services, estimate of level of effort and associated cost, and schedule for the project. We are proposing to provide our professional engineering services for a fixed fee amount of \$60,594. We are proposing to conduct two meetings; a project initiation meeting and a progress meeting. Our proposed schedule is to conduct the project initiation meeting in mid-September with the flow monitoring itself starting the following week. After the eight weeks of flow monitoring are complete in mid-November, EEI is hoping to analyze the flows and review the findings of the flow monitoring with the City in the progress review meeting in December. Following the meeting, EEI will write a draft of the report which will be submitted to the City in mid-January. Following the approval and recommendations of the City, EEI is proposing to submit the final report at the end of February, 2017.

The I/I investigation for the SC02 Subbasin is the first step in a 15-year long, multiphase I/I reduction program meant to address all sanitary sewer mains within the City. This program was recommended for the City as part of the Capacity, Management, Operations, and Maintenance (CMOM) Plan written for the City in February, 2016. Additional sewer system

Mr. Tim Wilson
August 12, 2016
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evaluation work and actual rehabilitation of the SC02 sewer system is scheduled for Fiscal Years 2018 and 2019, respectively. The scope and cost of the rest of the 15-year long, multiphase I/I reduction program can be found in Table No. 3-3 of the February, 2016 CMOM.

We look forward to continuing our outstanding partnership with the City and look forward to working with you and members of your staff on this project. If you have any questions or require any additional information, please do not hesitate to contact me.

Respectfully submitted,

ENGINEERING ENTERPRISES, INC.



Jeffrey W. Freeman, P.E., CFM, LEED AP
Vice President

JWF/me

Enclosures

pc: Peter Suhr – Director of Public Works (Via E-mail)
Chris Adesso – Assistant Director of Public Works, Operations (Via E-mail)
Mike Burnett – Wastewater Division Manager (Via E-mail)
PGW, TWT, STD, DMT, CLV – EEI (Via E-mail)

**AGREEMENT FOR CONSULTING ENGINEERING SERVICES FOR
SUBBASIN SC02 FLOW MONITORING STUDY**

This Agreement, made this _____ day of _____, 2016 by and between the City of St. Charles, Kane and DuPage Counties, Illinois, a municipal corporation of the State of Illinois (hereinafter referred to as the "CITY") and Engineering Enterprises, Inc. of 52 Wheeler Road, Sugar Grove, Illinois, 60554 (hereinafter referred to as the "ENGINEER").

In consideration of the mutual covenants and agreements contained in this Agreement, the CITY and the ENGINEER agree, covenant and bind themselves as follows:

1. Services: ENGINEER agrees to perform for the CITY the Services defined within Exhibit A.
2. Direction: The Public Works Manager - Environmental Services, or his written designee, shall act as the CITY'S representative with respect to the Services to be provided by the ENGINEER under this Agreement and shall transmit instructions and receive information with respect to the Consulting Engineering Services.
3. Compensation: The work items, estimated staff time, and projected fees for each work item are summarized within Exhibit B. Based on this computation, the CITY agrees to pay the ENGINEER for providing the Services set forth herein a fixed fee amount of \$60,594.
4. Term: The term of this Agreement shall be active through March 31, 2017 unless otherwise extended through written confirmation by both parties. The work items and phases shall be completed in accordance with the schedule defined within Attachment C.
5. Payment: Engineer shall invoice the CITY on a monthly basis for Services performed and any costs and expenses incurred during the previous thirty (30) day period. The CITY shall pay the ENGINEER within thirty (30) days of receipt of said invoice.
6. Termination: This Agreement may be terminated upon fourteen (14) days written notice of either party. In the event of termination, the ENGINEER shall prepare a final invoice and be due compensation calculated as described in paragraph 3 for all costs incurred through the date of termination.
7. Documents: All related writings, notes, documents, information, files, etc., created, compiled, prepared and/or obtained by the ENGINEER on behalf of the CITY for the Services provided herein shall be used solely for the intended project.
8. Notices: All notices given pursuant to this Agreement shall be sent Certified Mail, postage prepaid, to the parties at the following addresses:

The CITY:

City of St. Charles
Two East Main Street
St. Charles, IL 60174
Attn: Tim Wilson
Public Works Manager -
Environmental Services

The ENGINEER:

Engineering Enterprises, Inc.
52 Wheeler Road
Sugar Grove, IL 60554
Attn: Jeffrey W. Freeman, P.E. CFM, LEED AP
Vice President

9. Waiver: The failure of either party hereto, at any time, to insist upon performance or observation of any term, covenant, agreement or condition contained herein shall not in any manner be constructed as a waiver of any right to enforce any term, covenant, agreement or condition hereto contained.
10. Amendment: No purported oral amendment, change or alteration hereto shall be allowed. Any amendment hereto shall be in writing by the governing body of the CITY and signed by the ENGINEER.
11. Succession: This Agreement shall ensure to the benefit of the parties hereto, their heirs, successors and assigns.

IN WITNESS WHEREOF, we have hereunto signed our names the day and year first above written.

CITY OF ST. CHARLES

ENGINEERING ENTERPRISES, INC.:

Mayor



Vice President

ATTEST:

ATTEST:

Title: _____



Administrative Assistant

ATTACHMENT A – SCOPE OF SERVICES
SUBBASIN SC02 FLOW MONITORING STUDY (PHASE 1)
INFLOW AND INFILTRATION REDUCTION PROGRAM
City of St. Charles, Kane and DuPage Cos., IL

Introduction

The Subbasin SC02 flow monitoring phase will help delineate inflow and infiltration severity throughout the subbasin. The I/I Investigation for Subbasin SC02 is part of a 15-year, multiphase plan to complete flow monitoring, sewer system evaluation surveys, and rehabilitation as necessary for all mains within the St. Charles sanitary sewer basin. The scope and cost of the Subbasin SC02 flow monitoring phase only covers the Fiscal Year 2017 portion of the 15-year project. The estimated scope and cost of the entire 15-year St. Charles Sanitary Basin Evaluation and Rehabilitation Plan can be found in Table No. 3-3 of the February, 2016 CMOM plan.

As part of the Subbasin SC02 flow monitoring phase, the subbasin will be divided into six sub-subbasins in order that the sanitary sewer flows and the correlating I/I can be further defined within the subbasin. The proposal includes flow monitoring at eight locations for eight weeks. The attached Exhibits A & B provide additional detail of the flow monitoring locations.

Enclosed exhibits show the locations of eight (8) proposed flow monitoring locations. All cost and schedule decisions were based off of EEI's best knowledge of the SC02 Subbasin to-date. Should surveying of the study area after the contract has been signed provide reason to increase the number of flow monitors for any reason, the price of the proposed contract will increase by \$3,500 for each additional flow monitor needed.

The base proposal also includes the installation of a recording rain gauge in a secure location to measure rainfall during the monitoring period. The quality of the flow monitoring results will be increased with an increased number of precipitation events. A minimum of one 0.75 inch or greater rain event over a 24 hour period is needed to make reasonable conclusions. In the event that a rainfall event of the aforementioned amount and duration does not occur during the first eight weeks of flow monitoring, the City will have the opportunity to increase the flow monitoring period. Once sufficient flow monitoring data is obtained, the data will be analyzed and the I/I severity within Subbasin SC02 will be defined.

The proposed work items for this project are as follows:

PROJECT FACILITATION & MEETINGS:

- 0.1 Project Administration
- 0.2 Project Initiation & Progress Meeting (2 Total Meetings)

FLOW MONITORING:

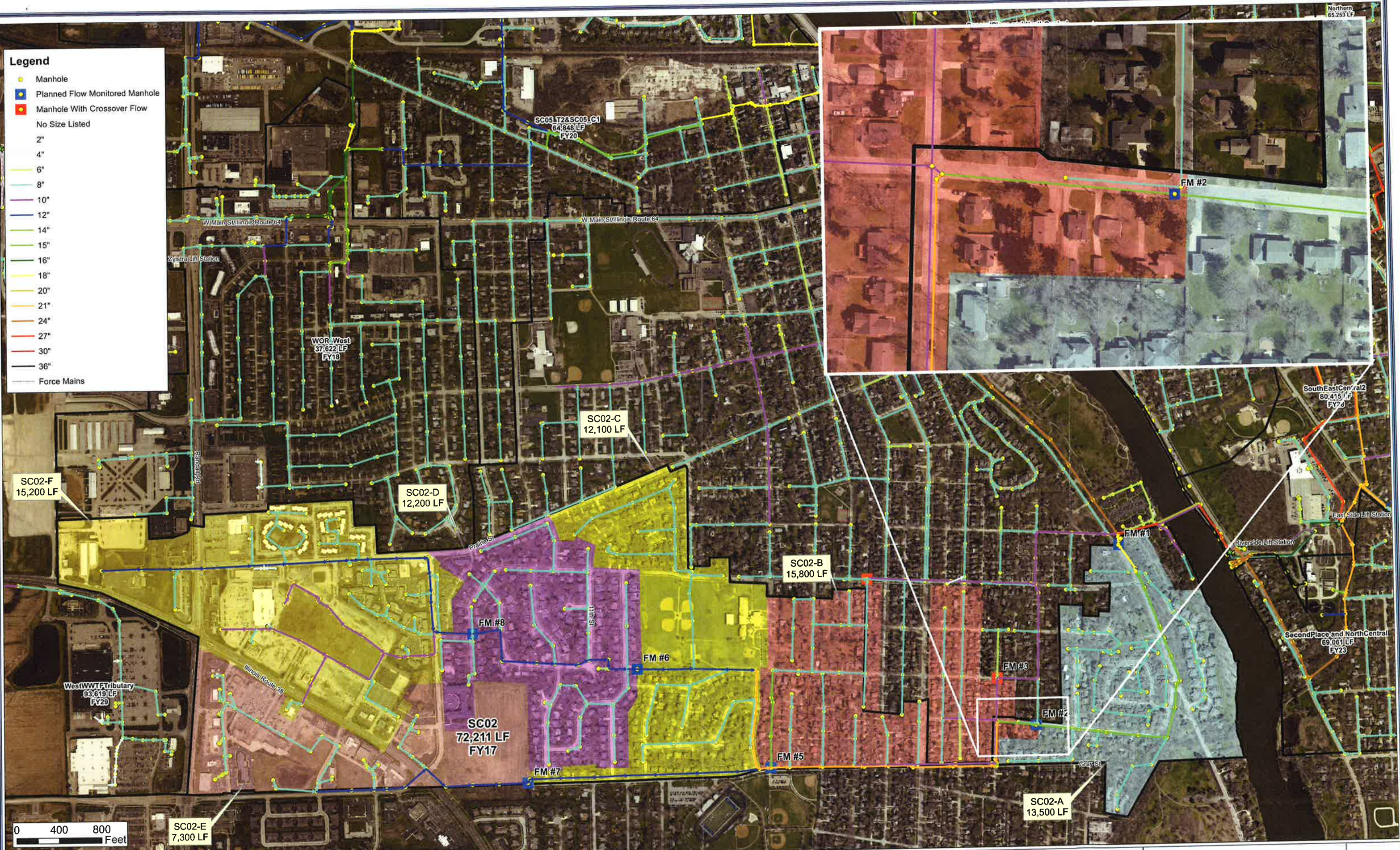
- 1.1 Divide Subbasin SC02 Into Sub-Subbasins
- 1.2 Monitor Flows (Assumes 8 Locations) Within Basin For 8 Weeks
- 1.3 Monitor Rainfall (Assumes 1 Location) Within Basin For 8 Weeks
- 1.4 Analyze Flows & Determine I/I Severity By Subbasin

REPORT:

- 2.1 Prepare Draft Flow Monitoring Report
- 2.2 City Draft Report Review
- 2.3 Finalize Report

Additional Services

The above scope summarizes the work items that will be completed for this contract. Additional work items, including additional meetings beyond the two meetings defined in the above scope, shall be considered outside the scope of the base contract and will be billed in accordance with the Standard Schedule of Charges.



Legend

- Manhole
- Planned Flow Monitored Manhole
- Manhole With Crossover Flow
- No Size Listed
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"
- 14"
- 15"
- 16"
- 18"
- 20"
- 21"
- 24"
- 27"
- 30"
- 36"
- Force Mains

0 400 800 Feet

Exhibit B – Alt B: Flow Monitoring (FM) Locations City of St. Charles

Flow Monitor #1

MH: 4.1329 ; Size: 18"

Sub-Subbasin, Influent, S of MH



Flow Monitor #2

MH: 4.1025; 15"

Sub-Subbasin, Influent, W of MH



Flow Monitor #3

MH: 4.1021 ; Size: 10"

Crossover, Influent, S of MH



Flow Monitor #4

MH: 5.1090 ; Size: 8"

Crossover, Influent, S of MH



Flow Monitor #5

MH: 5.1200 ; Size: 21"

Sub-Subbasin, Influent, W of MH



Flow Monitor #6

MH: 5.1118 ; Size: 12"

Sub-Subbasin, Influent, W of MH



Exhibit B – Alt B: Flow Monitoring (FM) Locations City of St. Charles

Flow Monitor #7

MH: 5.1020 ; Size: 12"

Sub-Subbasin, Influent, W of MH



Flow Monitor #8

MH: 5.1147 ; Size: 12"

Sub-Subbasin, Influent, W of MH



Attachment B:
ESTIMATE OF LEVEL OF EFFORT AND ASSOCIATED COST FOR PROFESSIONAL ENGINEERING SERVICES
SUBBASIN SC02 FLOW MONITORING STUDY (PHASE 1)
INFLOW AND INFILTRATION REDUCTION PROGRAM
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	ENTITY:	EEI							SUB- CONSULTANT	WORK ITEM HOUR SUMM.	COST PER ITEM	
		PROJECT ROLE:	PRINCIPAL	SENIOR PROJECT MANAGER	PROJECT ENGINEER	SENIOR PROJECT TECHN. I	PROJECT TECHN.	SURVEYING MANAGER	SENIOR PROJECT TECHN. II				ADMIN.
PROJECT FACILITATION & MEETINGS													
0.1	Project Administration		1	4							5	\$905	
0.2	Project Initiation & Progress Meeting (2 Total Meetings)		6	10	8				2		26	\$4,098	
Project Facilitation Subtotal:			7	14	8	-	-	-	-	2	31	\$5,003	
FLOW MONITORING													
1.1	Divide Subbasin SC02 Into Sub-Subbasins		2	4	10	10		2	8		36	\$5,124	
1.2	Monitor Flows (Assumes 8 Locations) Within Subbasin For 8 Weeks		1	4	20					\$20,000	25	\$23,485	
1.3	Monitor Rainfall (Assumes 1 Location) Within Subbasin For 8 Weeks		1	2	6					\$800	9	\$2,119	
1.4	Analyze Flows & Determine I/I Severity By Sub-Subbasin		2	12	60						74	\$10,270	
Flow Monitoring Subtotal:			6	22	96	10	-	2	8	-	144	\$40,998	
REPORT													
2.1	Prepare Flow Monitoring Report		2	8	60	16			2		88	\$11,770	
2.2	City Draft Report Review		1	2							3	\$545	
2.3	Finalize Report		2	4	8				2		16	\$2,278	
Report Subtotal			5	14	68	16	-	-	-	4	107	\$14,593	
PROJECT TOTAL:			18	50	172	26	-	2	8	6	\$20,800	282	\$60,594

DIRECT EXPENSES	
Printing =	\$250
Mileage =	\$100
DIRECT EXPENSES =	\$100

LABOR EXPENSES	
Engineering Expenses =	\$34,518
Drafting Expenses =	\$3,354
Surveying Expenses =	\$1,454
Administrative Expenses =	\$468
Subconsultant Expenses =	\$20,800
TOTAL LABOR EXPENSES =	\$60,594






TOTAL CONTRACT COSTS =	\$60,694
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Attachment C:
SCHEDULE

SUBBASIN SC02 FLOW MONITORING STUDY (PHASE 1)
INFLOW AND INFILTRATION REDUCTION PROGRAM
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	Year:	2016																								2017														
		Month:	August					September					October					November					December				January					February				March					
		Week Starting:	1	8	15	22	29	4	11	18	25	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27				
PROJECT FACILITATION & MEETINGS																																									
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G:\Public\St. Charles\2016\SR1602 Basin SC02 Flow Monitoring Study\PSA\Attachment C - Project Schedule.xls\Sheet1

Legend	
	Project Administration Work Item(s)
	Meeting(s) & Field Visits
	Field & Analysis Work
	Report Development
	City Review



Standard Schedule of Charges

January 1, 2016

EMPLOYEE DESIGNATION	CLASSIFICATION	HOURLY RATE
Senior Principal	E-4	\$190.00
Principal	E-3	\$185.00
Senior Project Manager	E-2	\$180.00
Project Manager	E-1	\$163.00
Senior Project Engineer/Planner/Surveyor II	P-6	\$150.00
Senior Project Engineer/Planner/Surveyor I	P-5	\$141.00
Project Engineer/Planner/Surveyor	P-4	\$129.00
Senior Engineer/Planner/Surveyor	P-3	\$117.00
Engineer/Planner/Surveyor	P-2	\$108.00
Associate Engineer/Planner/Surveyor	P-1	\$ 97.00
Senior Project Technician II	T-6	\$141.00
Senior Project Technician I	T-5	\$129.00
Project Technician	T-4	\$117.00
Senior Technician	T-3	\$108.00
Technician	T-2	\$ 97.00
Associate Technician	T-1	\$ 84.00
Engineering/Land Surveying Intern	I-1	\$ 80.00
GIS Technician	G-1	\$ 65.00
Administrative Assistant	A-3	\$ 78.00

CREW RATES, VEHICLES AND REPROGRAPHICS

1 Man Field Crew with Standard Survey Equipment	\$153.00
2 Man Field Crew with Standard Survey Equipment	\$240.00
1 Man Field Crew with RTS or GPS *	\$190.00
2 Man Field Crew with RTS or GPS *	\$276.00
Vehicle for Construction Observation	\$15.00
In-House Scanning and Reproduction	\$0.25/Sq. Ft. (Black & White) \$1.00/Sq. Ft. (Color)

*RTS = Robotic Total Station / GPS = Global Positioning System