

BID ADDENDUM #3

DATE: February 23, 2024

PROJECT: Spring St. (US-19/SR9) Streetscape Project ATLDOT PI: 3000

This Addendum shall be incorporated into the contact documents. The Project Manual and Bidding Documents shall be altered as noted below.

Questions and Answers

1. **Question:** Special Provision 154 Construction Vibration Monitoring:
 - a. What is the maximum acceptable vibration level?
 - b. What will be the vibration warning level?
 - c. What is the monitoring duration?
 - d. What will be the monitoring distances?
 - e. What locations are to be monitored?

Answer:

- a. Maximum acceptable levels should follow the most current Federal Transit Administration's Noise and Vibration Manual. Please note the presence of a historic building (noted in responses d. and e. below) along the corridor.
- b. Per the special provision, the Seismograph(s) alarm shall be set at a threshold of 0.5 inches per second peak particle velocity.
- c. Monitoring duration is not set. Contractor is to monitor vibration during any construction activities that may result in structural damage due to vibrations per the special provision.
- d. Contractor is to monitor vibration for all structures within 75' of any construction activities that may result in structural damage due to vibrations per the special provision. In addition, the historic building Rhodes Hall located at 1516 Peachtree St. NE shall be monitored.
- e. Contractor is to monitor vibration for all structures within 75' of any construction activities that may result in structural damage due to vibrations per the special provision. Referring to plan sheets 13-0001 to 13-0004 parcels with structures within 75 feet that are to be monitored are 17 010800010665, 17 010800040308, 17 010800040241, 17 010800040258, 17 01080004C01, 17 010800010665, 17 010800010558, 17 010800040019, 17 010800030184, 17 010800030119, 17 010800030150, 17 010800010541, and 17 010800020086.
In addition, the historic building, Rhodes Hall located at 1516 Peachtree Street NE, shall be monitored.

Substitute the project original bid manual Special Provision 154 – Construction Vibration Monitoring dated July 07, 2023 in its entirety with the below Special Provision 154 – Construction Vibration Monitoring dated February 23, 2024.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION
MIDTOWN ALLIANCE
SPRING STREET BIKE AND PEDESTRIAN IMPROVEMENTS**

Section 154 — Construction Vibration Monitoring

Add the following:

154.1 General Description

This Work consists of performing preconstruction crack surveys, seismograph and other monitoring of construction vibrations, and post construction crack surveys of the buildings located adjacent to the proposed project construction on Spring Street from 17th Street to Peachtree Street by procuring the services of a prequalified subcontractor specializing in this work.

154.1.01 Definitions

General Provisions 101 through 150.

154.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

General Provisions 101 through 150.

154.1.03 Submittals

A. Prequalification of Subcontractor

Submit the following documentation for the Engineer's review and approval a minimum of thirty days prior to beginning construction activities on the project:

Evidence of the subcontractor's successful completion of at least five projects similar in concept and scope to the proposed crack survey and vibration monitoring. Include names, addresses and telephone numbers of the Project owners' representatives for verification.

Résumés of employees performing this work. Provide evidence showing each employee possesses experience and knowledge similar in concept and scope of this work for performing crack surveys and installing and reading seismographs. Provide evidence that the reports will be reviewed and signed by a Georgia Licensed Professional Engineer or Georgia Licensed Professional Geologist. The Project Owner will be sole judge of determining if employees are qualified to perform the work on this project.

A detailed survey plan, monitoring plan, and sequence of work that describes all materials, methods and

equipment to be used to complete the crack survey and vibration monitoring.

B. Construction Monitoring

Submit the following documentation during construction monitoring:

Preconstruction Crack Survey Report documenting existing conditions of buildings prior to construction activities in accordance with subsection 154.3.03.B. Report shall be provided 14-days prior to start of any construction activities within 200 feet of property for review and concurrence by Property Owner.

Weekly Seismograph Data and Data Summary Report and Activity Log of all construction activities within 200 feet (61 meters) of the seismograph in accordance with subsection 154.3.03.A.1.

Reports of building conditions regarding cracks or any other damage potentially caused by construction activities as complaints are received in accordance with subsection 154.3.03.C.

A report shall be provided within 24 hours of seismograph alarm notification, including seismograph data, survey of monitoring points, construction activities in the last 48 hours, and a summary report of findings including data from crack gauges and pictorial documentation.

Weekly report of up to three (3) survey monitoring points established at building foundation corners (as identified by Property Owner). Survey points are to establish and report weekly X, Y, and Z coordinates/elevations. Report shall be provided to Project Owner for distribution.

All reports shall be provided to Project Owner and Engineer for review and distribution.

C. Post Construction

Submit a Post Construction Crack Survey Report in accordance with subsection 154.3.03.D documenting post construction condition of cracks or damage identified in the pre-construction survey and cracks or any other damage potentially caused by construction activities. Report to include initial and final survey of survey monitoring points and any intermediate readings obtained during seismograph alarm triggers.

154.2 Materials

General Provision 101 through 150.

154.3 Construction Requirements

154.3.01 Personnel

Ensure all employees performing this work have been approved by the Engineer in accordance with subsection 154.1.03.A.

154.3.02 Equipment

A. Seismograph

Use a seismograph(s) that is weather proof and capable of continuously recording particle velocity in three perpendicular components with a flat response of 2-250 HZ over a range of at least 0.01 to 5.0 inches per second (0.254 to 127 mm per second). Provide a seismograph(s) that employs an internal dynamic calibration during each recording sequence and that has been shake table tested within the previous 24 months verifying an accuracy of +/- 5% over the frequency range of 4 to 125 Hertz. Provide a recorder/ software system that is capable of digitally storing and reproducing vibration levels in tabular or histogram (bar graph) form at no greater than six minute intervals.

Seismograph(s) shall be equipped with wireless capabilities. Data shall be transferred automatically to a remote computer by means of a modem equipped with a sim card that communicates with a cellular network connected to the internet. The seismograph(s) shall be equipped with an automated alarm feature so when an event occurs it is immediately captured and automatically transmitted to the computer.

Seismograph(s) alarm shall be set at a threshold of 0.5 inches per second peak particle velocity. All events recorded greater than the specified warning limit must be evaluated.

B. Crack Gauges

Use crack gauges specifically designed for use on this type of work. Utilize a minimum of 15 crack gauges and a maximum of 25 to monitor significant cracks on the interior or exterior of buildings located closest to the construction activities. Submit the proposed locations of crack gauges to the Engineer for review and approval prior to installation. Use crack gauges that do not damage or stain existing surfaces. Replace missing or damaged gauges at no additional cost to the Project Owner. Repair and restore surfaces back to the pre-installation state.

154.3.03 Construction

Obtain Engineer's written approval of the Prequalification documents submitted in accordance with Subsection 154.1.03.A prior to beginning this work.

Perform the preconstruction crack survey prior to starting construction activities on the project.

Install and begin seismograph monitoring prior to starting excavation, shoring and backfilling construction activities on the project.

Maintain seismograph and crack monitoring until excavation, shoring and backfilling, compaction of subgrade, base and pavement, and waiting periods of staged wall construction activities on the project are complete.

A. Seismograph Installation and Monitoring

Monitor vibrations at building(s) using seismograph(s) when construction activities including, but not limited to, excavation, shoring installation, backfilling, and compaction of backfill, subgrade, base and pavement are within 75 feet (23 meters) of the building(s), or otherwise have the potential to result in vibrations that may cause damage or complaints. Parcels with structures within 75 feet that are to be monitored are 17 010800010665, 17 010800040308, 17 010800040241, 17 010800040258, 17 01080004C01, 17 010800010665, 17 010800010558, 17 010800040019, 17 010800030184, 17 010800030119, 17 010800030150, 17 010800010541, and 17 010800020086. In addition, the historic building, Rhodes Hall located at 1516 Peachtree Street NE, shall be monitored. Relocate seismograph(s) as needed. Protect the seismograph from weather and vandalism. Replace missing or damaged equipment at no cost to the Project Owner. Document the following information at the time that the seismograph is installed:

Date and time of installation

Coordinates of installed instrument or Station and offset

Method of transducer attachment

Name and affiliation of the person installing the instrument

1. Monthly Seismograph Data and Data Summary Report and Activity Log:

Compile a Monthly Seismograph Data and Data Summary Report containing the data from the seismograph and a summarization of the data showing time and magnitude of the maximum vibration that has occurred each day.

Maintain an activity log of all construction activities within 200 feet (61 meters) of the seismograph. Include the following data in each log:

Location of construction activity

Type of construction activity

Types and number of construction equipment being used, including model, manufacture and weight.

Date and times construction equipment was used.

Submit Monthly Seismograph Data Summary Report and Activity Log to the Engineer on a monthly basis.

B. Preconstruction Crack Survey

Complete a preconstruction crack survey on the outside and inside of all buildings located on parcels 17 010800010665, 17 010800040308, 17 010800040241, 17 010800040258, 17 01080004C01, 17 010800010665, 17 010800010558, 17 010800040019, 17 010800030184, 17 010800030119, 17 010800030150, 17 010800010541, and 17 010800020086, as well as the historic building, Rhodes Hall located at 1516 Peachtree Street NE. Document building conditions by taking photographs and detailed notes citing location, length and width of cracks. Compile documentation into a Preconstruction Crack Survey Report and submit to the Engineer.

C. Building Monitoring

Monitor buildings during construction for any new cracks and or elongation or widening of existing cracks. Provide a report of building conditions to the Engineer regarding cracks or any other damage potentially caused by construction activities as complaints are received. Crack observation, including record of crack gauges and pictorial documentation, and survey of monitoring points shall be taken within 24 hours after a seismograph alarm is triggered.

Establish up to three (3) survey monitoring points as identified by Property Owner using a PK Nail or similar in building foundation corner.

D. Post Construction Crack Survey

Complete a post construction crack survey on the outside and inside of all buildings located on parcels 17 010800010665, 17 010800040308, 17 010800040241, 17 010800040258, 17 01080004C01, 17 010800010665, 17 010800010558, 17 010800040019, 17 010800030184, 17 010800030119, 17 010800030150, 17 010800010541, and 17 010800020086, as well as the historic building, Rhodes Hall located at 1516 Peachtree Street NE. Document building conditions by taking photographs and detailed notes citing condition of cracks or damage identified in the pre-construction survey; also, location, length and width of cracks or any other damage potentially caused by construction activities and immediately (within 24 hours) after a seismograph alarm is triggered

154.4 Measurement

The Work under this Contract Item is not measured separately for payment.

154.5 Payment

This Contract Item completed and accepted will be paid for at the Lump Sum Price bid. Payment will be full compensation for furnishing and installing the seismograph(s) and crack gauges, for monitoring and reporting vibration data recorded on the seismograph(s) and crack gauges, and completing crack survey and documenting building conditions and providing copies of all data to the Engineer in accordance with this specification. Seismographs, crack gauges and all other measuring equipment and devices will remain property of the Contractor.

Payment will be made under:

Item No. 154	Construction Vibration Monitoring	Per Lump Sum
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