SUPPLEMENT NO. 2 SCOPE OF WORK WOLF ROAD, 143RD STREET TO 167TH STREET WIDENING PROJECT

November 18, 2014

SCOPE OF WORK

Tasks included within this Scope of Work provide for completing the necessary studies and documentation for the Wolf Road, 143rd Street to 167th Street widening project in Orland Park. The tasks to complete the project are detailed in the following work elements:

- I. Update Traffic Data.
- II. Update Crash Data and Analysis
- III. Update Topographic Survey
- IV. Update Noise Analysis
- V. Preliminary Design Studies
- VI. Location and Drainage Studies
- VII. Update Environmental Surveys
- VIII. Project Development Report
- IX. Meetings
- X. Administration
- XI. QA/QC

I. UPDATE TRAFFIC DATA

Previously prepared Intersection Design Studies will be revised to reflect current traffic volumes as well as pending improvements along the corridor. Four intersections will be revised; 167th Street, 159th Street, 153rd Street, and 151st Street. The Intersection Design Study at Wolf Road and 143rd Street is being performed by others and will be incorporated into the Wolf Road Project. Updated peak hour traffic counts will be obtained at all four intersections along with projected 2040 traffic volumes. Updated Capacity Analyses will be performed at the four intersections and revisions made as needed to the Intersection Design Studies.

II. UPDATE CRASH DATA AND ANALYSIS

Updated crash data will be obtained along the corridor for the years 2011-2014. The analysis will be revised to reflect the new data.

III. UPDATE TOPOGRAPHIC SURVEY

A field investigation will be performed to compare the previously performed survey with new developments that have occurred. Detailed topographic survey will then be performed at locations where the previously performed survey has been outdated. Approximately 5000 feet of new survey is estimated.

IV. UPDATE NOISE ANALYSIS

A new Noise Analysis will be performed based on the new Noise Policy effective July 13, 2011.

V. PRELIMINARY DESIGN STUDIES

The proposed typical section will be reviewed and compared to changed conditions and desires of the Village of Orland Park. The horizontal and vertical alignment will be reviewed and modified to reflect a possible new typical section and right-of-way conditions.

VI. LOCATION DRAINAGE STUDIES

The drainage design will be revised to reflect the elimination of the proposed bio-swales. A Location Drainage Study will be prepared and submitted to the Village and IDOT for approval based on IDOT's typical design standards for conveyance, detention and mitigation. The existing culverts at Marley Creek and Spring Creek will be inspected to determine their condition and a recommendation made as to whether to extend or replace the culverts.

VII. UPDATE ENVIRONMENTAL SURVEYS

An ESR Addendum will be prepared to update the various environmental clearances needed for the project including wetlands, biological and PESA.

VIII. PROJECT DEVELOPMENT REPORT

The Project Development Report will be revised and updated to reflect the modifications made.

IX. MEETINGS

Preparation and attendance at one Public Meeting, one FHWA/IDOT Coordination Meeting, and four agency coordination meetings.

X. Administration

Miscellaneous administration including invoicing, correspondence, etc.

XI. QA/QC

Perform QA/QC reviews of the project.

PHASE I ENGINEERING SUPPLEMENTAL MANHOUR ESTIMATE Wolf Road (143rd Street to 167th Street) SUPPLEMENT NO. 2

Project Name: Wolf Road (143rd Street to 167th Street)

Clier	nt: Village of Orland Park		
Date	: November 11, 2014		
I.	UPDATE TRAFFIC DATA (Based on 2040 CMAP Traffic Modeling)		
	A. Update Traffic Data and HCS Analysis for 4 intersections	48 hrs	
	B. Update IDS sheets for 4 intersections	320 hrs	
	c. Update COSIM anlysis for 4 interesections	32 hrs	
	TOTAL UPDATE TRAFF	IC DATA =	400 hrs
fl.	UPDATE CRASH DATA AND ANALYSIS (Need 2011-2014 data)		
	A. Request and obtain crash data from IDOT	4 hrs	
	B. Update crash analysis	24 hrs	
	TOTAL UPDATE CRASH DATA AND A	NALYSIS =	28 hrs
III.	UPDATE TOPO SURVEY		
	A. Perform field visit to determine areas where updated topo needed	8 hrs	
	B. Perform Topographic Survey (assumes 5,000 feet, one side needed)	160 hrs	
	C. Download Survey data and update topo base sheet	12 hrs	
	TOTAL UPDATE CRASH DTA AND AN	NALYSIS =	180 hrs
IV.	UPDATE NOISE ANALYSIS (Based on new Noise Policy effective July 13, 2011)		
	A. Data Collection	70 hrs	
	B. Noise Impact Analysis	20 hrs	
	C. Noise Study Documentation	32 hrs	
	D. Update Air Quality	8 hrs	
	TOTAL NOISE AN	NALYSIS =	130 hrs
٧.	PRELIMINARY DESIGN STUDIES		
	A Pavious and raving proposed typical continue	16 hrs	
	A. Review and revise proposed typical sections B. Review currently proposed horizontal alignment	8 hrs	
	C. Review currently proposed nonzonial alignment/R.O.W. requirements	12 hrs	
	D. Revise horizontal and vertical alignments based on new typical section	60 hrs	

96 hrs

TOTAL NOISE ANALYSIS =

ATTACHMENT A

PHASE I ENGINEERING SUPPLEMENTAL MANHOUR ESTIMATE

Wolf Road (143rd Street to 167th Street)

VI.	LOCATION DRAINAGE STUDIES (Update based on elimination of bio-swales)	
	A. Existing Drainage Plan (EDP) B. Marley Creek and Spring Creek culvert inspection and report C. Drainage Design and Modeling D. Proposed Drainage Plan and Profile (PDP) E. Floodplain Encroachment Evaluation F. Permitting G. Study Assembly 8 hrs 60 hrs 61 hrs 62 hrs 63 hrs 64 hrs 65 hrs 66 hrs 67 hrs 68 hrs 69 hrs 60 hrs 60 hrs 60 hrs 60 hrs 60 hrs 61 hrs 62 hrs	
	TOTAL LOCATION DRAINAGE STUDIES =	200 hrs
VII.	UPDATE ENVIRONMENTAL SURVEYS	
	A. Prepare and Submitt AddendumESR B. Update PESA Submittal C. Submit PSI request, Evaluate PSI (PSI by IDOT) D. Update Wetlands (Wetland delineations by INHS/IDOT) 8 hrs	
	TOTAL UPDATE ENVIRONMENTAL SURVEYS =	28 hrs
VIII.	PROJECT DEVELOPMENT REPORT	
	A. Draft 40 hrs B. Pre-final 40 hrs C. Final 32 hrs D. Cost Estimate 16 hrs TOTAL PROJECT DEVELOPMENT REPORT =	128 hrs
IX.	MEETINGS	
41	A. Public Information Meeting; Assume 1 Meeting B. FHWA Coordination Meetings C. Agency Coordination Meetings; Assume 4 meetings TOTAL PUBLIC MEETINGS =	48 hrs
v	ADMINISTRATION	40 bro
X.	ADMINISTRATION	40 hrs
XI.	QA/QC	24 hrs
	SUPPLEMENT SUBTOTAL	1302 hrs

COST ESTIMATE SUPPLEMENT NO. 2



FIRM NAME PRIME/SUPPLEMENT

CONTRACT TERM START DATE RAISE DATE

MONTHS 12 1/1/2015 1/1/2015

DATE PTB NO.

11/18/14

Payroll Escalation Table Fixed Raises

OVERHEAD RATE COMPLEXITY FACTOR % OF RAISE

118.54% 0 3.00%

ESCALATION PER YEAR

1/1/201	
ij.	,
1/1/2015	

1/1/2016 5 5 1/2/2015

103.00%

0.00%

1.0300

3.00%

The total escalation for this project would be:

Page 1

(P)	Illinois	Departi nsportal	ment
(A)	of Trai	nsportat	tion

Payroll Rates

FIRM NAME
PRIME/SUPPLEMENT
PTB NO.

URS	DATE	11/18/14

ESCALATION FACTOR

3.00%

CURRENT RATE	ESCALATED RATE
\$70.00	\$70.00
\$70.00	\$70.00
\$70.00	\$70.00
\$60.04	\$61.84
\$62.07	\$63.93
\$56.37	\$58.06
\$59.45	\$61.23
\$47.21	\$48.63
\$69.81	\$70.00
\$55.03	\$56.68
\$58.10	\$59.84
\$38.77	\$39.93
\$32.45	\$33.42
\$32.05	\$33.01
\$36.26	\$37.35
\$26.10	\$26.88
	\$17.11
\$32.78	\$33.76
	\$0.00
	\$0.00
	\$0.00
	\$0.00
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	\$0.00
	\$70.00 \$70.00 \$70.00 \$60.04 \$62.07 \$56.37 \$59.45 \$47.21 \$69.81 \$55.03 \$58.10 \$38.77 \$32.45 \$32.05 \$36.26

Wolf Road

URS

Cook

Section County

Route

Project No.

Job No.

Funding

Exhibit A

Consultant Services Cost Estimate of (CPFF)

11/18/14 Date

Complexity Factor

0 118.54% Overhead Rate

2.22% 11.56% 5.32% 33.03% 17.83% 4.26% 8.39% 2.10% 2.47% % of Grand Total 3,200.07 6,488.60 19,475.94 12,767.75 (B+C+D+E+F+G) (B+C+D+E+F+G) 8,095.47 50,252.17 3,383.77 27,126.71 Total DBE Total Services Others Direct Costs Outside E 439.58 891.31 516.50 2,674.76 1,753.84 3,725.70 2,416.42 1,108.72 6,902.88 464.81 Fixed Fee Θ 45.00 45.00 270.00 In-House Direct Costs <u>@</u> 5,974.14 1,497.34 3,643.29 23,513.43 1,583.29 9,088.86 1,759.36 Fringe Benefits Overhead ပ 3,073.47 2,561.22 1,484.19 19,835.86 1,335.66 7,667.33 10,687.29 1,263.15 6,943.72 5,039.77 Payroll <u>@</u> Manhours ₹ Location Drainage Stud. Project Develop. Report Prelim. Design Studies Update Noise Analysis Update Environmental Update Traffic Data Update Crash Data Item Administration Meetings QA/QC Drop Box DBE

DBE 0.00%

100.00%

152,141.74

0.00

0.00

0.00

20,894.50

360.00

70,995.58

59,891.66

1122

TOTALS



Wolf Road

Cook

Route Section County Job No. PTB/Item

Average Hourly Project Rates

Consultant

URS

Date 11/18/14

Р Sheet

Payroll	Avg	Total P	Total Project Rates		Update Traffic Da	raffic Data		Update Crash Data	ash Data	ľ	Indate No	Undate Noise Analysis	Γ	Prelim De	Prelim. Design Studies	80	Ocation	Ocation Drainage Stud	
	Hourly	Hours	%	Watd	Hours	%	Watd	Hours	%	Watd	Hours	, %	Natd	Hours	%	World	HOILE	%	World
Classification	Rates		ъ	-		Part.	\neg		Part.	_		Part.			Part.	Ava	3	Part.	Ava
Principal/Sen. Proj. Mgr.	70.00	0														×			
Project Manager	70.00	154	13.73%	9.61	32	8.00%	5.60				10	7.69%	5.38	16	16.67%	11.67	20	10.00%	7.00
Senior Rail	70.00	0																	
Project Engineer	61.84	24	2.14%	1.32															
Technical Specialist	63.93	0																23.5	
Senior Civil Engineer	58.06	508	45.28%	26.29	160	40.00%	23.22	12 4	42.86%	24.88	120	92.31%	53.59	40	41.67%	24.19	92	38.00%	22.06
Senior Construction Eng.	61.23	0																	
Construction Eng.	48.63	0																2	
Senior Structural Engineer	20.00	24	2.14%	1.50													24	12.00%	8.40
Senior Professional	56.68	0																	
Environmental Specialist	59.84	0																	
Junior Engineer	39.93	412	36.72%	14.66	208	52.00%	20.77	16	57.14%	22.82				40	41.67%	16.64	80	40.00%	15.97
Graduate Engineer	33.42	0																	
Staff Other Professional	33.01	0																	
Technician	37.35	0																	
Jr. Technician	26.88	0																	
Traffic Control Operator	17.11	0																	
Adminstrative/Clerical	33.76	0																	
		0																	
		0																	
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TOTALS		1122	100%	\$53.38	400	100%	\$49.59	28	100%	\$47.70	130	100%	\$58.98	96	100%	\$52.50	200	100%	\$53.44

Wolf Road Cook Cook	Train	s Department nsportation			
Cook	Route	Wolf Road			
Consultant	Section				
Job No.	County	Cook	Consultant	URS	
DTD //fam	Job No.				
	PTB/ltem				

Average Hourly Project Rates

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Sheet

Date 11/18/14

Payroll	Avg	Update El	Update Environmental	=	Project Develop.	evelop. Report	Γ	Meetings		ľ	Administration	ation		OA/OC					
	Hourly	Hours	%	Watd	Hours	%	Vate	Holling	%	Watd	Hours	%	Woth	Holling	70	Woth	HOLLE	70	Mosted
Classification	Rates		4			Part.		5	Part.	_)	Part.		3	Part.	Ava	50	Part.	Ava
Principal/Sen. Proj. Mgr.	70.00												,			,			
Project Manager	70.00				32	25.00%	17.50	24	20.00%	35.00	20	20.00%	35.00					7.50	
Senior Rail	70.00																		
Project Engineer	61.84													24	100.00%	61.84			
Technical Specialist	63.93																		
Senior Civil Engineer	58.06	œ	28.57%	16.59	48	37.50%	21.77	24	20.00%	29.03	20	20.00%	29.03						
Senior Construction Eng.	61.23																		
Construction Eng.	48.63																		
Senior Structural Engineer	70.00																		
Senior Professional	56.68																		
Environmental Specialist	59.84																		
Junior Engineer	39.93	50	71.43%	28.52	48	37.50%	14.97												
Graduate Engineer	33.42																		
Staff Other Professional	33.01																		
Technician	37.35																		
Jr. Technician	26.88																		
Traffic Control Operator	17.11																		
Adminstrative/Clerical	33.76																		
																		34	
TOTALS		28	100%	\$45.11	128	100%	\$54.25	48	100%	\$64.03	04	100%	\$64.03	24	100%	\$61.84	0	%0	\$0.00



Summary of Direct Costs

Firm	URS Corporation	
Route	Wolf Road	
Section		
County	Cook	
Job No.		
Project No.		

Date 11/18/14

WORK ITEM	DESCRIPTION	UNITS	UNIT COST	QTY	# SETS / TRIPS	COST
Update Noise Analysis	Mileage	Day	45.000	1	1 Sub-total	45.00 45.00
Location Drainage Studies	Mileage	Day	45.000	1	1 Sub-total	45.00 45.00
Meetings	Mileage	Day	45.000	1	6	270.00 270.00
					-	

\$