

AMENDATORY AGREEMENT

THIS AMENDATORY AGREEMENT is made between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado (the “City”) and **DEIGHTON ASSOCIATES LTD.**, a foreign corporation, whose address is 223 Brock Street North, Unit 7, Whitby, CO L1N 4H6, Ontario, Canada, (the “Consultant”), jointly “the parties”.

RECITALS:

WHEREAS, the Parties entered into an agreement dated April 20, 2016 to provide continued refinement and enhancement of the CCD Transportation Asset Management system (“Agreement”); and

WHEREAS, the Parties desire to amend the Agreement to add to the scope of work, extend the term and increase compensation to the Consultant.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and obligations herein set forth, the Parties agree as follows:

1. All references to “**Exhibit A**” in the existing Agreement shall be amended to read “**Exhibit A and Exhibit A-1.**” The Scope of Work marked as **Exhibit A-1** is attached hereto and incorporated herein by this reference.
2. Article 3 of the Agreement entitled “**TERM**” is hereby amended to read as follows:

“3. **TERM:** The Agreement will commence on January 1, 2016 and will expire on December 31, 2017 (the “**Term**”). The term of this Agreement may be extended by the City under the same terms and conditions for up to one (1) additional one (1) year renewal terms by a written amendment to this Agreement.”

3. Article 4 of the Agreement entitled “**COMPENSATION AND PAYMENT**” subsection (a) of the Agreement entitled “**Fee**” is amended to read as follows:

“4. **COMPENSATION AND PAYMENT:**

a. **Fee:** The City shall pay and the Consultant shall accept as the sole compensation for services rendered and costs incurred under the Agreement the amount of **NINE HUNDRED SIXTEEN THOUSAND**

SIX HUNDRED TWENTY ONE DOLLARS AND NO CENTS (\$916,621.00.00) for fees. Amounts billed may not exceed the rates set forth in **Exhibit A.**”

4. Article 4 of the Agreement entitled “**COMPENSATION AND PAYMENT**” subsection (**d-1**) of the Agreement entitled “**Maximum Contract Amount**” is amended to read as follows:

“4. **COMPENSATION AND PAYMENT:**

d. Maximum Contract Amount

(1) Notwithstanding any other provision of the Agreement, the City’s maximum payment obligation will not exceed **NINE HUNDRED SIXTEEN THOUSAND SIX HUNDRED TWENTY ONE DOLLARS AND NO CENTS (\$916,621.00.00)** (the “**Maximum Contract Amount**”). The City is not obligated to execute an Agreement or any amendments for any further services, including any services performed by Consultant beyond that specifically described in **Exhibit A**. Any services performed beyond those in **Exhibit A** are performed at Consultant’s risk and without authorization under the Agreement.”

5. Except as herein amended, the Agreement is affirmed and ratified in each and every particular.

[SIGNATURE PAGES FOLLOW]

EXHIBIT A-1

City and County of Denver

Transportation Asset Management 2
Work Proposal

Prepared by: Deighton Associates Limited

Date: 2017-03-06

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Denver Transportation Asset Management 2 Proposal

Introduction

The City and County of Denver (CCD) transportation asset management system began with the implementation of a dTIMS based pavement management system in 1996. Since that initial implementation, Deighton and CCD have continuously enhance and refine the asset management methodology and scope of assets being managed.

This proposal is provided to CCD, Department of Public Works, Street Maintenance Division as a basis for the continued refinement and enhancement of the CCD Transportation Asset Management system.

Tasks in this Proposal

The following tasks will be considered in this proposal:

1. Automated Data Collection
2. Network Analysis
3. Mobile Curb Ramp Work Completion Application
4. Mobile Alley Data Collection Application
5. Annual Software Support and Maintenance

Each of these tasks will be summarized in the following sections and estimates of time and cost will be provided at the end of this proposal.

Automated Data Collection

CCD has decided to update their baseline condition survey across their entire road network using automated data collection technics that are provided by various vendors. Deighton will take on the role of evaluating various vendors through an RFP process and contract with a data collection vendor that meets specific technical, scheduling and budget

requirements. During the project, Deighton will provide management services with respect to the data collection activities.

This task will consist of data collection of all arterial, collector and local roadways in Denver. Data to be collected includes surface distresses, roughness, and rutting; the estimated quantity of data collection is 2550 miles. Generally, two-lane arterial and collector roadways will be surveyed with a single pass, and four-lane roads will be surveyed with one pass in each direction. Local roads will be surveyed in a single direction. The quote for this work is included in the cost estimate section of this proposal. The final billing amount will be based on the actual number of miles surveyed and processed. This task includes a 15% management fee to cover contract management and administration, quality control of the data, and communication with the subcontractor and client.

As part of the data collection services, Deighton will review a sample output from the data collection vendor to confirm the format, location referencing and units of measure. When the complete network data is received, the data will be vetted for completeness and accuracy by Deighton and a report to the data collection vendor will be prepared for their comment and action. Finally, Deighton will load the processed condition data into dTIMS so that it is ready for the next analysis.

Network Analysis

This task will involve the analysis of the CCD road network using the 2017 collected pavement condition data.

Accommodation has been made in the proposal to modify the dTIMS analysis of the local roads to address the change from manual to automated data collection on local roads.

Deighton will execute the dTIMS pavement analysis, review the results with CCD staff and then update the CCD 6-year plan.

All the work under this task will be done in the web version of dTIMS, dTIMS BA. A site visit has been proposed to deploy dTIMS BA on CCD servers and some basic system training for CCD staff. Server requirements to host dTIMS BA will be provided by Deighton, well before this site visit, so that provisions can be made by CCD IT.

Mobile Curb Ramp Work Completion Application

As an extension to the Curb Ramp analysis work that was completed by Deighton in a previous contract, this task will exploit that work order tracking capabilities within the dTIMS software to help field manage the curb ramp output from the dTIMS analysis.

This application will accept project recommendation outputs from the curb ramp analysis configured in dTIMS and will generate work orders for each recommendation. Each work order will be tracked, from assignment through to closure, as a curb ramp is brought into specification or the work is inspected as Maximum Extent Feasible. The mobile application will update the dTIMS database as changes take place with respect to each work order's status.

Deighton will provide CCD with an application design document that can be reviewed before the commencement of development.

Mobile Alley Data Collection Application

This task will provide time for the “modernization” of the existing CCD Alley data collection application that was developed in 2004 using state of the art development software of that time. The data collection application will be reviewed, with CCD, with respect to its migration to a Web

development platform that offers communication and synchronization capabilities that were not available when the application was first developed.

The mobile application development will follow the general design that was developed in 2004 and will avoid the synchronization efforts required previously. This will enhance production in both the office and the field.

Deighton will provide CCD with an application design document that can be reviewed before the commencement of development.

Annual Software Support and Maintenance

This task covers the annual software maintenance and client support for the dTIMS analysis software used as the basis for the CCD strategic pavement management.

Cost Estimate

The following is a cost estimate for the tasks described above.

We have compiled this cost estimate based on the Tasks that we discussed. As you will see, we have brought forward the amount remaining in the current contract (\$123,783.00).

Based on our estimates and the current amount left in the contract we estimate that an additional \$634,644.00 is required to deliver these services.

Item	Description	Consulting	Travel	Other	Total
1.1	Balance Forward (from previous contract)				-\$123,783.00
Automated Data Collection					
2.1	RFP Documents and Process	\$21,250.00			\$389,115.00
2.2	Data Collection and Processing	\$275,400.00			
2.3	Management Fee (15%)	\$41,310.00	\$25,155.00		
2.4	Data QC	\$10,000.00			
2.5	dTIMS Database Modifications	\$6,000.00			
2.6	Data Load	\$10,000.00			
Network Analysis					
3.1	dTIMS Analysis Modifications	\$14,000.00			
3.2	Execute CCD Analysis	\$4,000.00			
3.3	Review Results	\$6,000.00			
3.4	Update 6-year Plan	\$12,000.00			
3.5	Presentation and BA Deployment	\$4,800.00	\$4,385.00		
3.6	Project Management	\$3,719.00			
Mobile Curb Ramp Work Completion Application					
4.1	Application Specification	\$6,000.00			
4.2	Curb Ramp Decouple	\$8,000.00			
4.3	Application Design	\$16,000.00			
4.4	Application Creation	\$55,000.00			
4.5	Testing	\$4,000.00			
4.6	Documentation	\$8,000.00			
4.7	Deployment	\$4,800.00	\$4,385.00		
4.8	Project Management	\$9,819.00			
Mobile Alley Data Collection Application					
5.1	Application Specification	\$6,000.00			
5.2	Application Design	\$16,000.00			
5.3	Application Creation	\$70,000.00			
5.4	Testing	\$4,000.00			
5.5	dTIMS Database Modifications	\$6,000.00			
5.6	Documentation	\$8,000.00			
5.7	Deployment	\$4,800.00	\$4,385.00		
5.8	Project Management	\$11,919.00			
Annual Software Support and Maintenance					
6.1	Annual Client Support			\$2,500.00	
6.2	Annual Software Maintenance			\$60,000.00	
6.3	System Training	\$10,800.00			
Total					\$634,644.00

Schedule

The work described will be accomplished in the 2017 fiscal year commencing as soon as we are given instructions to proceed. The automated data collection will commence is proposed to be commenced in early May, 2017 and should take approximately 10 weeks to complete.

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By _____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By _____

By _____

By _____



Contract Control Number: PWADM-201627262-01

Contractor Name: DEIGHTON ASSOCIATES LTD.

By: Vicki Deighton

Name: Vicki Deighton
(please print)

Title: CEO
(please print)

ATTEST: [if required]

By: [Signature]

Name: ROBERT PIANE P.ENG
(please print)

Title: PRESIDENT
(please print)

