

## **Background**

This is an agreement between the City of Madison, hereinafter referred to as OWNER and Strand Associates, Inc., hereinafter referred to as ENGINEER, to provide engineering and drafting services (Services) for the relocation of the existing sanitary and water utilities that will be impacted by the Wisconsin Department of Transportation (WisDOT) Verona Road, Project I.D 1206-07-78 hereinafter referred to as PROJECT.

## **Scope of Services**

### Sanitary Sewer

ENGINEER will provide the following services to OWNER.

1. Pole existing sanitary manholes within the PROJECT area to obtain inverts of manholes.
2. Obtain input from utility owners in the PROJECT vicinity to establish which features of the PROJECT will affect existing utility facilities. Identify potential utility conflicts that may impact the design of the utilities.
3. Attend up to six design meetings with the OWNER at approximately monthly intervals to discuss the status of the project, potential utility conflicts and construction staging that may impact the utility design and relocation.
4. Attend the utility meeting(s) for the PROJECT to answer questions from the facility owners.
5. Assist the OWNER with WisDOT correspondence as necessary regarding the PROJECT.
6. Prepare construction drawings from OWNER provided design to be included in the WisDOT PS&E package for the PROJECT. It is anticipated there will be approximately 5,500 feet of sanitary sewer. The drawings will conform to the latest edition of the Standard Specifications for Sewer and Water Construction in Wisconsin, applicable City of Madison specifications, the WisDOT Facilities Development Manual, and the WisDOT Standard Specifications for Highway and Structure Construction.
7. Prepare prebid opinion of probable construction cost.
8. Prepare final construction drawings. The final drawings will be stamped and signed by the ENGINEER.

## Watermain

ENGINEER will provide the following services to OWNER.

1. Pole existing water valves within the PROJECT area to obtain elevations of the water main at valve locations.
2. Obtain input from utility owners in the PROJECT vicinity to establish which features of the PROJECT will affect existing utility facilities. Identify potential utility conflicts that may impact the design of the utilities.
3. Attend up to six design meetings with the OWNER at approximately monthly intervals to discuss the status of the project, potential utility conflicts and construction staging that may impact the utility design and relocation.
4. Attend the utility meeting(s) for the PROJECT to answer questions from the facility owners.
5. Assist the OWNER with WisDOT correspondence as necessary regarding the PROJECT.
6. Prepare construction drawings from OWNER provided design to be included in the WisDOT PS&E package for the PROJECT. It is anticipated there will be approximately 9,800 feet of watermain. The drawings will conform to the latest edition of the Standard Specifications for Sewer and Water Construction in Wisconsin, applicable City of Madison specifications, the WisDOT Facilities Development Manual, and the WisDOT Standard Specifications for Highway and Structure Construction.
7. Furnish final drawings and quantities to OWNER for review and use in obtaining the required Wisconsin Department of Natural Resources (WDNR) permits for sewer and water construction.
8. Prepare prebid opinion of probable construction cost.
9. Prepare final construction drawings. The final drawings will be stamped and signed by the ENGINEER.

## **OWNER Responsibilities**

1. Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to this project including previous drawings and specifications, and any other data relevant to the scope of the PROJECT.
2. Provide existing utility mapping including lateral sizes and locations.
3. Provide Microstation V8 files of the horizontal locations of the utilities.
4. Provide structure tables for the utility grades and profiles.

5. Prepare redline drawings of review comments.
6. Prepare WDNR permit applications including necessary calculations.
7. Provide all Microsoft Word files of the specifications for sewer and water in the WisDOT required format. ENGINEER will assign the WisDOT bid item number to the specifications. It is anticipated that the front end specifications will be in accordance with the WisDOT Standard Specifications for Highway and Structure Construction.
8. Provide all OWNER generated standard detail drawings that will apply to the utility design.

**Compensation**

OWNER shall compensate ENGINEER for the sanitary sewer design services an actual cost, not to exceed \$50,952.

OWNER shall compensate ENGINEER for the watermain design services an actual cost, not to exceed \$61,105.

**Schedule**

Services will begin upon execution of this agreement, which is anticipated on August 10, 2012. Services are scheduled for completion on or about February 2014 in accordance with the anticipated WisDOT schedule for the PROJECT as follows:

	<u>(Date)</u>
WisDOT DT1078 Work Plan Submittal	July, 2012
90 Percent Drawings No. 1	December, 2012
P.S.&E. No. 1	February 1, 2013
90 Percent Drawings No. 2	December, 2013
P.S.&E. No. 2	February 1, 2014

PS&E No. 1 is anticipated to include the PROJECT area south of the Verona Road/Beltline interchange.

PS&E No. 2 is anticipated to include the PROJECT area north of and including the Verona Road/Beltline interchange.

**Sanitary Sewer**

WORK PLAN ITEM	HOURS PER ITEM						HOURS PER ITEM	COST PER ITEM*
	Principal	Project Manager	Project Engineer	Staff Eng/Tech	Clerical	Expenses		
Admin (~18 mos.)	4	27	0	0	4		35	\$5,420.00
Pole Structures	0	1	5	22	0		28	\$2,555.00
Utility input and conflict identification	0	4	12	20	4		40	\$3,900.00
Design Meetings (6)	0	12	36	12	8		68	\$7,320.00
Attend Utility meeting(s)	0	6	8	2	2		18	\$2,120.00
WisDOT Correspondence	0	8	12	4	3		27	\$3,105.00
Preliminary Construction Drawings (2 pkg's)	0	10	40	50	10		110	\$10,800.00
WDNR Permit Asst. - final drawings/qtys.	0	0	0	0	0		0	\$0.00
Opinion of cost	0	2	6	10	1		19	\$1,875.00
Final Construction Drawings (2 pkgs)	0	10	25	50	10		95	\$9,225.00
<i>Hours Per Team Member =&gt;</i>	4	80	144	170	42	0	<b>440</b>	<b>\$50,952.00</b>
<i>Cost Per Team Member =&gt;</i>	\$800.00 1.6%	\$12,800.00 25.1%	\$15,120.00 29.7%	\$14,450.00 28.4%	\$3,150.00 6.2%	\$4,632.00 9.1%	<b>\$50,952.00</b>	

**Watermain**

WORK PLAN ITEM	HOURS PER ITEM						HOURS PER ITEM	COST PER ITEM*
	Principal	Project Manager	Project Engineer	Staff Eng/Tech	Clerical	Expenses		
Admin (~18 mos.)	5	27	0	0	5		37	\$5,695.00
Pole Structures	0	1	3	10	0		14	\$1,325.00
Utility input and conflict identification	0	4	12	20	4		40	\$3,900.00
Design Meetings (6)	0	12	36	12	8		68	\$7,320.00
Attend Utility meeting(s)	0	6	8	2	2		18	\$2,120.00
WisDOT Correspondence	0	8	12	4	3		27	\$3,105.00
Preliminary Construction Drawings (2 pkg's)	0	14	60	70	14		158	\$15,540.00
WDNR Permit Asst. - final drawings/qtys.	0	1	4	4	1		10	\$995.00
Opinion of cost	0	2	10	14	1		27	\$2,635.00
Final Construction Drawings (2 pkgs)	0	14	35	70	14		133	\$12,915.00
<i>Hours Per Team Member =&gt;</i>	5	89	180	206	52	0	<b>532</b>	<b>\$61,105.00</b>
<i>Cost Per Team Member =&gt;</i>	\$1,000.00 2.0%	\$14,240.00 27.9%	\$18,900.00 37.1%	\$17,510.00 34.4%	\$3,900.00 7.7%	\$5,555.00 10.9%	<b>\$61,105.00</b>	