



April 3, 2024

Alex Popp, PE
Project Engineer
City of Duluth Public Works
411 West First Street, Room 240
Duluth, MN 55802

**PROPOSAL FOR PROFESSIONAL SERVICES – AMENDMENT 01
6TH AVENUE EAST EXTENSION PROJECT**

In accordance with our ongoing discussions and in preparation for the upcoming construction project we have prepared the following summary of additional services and costs related to the contract. This amendment includes Pre-Construction Condition Surveys and Construction Vibration Monitoring services to be provided by Braun Intertec. The work is summarized in Braun’s proposal attached.

Fees

The total amount of the additional services included in Amendment 01 is **\$66,744**.

We appreciate the opportunity to continue providing services for this project. Upon review, if you have any questions concerning our proposal or would like to meet to discuss, please do not hesitate to call.

LHB, INC.

A handwritten signature in blue ink that reads "Megan Goplin".

Megan Goplin, Project Engineer

A handwritten signature in blue ink that reads "Jon W. Siiter".

Jon Siiter, Project Principal

Attachments:

c: LHB Project No. 221390

Q:\22Proj\221390\100 Financial\Agreements\Amendment 1\221390PR 6th Ave E Amendment 01-Pre Condition Survey & Vibration Monitoring.docx



April 1, 2024

Proposal QTB192994

Ms. Megan Goplin
LHB, Inc
21 West Superior Street, Suite 100
Duluth, MN 55802

Re: Proposal for Pre-Construction Condition Surveys and Construction Vibration Monitoring
6th Avenue East Reconstruction
6th Avenue East from East 1st street to East 2nd Street
Duluth, Minnesota

Dear Ms. Goplin:

Thank you for the opportunity to provide this proposal for Pre-Construction Condition Surveys and Vibration Monitoring for the 6th Avenue East Reconstruction project located in Duluth, Minnesota.

Background

We understand this project to include the construction of extensive retaining walls to make up grade along the steep corridor. The existing bedrock would need to be removed so that the structure foundations can be constructed on the bedrock at the correct elevation.

The rock blasting/rock removal have the potential to create vibration throughout the duration of this work. There is a risk that vibrations may potentially affect the surrounding structures. This proposal outlines the scope and associated costs to perform Pre-Construction Condition Surveys (Pre-CCS's), and monitor vibration levels during the construction activities.

Scope of Work

Phase 1 – Pre-Construction Condition Survey

Based on the project plans/conversation with the project team, it is our understanding that the following buildings outlined in Table 1 and Figure 1 may require a Pre-CCS.

Table 1. Property Description and Scope

Number	Address/Identifier	Brief Description (distance feet)	Scope of Pre-CCS
1	503 E 3 rd Street/St. Mary's Medical Center	4 story Office Building (500')	Exterior Only
2	400 E 3 rd Street/Benedictine Sisters Benevolent Assn.	4 Story Parking Ramp (500')	Exterior Only
3	219 N 6 th Ave E/Swedish Ev. Lutheran Church	Church (300'<X<500')	Exterior Only
4	614 E 3 rd St/West End Properties	1-story Commercial (300'<X<500')	Exterior Only
5	632 E 3 rd Street/Friday Place	3-story Multi-family (500'A)	Exterior Only
6	702 E 3 rd Street	1-story with Basement Commercial (500'A)	Exterior Only
7	707 E 2 nd Street	2-story single family (500'A)	Exterior Only
8	709 E 2 nd Street	2-story single family (500'A)	Exterior Only
9	711 E 2 nd Street	2-story multi-family (500'A)	Exterior Only
10	713-717 E 2 nd Street	2-story multi-family (500'A)	Exterior Only
11	502 E 2 nd Street	5-story Medical Facility (500')	Exterior Only
12	502 E 2 nd Street/Miller Dwan	5-story Medical Facility (300'<X<500')	Exterior Only
13	530 E 2 nd Street/Polinsky Building	2-Story Medical Facility (300'<X<500')	Exterior Only
14	600 E 2 nd Street/Dougherty Funeral Home	3-story office building (300')	Interior and Exterior
15	600 E 2 nd Street/ Garage	2-story garage (300')	Interior and Exterior
16	620 E 2 nd Street	2-story single family (300')	Interior and Exterior
17	620 ½ E 2 nd Street	3-story single family (300')	Interior and Exterior
18	632 E 2 nd Street/Twelve Holy Apostles	Church (300-500')	Exterior only

Number	Address/Identifier	Brief Description (distance feet)	Scope of Pre-CCS
19	114 North 6 th Ave E	2-story multi-family (300')	Interior and Exterior
20	601/603 E 1 st Street	2-story multi-family (300')	Interior and Exterior
21	605 E 1 st Street	3-story multi-family (300')	Interior and Exterior
22	607/609 E 1 st street	3-story multi-family (300')	Interior and Exterior
23	613 E 1 st Street	3-story Residential (300')	Interior and Exterior
24	619 E 1 st Street	3-story Residential (300')	Interior and Exterior
25	621/623 E 1 st Street	3-story multi-family (300')	Interior and Exterior
26	629 E 1 st Street	3-story multi-family (300'<X<500')	Exterior Only
27	702 E 2 nd Street	3-story multi-family (500')	Exterior Only
28	710 E 2 nd Street	3-story multi-family (500')	Exterior Only
29	122 N 7 th Ave E	2-story multi-family (500')	Exterior Only
30	118 N 7 th Ave E	2-story multi-family (500')	Exterior Only
31	116 N 7 th Ave E	2-story multi-family (500')	Exterior Only
32	709 E 1 st Street	3-story multi-family (500')	Exterior Only
33	715 E 1 st Street	3-story multi-family (500')	Exterior Only
34	721 E 1 st Street	3-story multi-family (500')	Exterior Only
35	400 E 1 st Street	3-story medical facility (500')	Exterior Only
36	532 E 1 st Street/Peerless Building	3-story Commercial (300')	Interior and Exterior
37	614 E 1 st Street	3-story Commercial (300')	Interior and Exterior
38	620 E 1 st Street	3-story Commercial (300')	Interior and Exterior
39	624 E 1st Street	3-story Commercial (300'<X<500')	Exterior Only
40	702 E 1 st Street	2-story multi-family (500')	Exterior Only
41	712 E 1 st Street	3-story multi-family (500'A)	Exterior Only

Number	Address/Identifier	Brief Description (distance feet)	Scope of Pre-CCS
42	714 E 1 st Street	3-story multi-family (500'A)	Exterior Only
43	600 E Superior Street/Fitgers Building	2-story Commercial (500')	Exterior Only

Figure 1. Construction Zone and Structure for Pre-CCS

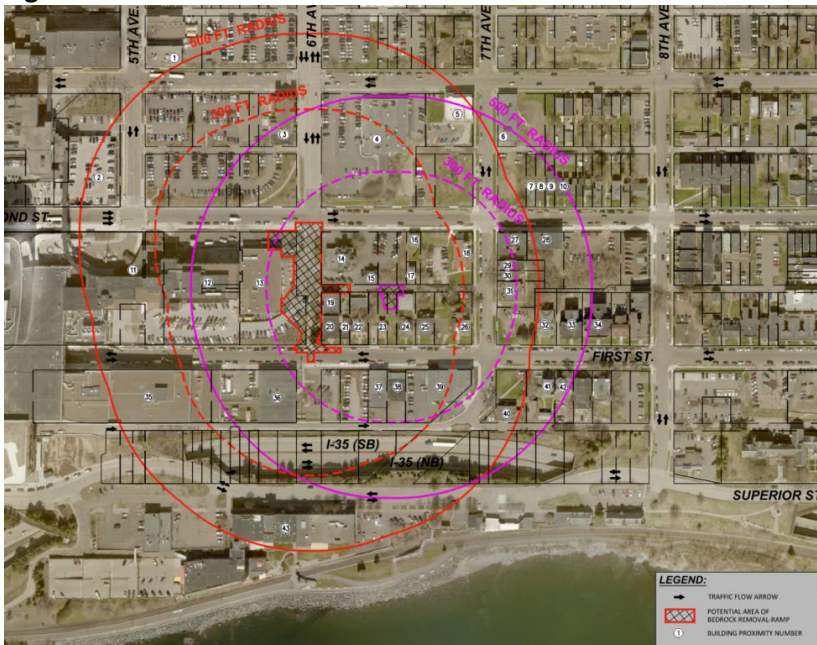


Image provided by LHB, Inc

Pre-CCS's document the existing conditions of a building prior to construction. This is useful for both the building owner and the contractor to establish a baseline condition to compare claims of damage related to construction. The Pre-CCS will consist of the following:

- A video recording of the exterior of the building(s) that includes some narration of observations.
- A video recording of the interior of the building(s) that includes some narration of observations. This may require entry into normally locked areas included tenant spaces.
- Photographs of the areas of concern mentioned in the video and notes on their approximate size and location.

- These videos and/or images will be saved to a USB drive or cloud-based sharing service and provided to you for your future reference.
- Throughout the Pre-CCS process, we will look for exposed physical distresses in structural components. We will help identify areas for crack monitors to be placed as necessary prior to construction.

The following limitations for completing the fieldwork are as follows:

- This survey is limited to visual observations of the structure and of those areas already exposed. We will not undertake any destructive exploration to expose areas of structural framing. However, as we observe the areas and take field measurements, we will include in our summary those areas we feel may be at risk or comment on conditions that may be compromised further based on the observed conditions.
- Floor coverings, such as carpeting and area rugs, or furniture will not be moved to expose the flooring underneath. Wall hangings, such as pictures, posters or tapestry, will not be moved to expose the wall behind these areas. The rooms will be documented in “as-is” condition provided they are easily accessible.
- The natural lighting or the in-place lighting of the interior space will be used and there will be no special accommodations made for special lighting during the documentation apart from standard flashlights if deemed necessary.
- Exterior surveys will be limited to the lower three stories of the structure where visible from ground level. If documentation of building exteriors above three stories is desired, we can provide additional costs to perform these services using drone technology.

The following is a general scope of the area of work for the interior of each building type as noted below by applicable building type:

- Per the RFP, structures within approximately 300-feet will require interior and exterior surveys (Numbers 14-17, 19-25, 36-38) for a total of 14 properties. The structures from 300-feet to 500-feet require exterior surveys only (Numbers 1-13, 18, 26-35, 38-43) for a total of 29. Numbering is based on map included in the RFP.
- **Multi-Unit Buildings (Hotels, Senior Living, Large Apartments)** - Common spaces in the basement level and 1st floor level will be documented as accessible. We will attempt to document as many of the resident units on the 1st floor level that we receive permission to access. We will also work with the ownership group to access interior units that are along the building elevation facing the construction activity or are of particular concern to the owners.
- **Single-Family Homes/Duplexes** - The basement level and accessible rooms for the property will be documented. There typically are no limitations for access in these buildings unless the owner specifically denies access to all or a portion of the residence. If access is denied, we will document accordingly.

- **Commercial/Church Building** - The basement level and accessible main floor spaces will be documented. The main areas of focus on the main levels will be along the building elevations facing the construction activity, but we will also document accessible common spaces (hallways, restrooms, etc.) on the main level. If the building has levels above the main floor, spaces along the elevations facing the construction activity will be documented if accessible.

To complete the survey, we will attempt to gain permission to enter applicable spaces prior to commencement of the construction activity by contacting the owners directly. We would request assistance from involved parties to obtain contact information of building owners to assist in our contact efforts. Contact can be established by a series of letters and phone calls/messages in an attempt to establish appointments for survey completion. We would like to use e-mail wherever possible. From our experience with projects of this nature, a “due diligence” standard will be established, and if no contact is returned after the standard is met, we will assume no access to the property will be granted.

We will make every attempt possible to minimize interference with the operation of occupants/owners.

If unforeseen complications arise with regard to gaining access to the proposed structures, we will contact you. Our project schedule will be dependent on the ability to access the structures defined above.

A final summary Pre-CCS report be provided upon completion.

Phase 2 – Construction Vibration Monitoring

Construction vibrations at any level pose some risk of damage to adjacent structures. The intention of vibration monitoring is to provide notice and warning alerts to the construction team of potential increasing risk factors associated with construction vibrations. The process of vibration monitoring alone cannot prevent damage to the adjacent structures in its entirety.

Vibration thresholds have been provided within the project specifications section S-1.8, A.1 and follow the Office of Surface Mining (OSM) Alternative Blasting Level Criteria recommendations. The vibrations monitors will be set to an alert trigger which is at least 80 percent (%) of the peak particle velocity (ppv) listed in the specifications. Since the PPV threshold is frequency dependent, the alert trigger will be based on the PPV which corresponds to the lowest frequency. Any exceedances will be recorded, and an email notification will go out to identified key individuals.

With the start of the construction process, we propose to place up to three (3) vibration monitors (seismographs) for a duration of 3 months. These seismographs will be enabled with cellular modems to remotely transmit data and provide real-time vibration alerts. We will place the seismographs in a secure location at the beginning of the workday, prior to work beginning or as the schedule dictates. The seismographs will be placed throughout the work area, preferably adjacent to structures. In general, the seismographs will be placed near the exterior building face or foundation element. The seismographs will be placed perpendicular from the anticipated location of the work to minimize the distance from the work location to the seismograph.

The seismographs are always monitoring and a remote check of the equipment is completed daily to identify any necessary maintenance as it pertains to wireless connection, low battery or other anomalies and will be moved as necessary based on the blasting activities. The locations of the seismographs will be determined at the start of construction and based on the phase of work that is taking place. It is our goal to place the seismographs in locations that will allow us to record vibration events generated by construction activities. If vibrations are observed above a pre-determined threshold, the contractor and other approved parties will be notified, and the vibration levels documented.

In addition to the cost of the vibration monitors, we have included time for the following items:

- Initial site visit at the start of construction to install and set up vibration monitoring equipment.
- To start, we will discuss/meet with the contractor for up to two times a week to stay informed with the blasting schedule. This meeting/discussion will increase or decrease as needed of the duration of the vibration monitoring scope of work.
- Use of modems connected to the vibration monitors for emailing results to a pre-determined group of project team members. The source of the vibrations will be dependent on the observations of onsite staff.
- Site visits to exchange batteries typically needs to occur approximately once every 20 days. Monitors may be moved by Braun Intertec personnel as required by the blasting schedule.
- Engineering time to analyze the data, discuss intermittent data as required and provide a final report including our procedures, monitoring locations and dates, and results from the vibration monitoring.
- Crack monitors may be installed and observed and documented in conjunction with the vibration monitoring service. The costs associated for the monitors are shown in our cost estimate but are not budgeted at this time since it is unknown what potential quantities there could be. After the Pre-CCS work is completed, we will coordinate with you and the construction team if there are areas that should be considered for crack monitors. Additional site visits to document crack monitors are also outside the budgeted scope.

The following additional tasks can be completed if requested or if locations of concern are identified during the susceptibility study. These services would be billed in accordance with the hourly rates shown in the attached cost estimate and would be considered additional services beyond those items described above.

- Additional site visits to observe and document crack monitors beyond regular service intervals for the vibration monitoring equipment. Crack monitors can be observed and documented by on site staff of the construction team.
- Review of potential claims or perceived damage to the existing structure and provide an opinion of probable cause or of existing conditions. If any damage or claims are presented by tenants or owners of adjacent properties or request for “post-alarm” surveys for on-site assessment and opinions reported will be considered a change order and billed accordingly.

Should any vibrations exceed the project specifications during construction, we will notify designated key people as we become aware of the exceedances, and can provide recommendations to reduce construction related vibrations, if applicable.

Cost Estimate

Braun Intertec Corporation proposes to provide the services noted above on a Time and Materials basis. The following is our proposed cost estimate for the work as outlined above, please see the attached cost estimate for further breakdown of the anticipated costs.

The following is a general breakdown of the costs for each of the main tasks for the project:

Phase 1: Pre-Construction Condition Surveys	
Act. 1.1 Field work	\$ 29,450.00
Act 1.2 Administration and Reporting	9,341.00
Phase 2: Construction Vibration Monitoring	
Act. 2.1 Field work	21,752.00
Act. 2.2 Project Management and Reporting	6,201.00
Estimated Total	\$ 66,744.00

The following items are not included in the scope of work and will be considered a change order:

- The costs associated are set with the understanding of placement of 3 monitors for 3 working months. If additional monitors are requested, this will be considered a change order and will be billed accordingly.
- If any damage or claims are presented by tenants or owners of adjacent properties or request for “post-alarm” surveys for on-site assessment and opinions reported will be considered a change order and billed accordingly.

This cost estimate was developed with the understanding that the scope of services that we are asked to provide to meet the project requirements and the contractor’s construction schedule will be performed during our normal work hours of 7:00 a.m. to 5:00 p.m., Monday through Friday. We are aware that there is potential of the contractor to work on Saturdays and we will perform monitoring services per their schedule. Our work will extend over multiple invoicing periods. As such, for work that is performed during the course of each invoicing period, we will submit partial progress invoices.

If the scope changes or additional tasks are requested from what is initially outlined above, we will notify you and coordinate on additional fees accordingly prior to proceeding with the work.

Safety

We assume the conditions found at the site will provide a safe working environment for our staff. If conditions are encountered that we feel are not safe, we will contact you immediately and reserve the right to not complete tasks that are felt unsafe.

General Remarks

We will be happy to meet with you to discuss our proposed scope of services further and clarify the various scope components.

We appreciate the opportunity to present this proposal to you. ***Please sign and return a copy to us in its entirety.***

The proposed fee is based on the scope of services described and the assumptions that our services will be authorized within 30 days and that others will not delay us beyond our proposed schedule.

Our services will be provided under the terms of the Master Service Agreement between LHB, Inc and Braun Intertec Corporation dated June 26, 2012.

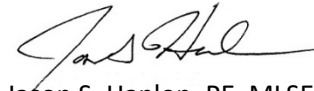
To have questions answered or schedule a time to meet and discuss our approach to this project further, please contact Kimberly Deibel at 651.487.7094 or kdeibel@braunintertec.com.

Sincerely,

BRAUN INTERTEC CORPORATION



Kimberly Deibel, PE, FMPC
Structure Sciences Technical Manager, Senior Engineer



Jason S. Hanlon, PE, MLSE
Director, Principal Engineer

Attachment:
Cost Estimate

The proposal is accepted, and you are authorized to proceed.

Authorizer's Firm

Authorizer's Signature

Authorizer's Name (please print or type)

Authorizer's Title

Date



The Science You Build On.

Project Proposal

QTB192994

6th Avenue East Reconstruction

Client: LHB, Inc. Megan Goplin 21 West Superior St., Suite 500 Duluth, MN 55802 (218) 727-8446	Work Site Address: 6th Avenue East, From East 1st street to East 2nd Street Duluth, MN 55805	Service Description: PCCS and Vibration Monitoring
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	Description	Quantity	Units	Unit Price	Extension
Phase 1	Pre-Construction Condition Surveys				
Activity 1.1	Pre-Construction Condition Survey Field Work				\$29,450.00
2221	Single-Family Residential PCCS Field Work	4.00	Each	600.00	\$2,400.00
2222	Multi-Family Residential PCCS Field Work	5.00	Each	1,000.00	\$5,000.00
2224	Commercial II PCCS Field Work	2.00	Each	1,000.00	\$2,000.00
2225	Commercial III PCCS Field Work	3.00	Each	1,200.00	\$3,600.00
2228	Exterior PCCS Field Work	29.00	Each	300.00	\$8,700.00
1870	BaSS Trip Charge	5.00	Each	50.00	\$250.00
5150	BaSS Mobilization Charge	5.00	Each	1,500.00	\$7,500.00
Activity 1.2	Pre-CCS Administration and Reporting				\$9,341.00
198	Senior Engineer/Architect/Scientist	30.00	Hour	266.00	\$7,980.00
521	Report Review	2.00	Hour	266.00	\$532.00
170	Project Control Specialist	1.00	Hour	184.00	\$184.00
168	Project Assistant	5.00	Hour	129.00	\$645.00
Phase 1 Total:					\$38,791.00

Phase 2	Construction Vibration Monitoring				
Activity 2.1	Vibration Monitoring Field Work				\$21,752.00
1572	Seismograph monitor, with modem, per month	9.00	Each	1,200.00	\$10,800.00
245	Vibration Monitoring Service	24.00	Hour	200.00	\$4,800.00
198	Senior Engineer/Architect/Scientist	10.00	Hour	266.00	\$2,660.00
197	Engineer Weekly Meetings/Discussions	12.00	Hour	266.00	\$3,192.00
1870	BaSS Trip Charge	6.00	Each	50.00	\$300.00
157	Crack Monitor Install		Hour	152.00	\$0.00
A1905	Crack Monitor		Each	52.00	\$0.00
Activity 2.2	Project Management and Reporting				\$6,201.00
198	Senior Engineer/Architect/Scientist	16.00	Hour	266.00	\$4,256.00
199	Principal Engineer/Architect/Scientist	3.00	Hour	308.00	\$924.00
521	Report Review	1.00	Hour	266.00	\$266.00
170	Project Control Specialist	2.00	Hour	184.00	\$368.00
168	Project Assistant	3.00	Hour	129.00	\$387.00
Phase 2 Total:					\$27,953.00

Proposal Total:	\$66,744.00
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