



7 April 2026

Katherine F. Watkins, P.E.  
Deputy City Manager  
City of Cambridge  
795 Massachusetts Avenue  
Cambridge, MA 02139

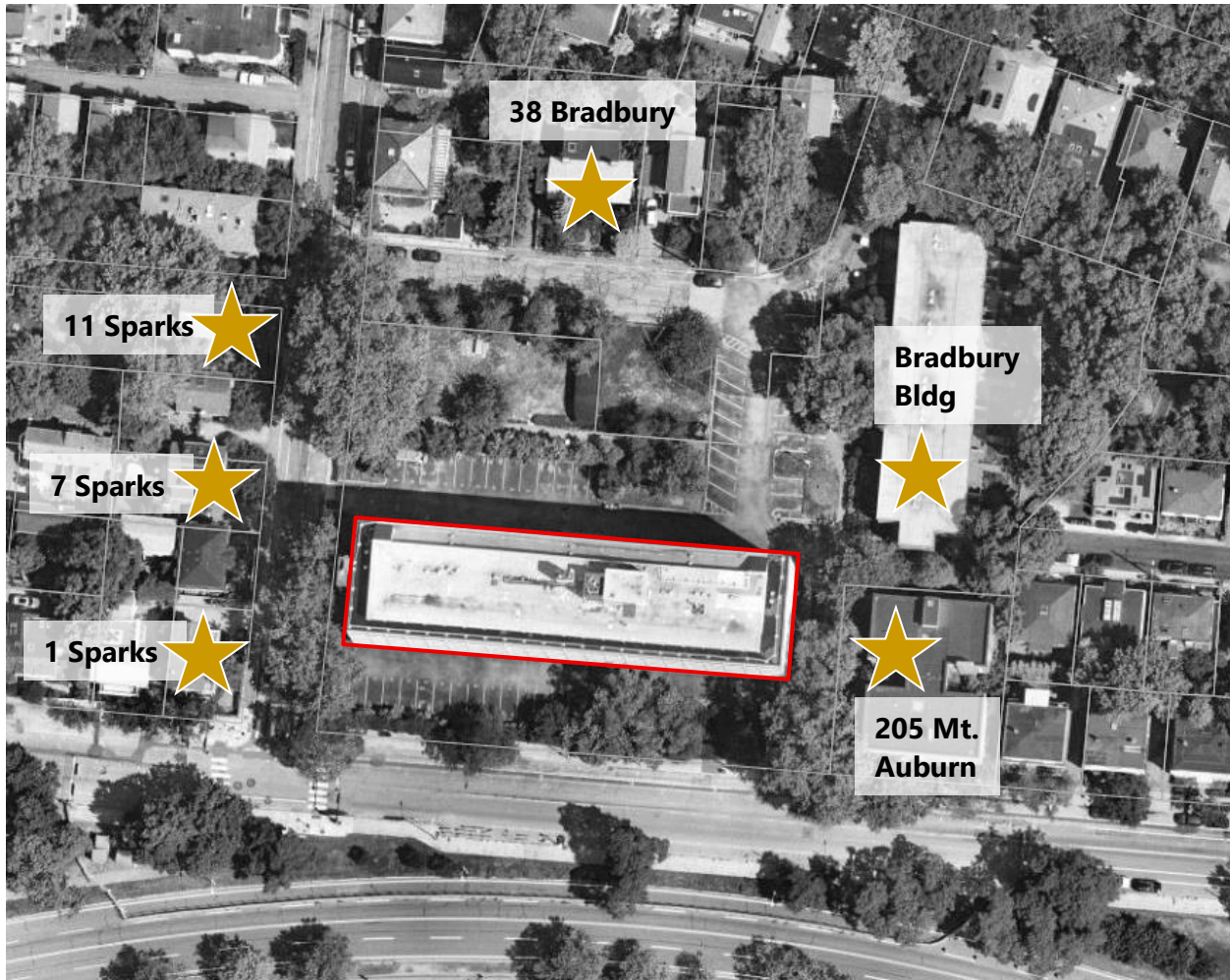
Project 200609.05 – Vibration Monitoring Data Report – 29 March 2026 to 4 April 2026,  
Riverview Condominiums, 221 Mt. Auburn Street, Cambridge, MA

Dear Ms. Watkins:

At your request, we installed vibration monitors at six properties abutting Riverview Condominiums (Riverview) to document vibrations during the Riverview building demolition. The purpose of this letter is to summarize the weekly vibration records and report “triggering” events if the vibration threshold is exceeded.

## **1. BACKGROUND**

The City of Cambridge (City) started the controlled demolition of the Riverview structure on 17 December 2025. The City requested that Simpson Gumpertz & Heger Inc. (SGH) develop a vibration monitoring program to record vibration at abutting properties during the building demolition. Prior to demolition, SGH conducted preliminary surveys of directly abutting properties to determine monitoring locations. Based on these surveys, we selected six locations to install vibration monitors: 1, 7, and 11 Sparks Street, 38 Bradbury Street, 205 Mt. Auburn Street, and the Bradbury Building (see map in Figure 1 below). At each location, we installed a vibration monitor on the foundation wall or the basement-level slab-on-grade. We installed the vibration monitors approximately one month prior to the scheduled start of demolition to acquire typical ambient baseline vibration data at each monitoring location.



**Figure 1**

Aerial view of the Riverview Condominiums structure (outlined in red) and the abutting properties selected for vibration monitor installation (marked with yellow stars).

## **2. DATA COLLECTION**

The vibration monitors (VMs) are configured to continuously monitor vibrations and record the Peak Particle Velocity (PPV) in three orthogonal directions at 5 min. intervals. The VMs record a time history when a preset trigger level is exceeded, capturing 4 sec of data, including a 1 sec pre-trigger time, and the data is automatically downloaded to a remote server. Automated email notifications are sent to a predefined distribution list consisting of project team members when a triggering event occurs. If no triggering event occurs during a calendar day, the system sends a summary report for each monitor showing the recorded vibrations for the day, including the peak particle velocity recorded in each orthogonal direction (vertical and two orthogonal

horizontal directions). Table 1 summarizes the maximum peak particle velocity recorded for each location from 29 March 2026 to 4 April 2026. Monitoring data for each location is also included in Appendix A (attached).

**Table 1 – Maximum Peak Particle Velocity Recorded**

| Location              | Maximum Peak Particle Velocity (in./sec) <sup>1</sup> |              |              |
|-----------------------|---|--------------|--------------|
|                       | Vertical  | Horizontal 1 | Horizontal 2 |
| Bradbury Building     | 0.02  | 0.02         | 0.02         |
| 205 Mt. Auburn Street | 0.10  | 0.04         | 0.03         |
| 38 Bradbury Street    | 0.03  | 0.02         | 0.02         |
| 1 Sparks Street       | 0.06  | 0.03         | 0.03         |
| 7 Sparks Street       | 0.04 (3.09)   | 0.02 (2.91)  | 0.02 (3.10)  |
| 11 Sparks Street      | 0.01  | 0.02         | 0.01         |

<sup>1</sup> Values in parentheses represent “triggering” values due to disturbance of units at 7 Sparks Street (see discussion).

### 3. DISCUSSION

Structural vibration monitoring is typically used to correlate construction activities with potential damage to neighboring structures. For the Riverview Demolition Project, we established six vibration monitoring locations around the site to document potential vibrations resulting from the project demolition activities. We established a recommended vibration monitoring threshold of 0.5 in./sec as a “triggering” event to investigate vibrations, as summarized in our letter dated 12 December 2025.

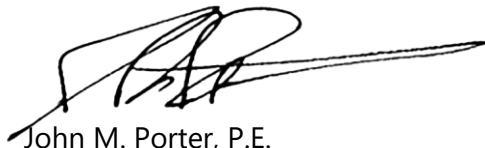
For the week of 29 March 2026 to 4 April 2026, the project team received multiple notifications of “triggering” events at 7 Sparks Street on 1 April 2026, where the maximum PPVs are listed in parentheses in Table 1. We attach the automatically generated reports showing the associated data for these events in Appendix B. This monitoring unit is weighed down with sandbags rather than anchored to the slab to prevent damage to finishes. We determined the exceedances to be a local incident unrelated to site activities at 221 Mt. Auburn Street for the following reasons:

- The waveforms of the exceedances on 1 April 2026 are consistent with the unit being disturbed.
- The exceedances occurred between 12:00 p.m. and 1:00 p.m. The project team confirmed that no work was taking place on site that would have triggered a notification, and no other units showed elevated readings. 7 Sparks Street did not respond when the project team approached to investigate the cause of the exceedance.

The elevated readings are localized to the individual unit and do not represent vibrations due to site activities.

Aside from the "triggering" events caused by an unrelated disturbance at 7 Sparks Street as described above, all vibration monitoring locations maintained a peak particle velocity below the trigger value during the week's site activities, as shown in Appendix A. If construction activities cause vibrations greater than the set 0.5 in./sec trigger value, we will follow the protocol outlined in our letter dated 12 December 2025 to analyze the causes and potential impacts of the exceedance. We will continue to monitor the vibrations and provide you with an update regarding any changes.

Sincerely yours,

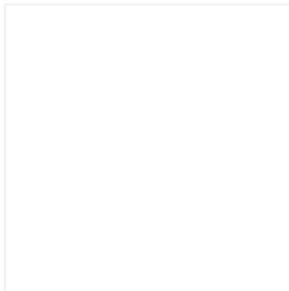


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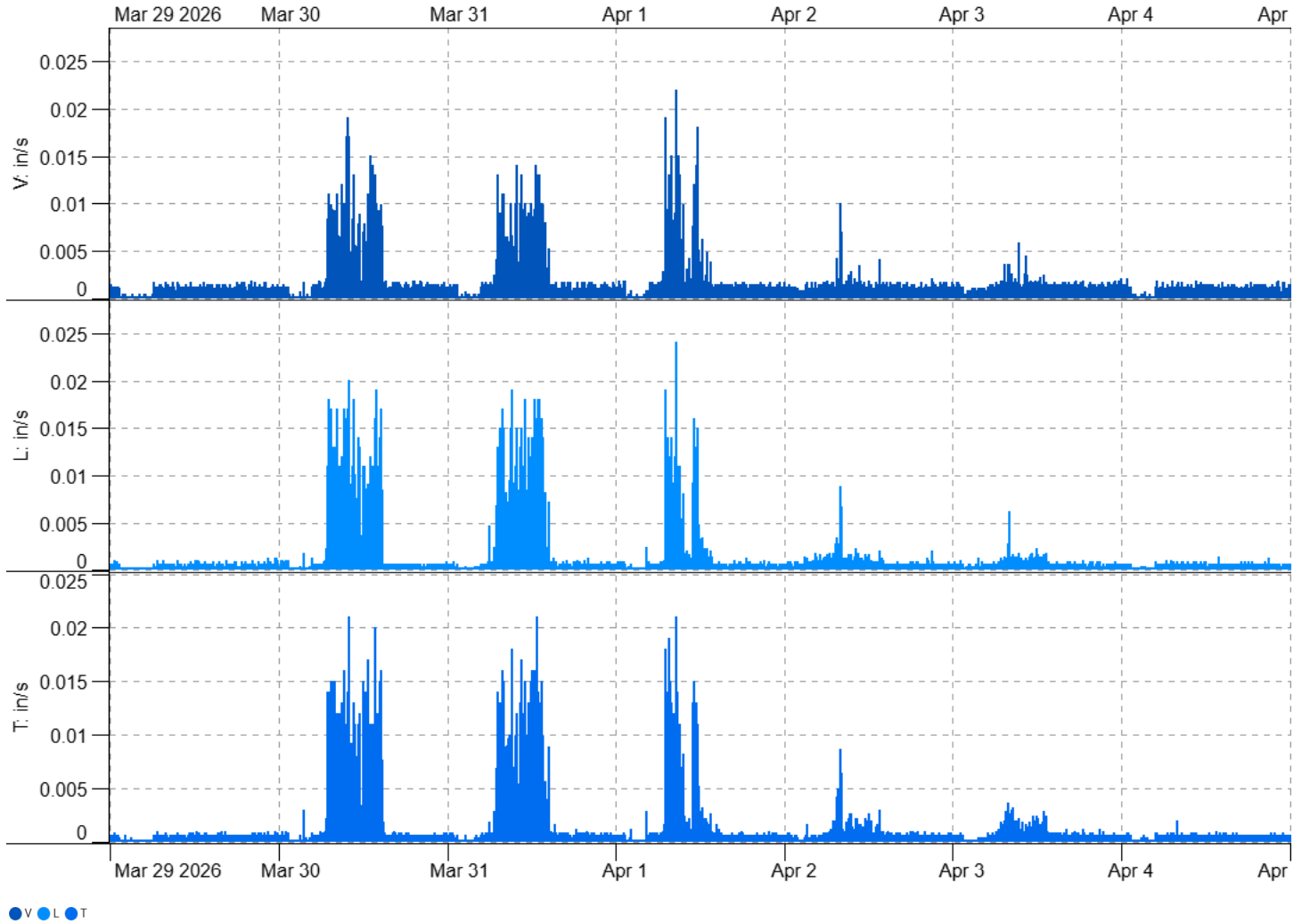
7 April 2026

# APPENDIX A

# Multi report

Project Riverview Demo  
Project maintainer -  
Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

Riv1, Bradbury Building [22 Bradbury St.], C22, Serial number: 110294, Calibrated: 2025-07-30,



X-span 2026-03-29 00:00 - 2026-04-05 00:00

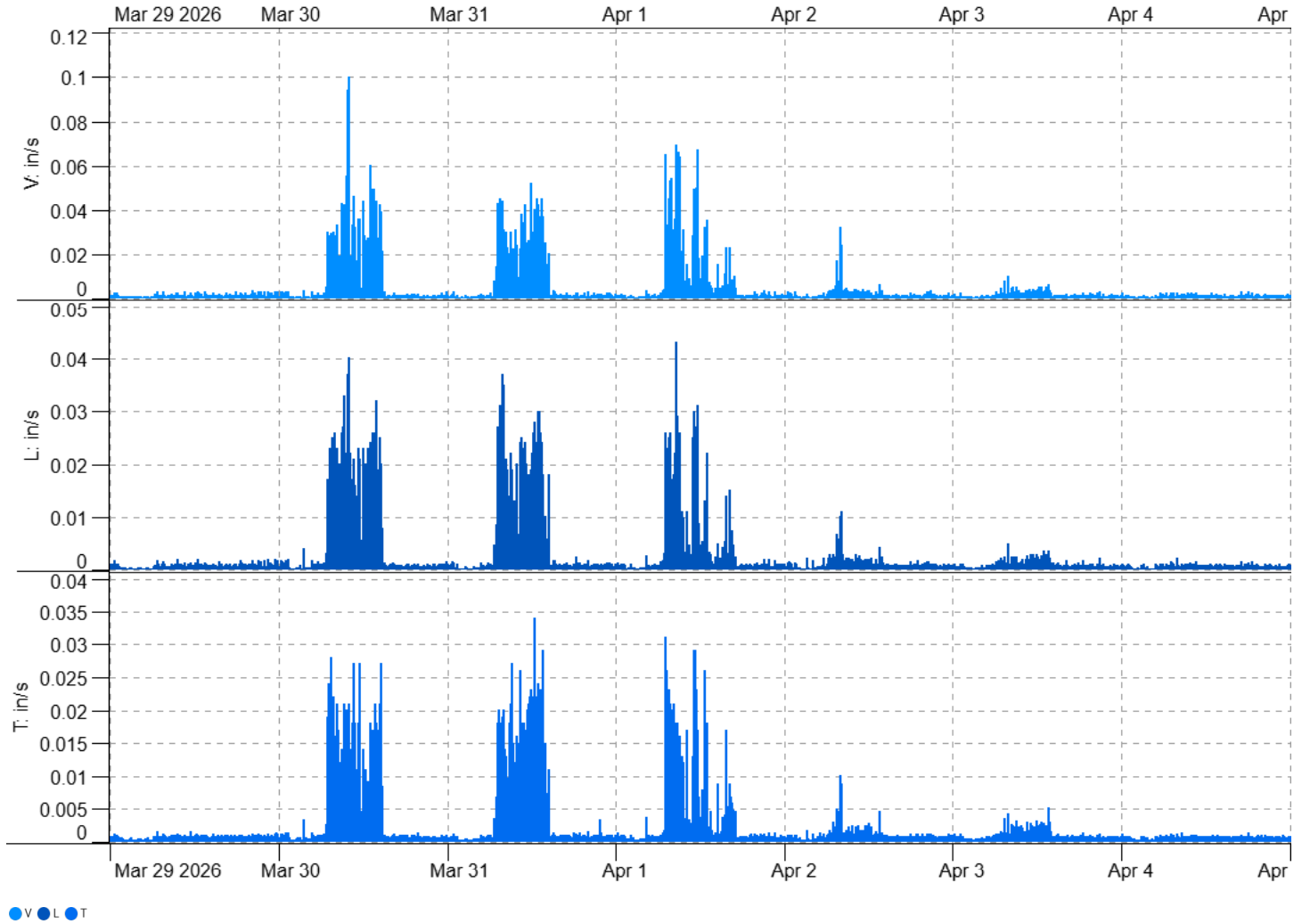
Y-span V: 0 - 0.02 in/s, L: 0 - 0.02 in/s, T: 0 - 0.02 in/s

|      | V          | L          | T          |
|------|------------|------------|------------|
| Max  | 0.02 in/s  | 0.02 in/s  | 0.02 in/s  |
| Date | 2026-04-01 | 2026-04-01 | 2026-03-30 |
| Time | 08:37:30   | 08:37:30   | 09:57:30   |
| Hz   | 4.75       | 4.2        | 3.1        |

# Multi report

Project Riverview Demo  
Project maintainer -  
Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

Riv2, 205 Mt. Auburn St., Cambridge, MA, C22, Serial number: 102013, Calibrated: 2025-07-23,



|        |   |            |            |
|--------|---|------------|------------|
| X-span | 2026-03-29 00:00 - 2026-04-05 00:00                 |            |            |
| Y-span | V: 0 - 0.1 in/s, L: 0 - 0.04 in/s, T: 0 - 0.03 in/s |            |            |
|        | <b>V</b>  | <b>L</b>   | <b>T</b>   |
| Max    | 0.1 in/s  | 0.04 in/s  | 0.03 in/s  |
| Date   | 2026-03-30  | 2026-04-01 | 2026-03-31 |
| Time   | 09:57:30  | 08:37:30   | 12:22:30   |
| Hz     | 9   | 4.15       | 3.85       |

Project Riverview Demo  
 Project maintainer -  
 Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

Riv3, 38 Bradbury St., Cambridge, MA, C22, Serial number: 103199, Calibrated: 2025-06-09,



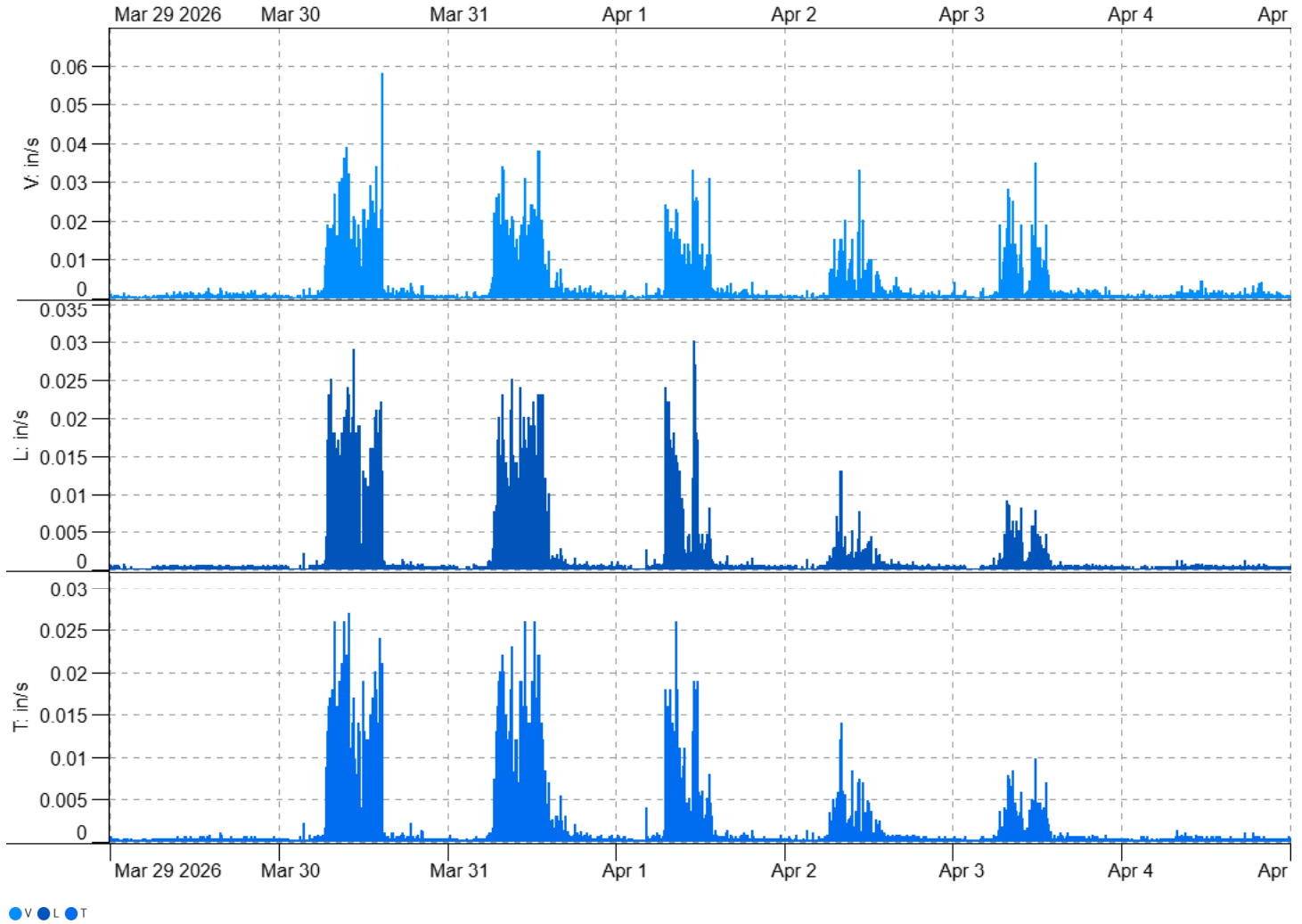
X-span 2026-03-29 00:00 - 2026-04-05 00:00  
 Y-span V: 0 - 0.03 in/s, L: 0 - 0.02 in/s, T: 0 - 0.02 in/s

|      | V          | L          | T          |
|------|------------|------------|------------|
| Max  | 0.03 in/s  | 0.02 in/s  | 0.02 in/s  |
| Date | 2026-03-30 | 2026-03-30 | 2026-03-30 |
| Time | 11:37:30   | 08:42:30   | 09:17:30   |
| Hz   | 12.4       | 7.75       | 4.55       |

# Multi report

Project Riverview Demo  
Project maintainer -  
Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

Riv4, 1 Sparks St., Cambridge, MA, C22, Serial number: 102403, Calibrated: 2025-07-02,



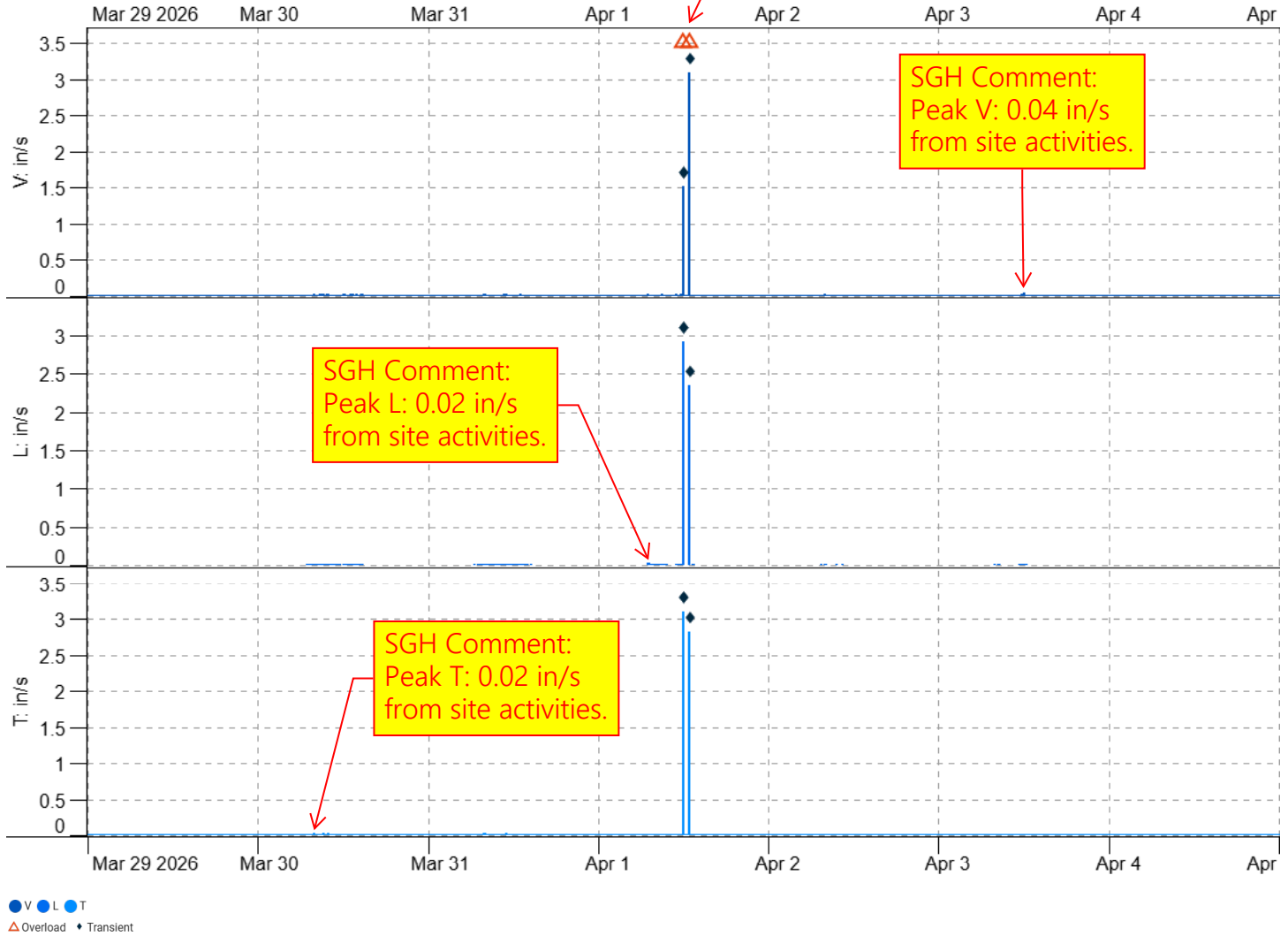
|        |  |            |            |
|--------|--|------------|------------|
| X-span | 2026-03-29 00:00 - 2026-04-05 00:00                  |            |            |
| Y-span | V: 0 - 0.06 in/s, L: 0 - 0.03 in/s, T: 0 - 0.03 in/s |            |            |
|        | <b>V</b>   | <b>L</b>   | <b>T</b>   |
| Max    | 0.06 in/s  | 0.03 in/s  | 0.03 in/s  |
| Date   | 2026-03-30   | 2026-04-01 | 2026-03-30 |
| Time   | 14:42:30   | 11:07:30   | 09:57:30   |
| Hz     | 12.2   | 3.7        | 4.6        |

# Multi report

Project Riverview Demo  
 Project maintainer -  
 Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

SGH Comment:  
 Alerts and peak  
 correspond to local  
 disturbance of unit.

Riv5, 7 Sparks St., Cambridge, MA, C22, Serial number: 104002, Calibrated: 2025-07-02,



X-span 2026-03-29 00:00 - 2026-04-05 00:00

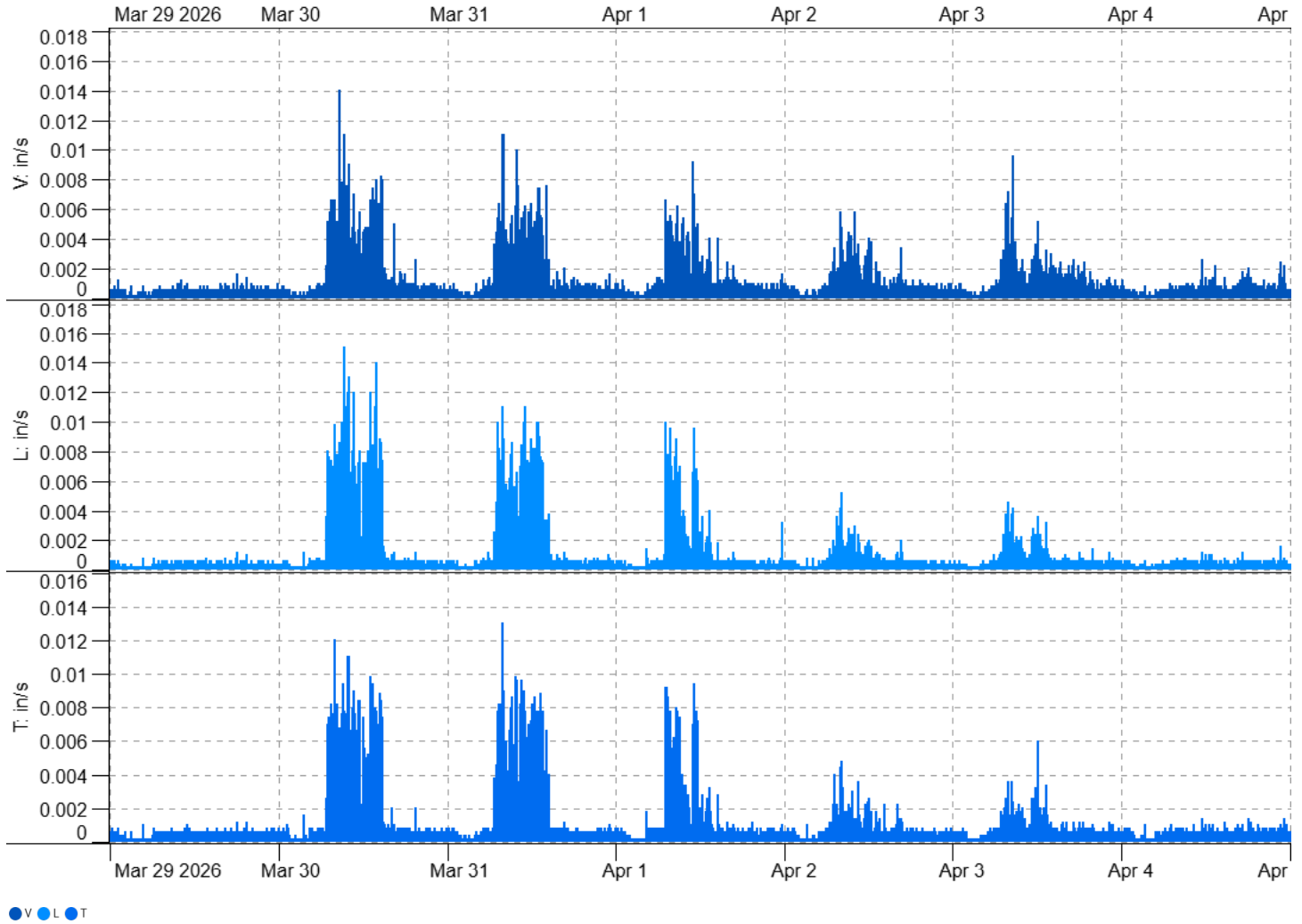
Y-span V: 0 - 3.09 in/s, L: 0 - 2.91 in/s, T: 0 - 3.1 in/s

|      | V          | L          | T          |
|------|------------|------------|------------|
| Max  | 3.09 in/s  | 2.91 in/s  | 3.1 in/s   |
| Date | 2026-04-01 | 2026-04-01 | 2026-04-01 |
| Time | 12:52:30   | 11:57:30   | 11:57:30   |
| Hz   | 1.4        | 1.75       | 2          |

# Multi report

Project Riverview Demo  
Project maintainer -  
Time frame 2026-03-29 00:00 - 2026-04-05 00:00 (America/New\_York)

Riv6, 11 Sparks St., Cambridge, MA, C22, Serial number: 110329, Calibrated: 2025-07-02,



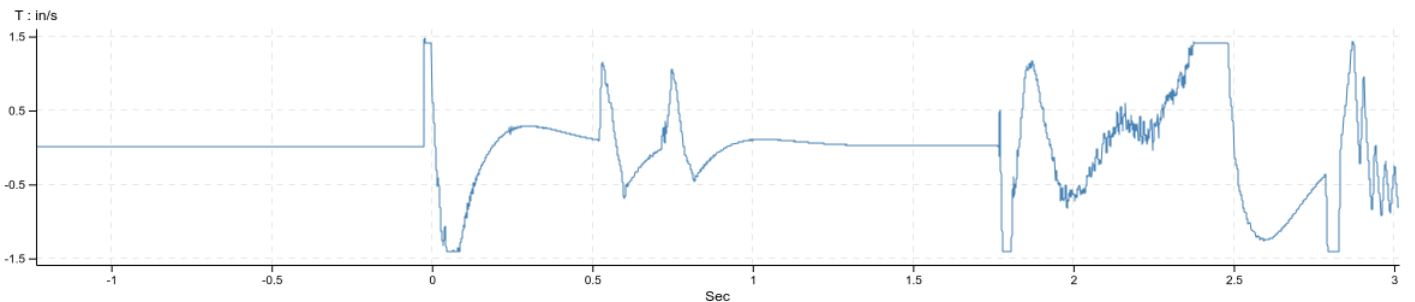
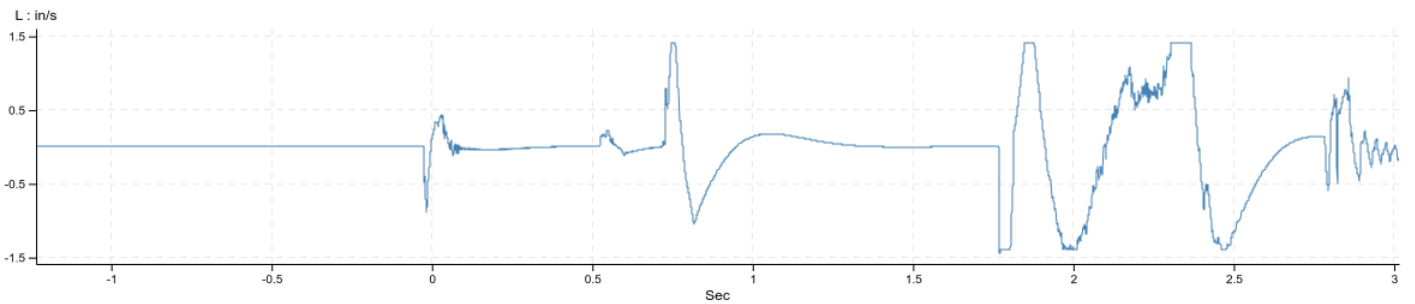
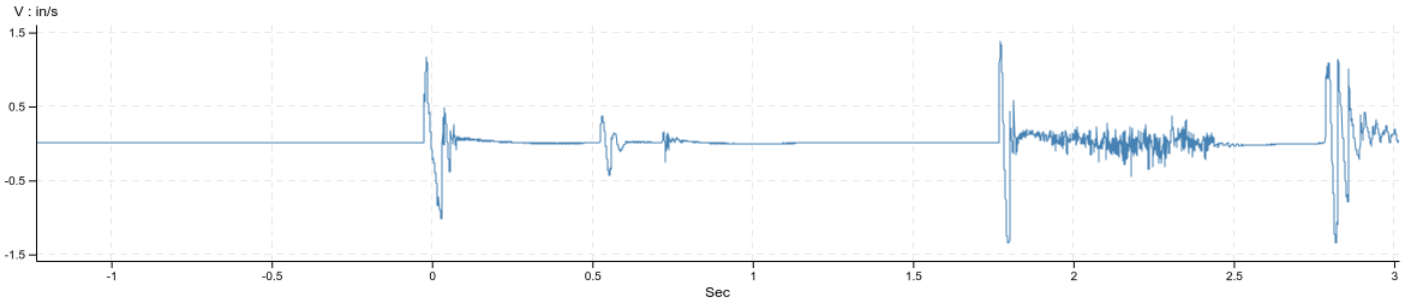
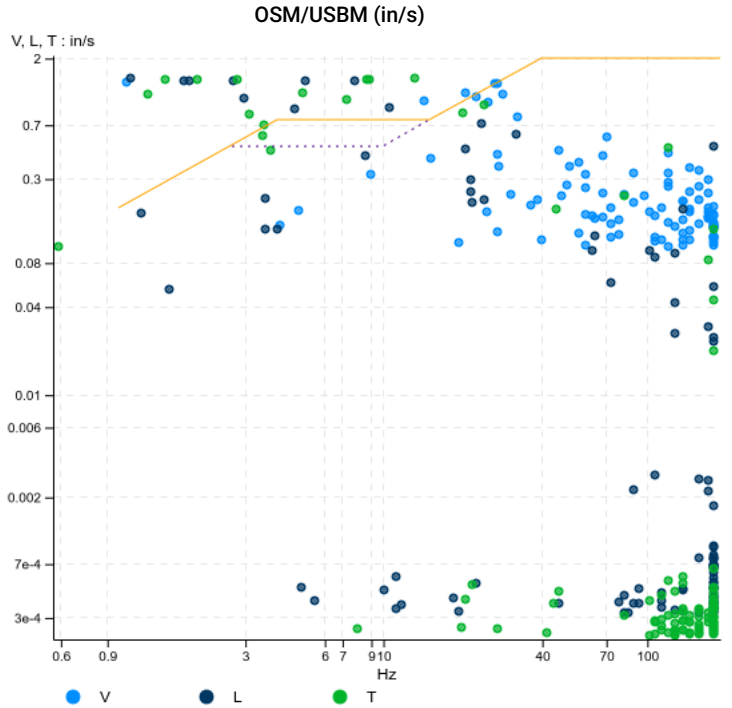
|        |  |            |            |
|--------|--|------------|------------|
| X-span | 2026-03-29 00:00 - 2026-04-05 00:00                  |            |            |
| Y-span | V: 0 - 0.01 in/s, L: 0 - 0.02 in/s, T: 0 - 0.01 in/s |            |            |
|        | <b>V</b>   | <b>L</b>   | <b>T</b>   |
| Max    | 0.01 in/s  | 0.02 in/s  | 0.01 in/s  |
| Date   | 2026-03-30   | 2026-03-30 | 2026-03-31 |
| Time   | 08:42:30   | 09:17:30   | 07:52:30   |
| Hz     | 7  | 5.4        | 4.2        |

# APPENDIX B

**Project** Riverview Demo  
**Time zone** America/New\_York

**Measuring point** Riv5  
**Description** 7 Sparks St., Cambridge, MA  
**Sensor serial no.** 104002  
**Latest calibration** 2025-07-02  
**Standard text** (51B) ISEE Seismograph 1 in/s 2-250Hz

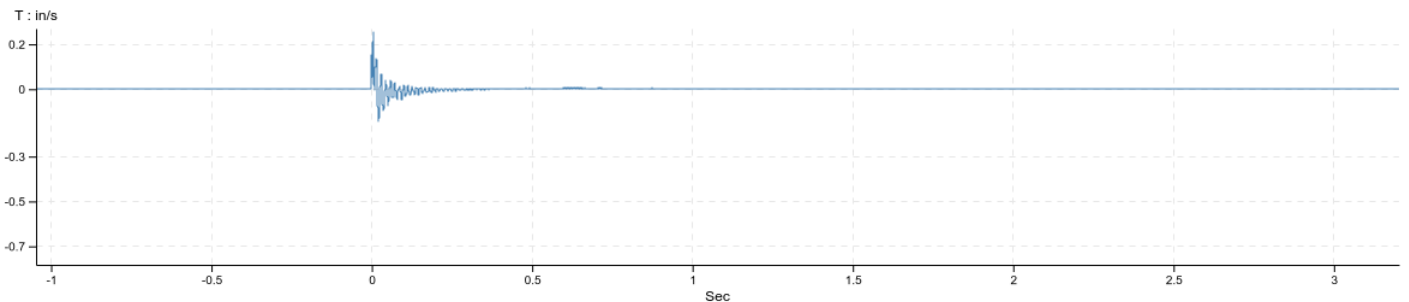
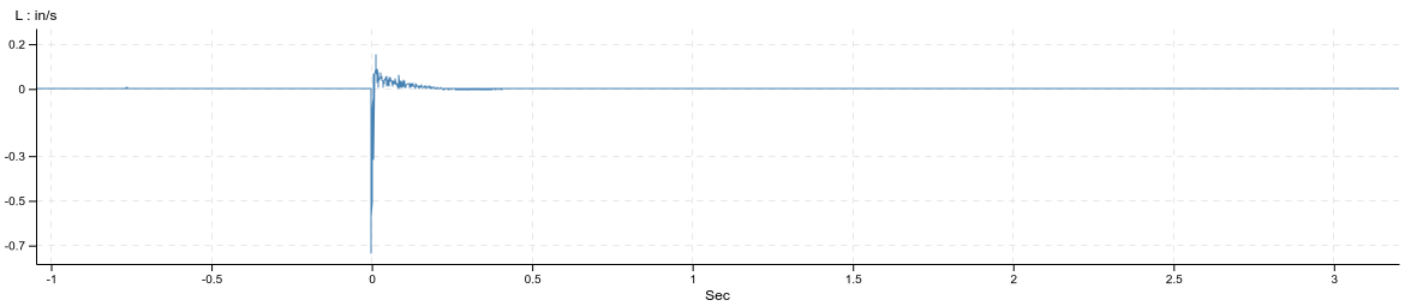
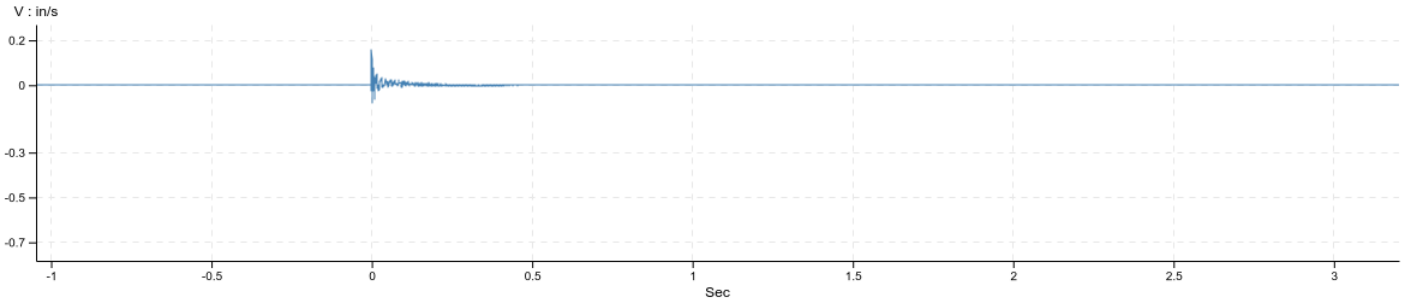
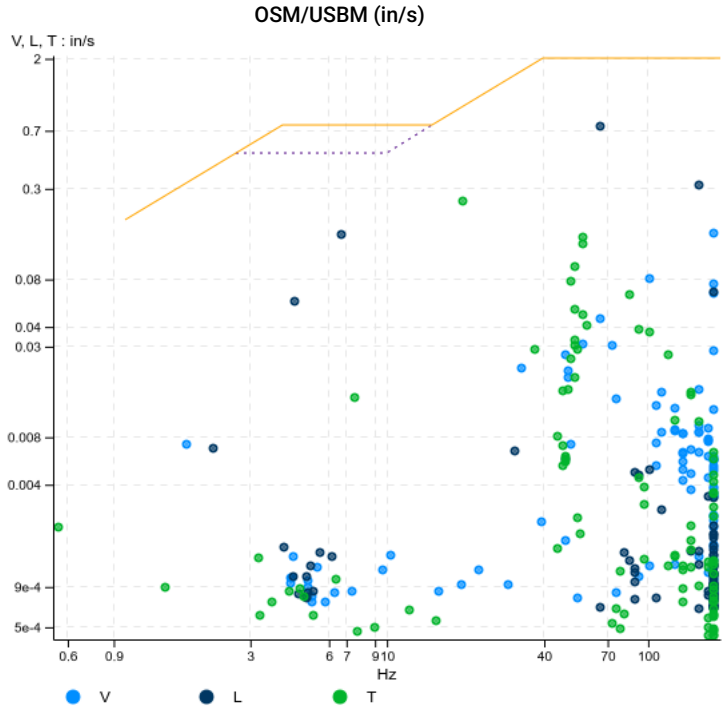
| Channel                  | V  | L  | T   |
|--------------------------|--|--|---|
| <b>Sensor</b>            | C22  | C22  | C22   |
| <b>Serial number</b>     | 104002                                       | 104002                                     | 104002  |
| <b>Trigger type</b>      | internal                                     | internal                                   | internal                                      |
| <b>Max values</b>        | 1.51 in/s<br>1.55 g<br>22.16 mil<br>28.05 Hz | 2.91 in/s<br>0.8 g<br>153.68 mil<br>2.0 Hz | 3.10 in/s<br>0.84 g<br>299.29 mil<br>13.39 Hz |
| <b>Date and time</b>     | 2026-04-01<br>11:59:09                       | 2026-04-01<br>11:59:09                     | 2026-04-01<br>11:59:09                        |
| <b>Geophone check</b>    | passed                                       | passed                                     | passed  |
| <b>Sensor tilt check</b> | na   |  |   |



**Project** Riverview Demo  
**Time zone** America/New\_York

**Measuring point** Riv5  
**Description** 7 Sparks St., Cambridge, MA  
**Sensor serial no.** 104002  
**Latest calibration** 2025-07-02  
**Standard text** (51B) ISEE Seismograph 1 in/s 2-250Hz

| Channel                  | V   | L  | T  |
|--------------------------|---|--|--|
| <b>Sensor</b>            | C22   | C22  | C22  |
| <b>Serial number</b>     | 104002                                      | 104002                                       | 104002                                       |
| <b>Trigger type</b>      | internal                                    | internal                                     | internal                                     |
| <b>Max values</b>        | 0.157 in/s<br>0.17 g<br>0.8 mil<br>204.8 Hz | 0.738 in/s<br>0.52 g<br>3.17 mil<br>68.27 Hz | 0.250 in/s<br>0.15 g<br>2.18 mil<br>43.57 Hz |
| <b>Date and time</b>     | 2026-04-01<br>11:59:52                      | 2026-04-01<br>11:59:52                       | 2026-04-01<br>11:59:52                       |
| <b>Geophone check</b>    | passed                                      | passed                                       | passed                                       |
| <b>Sensor tilt check</b> | passed                                      |  |  |



**Project** Riverview Demo  
**Time zone** America/New\_York

**Measuring point** Riv5  
**Description** 7 Sparks St., Cambridge, MA  
**Sensor serial no.** 104002  
**Latest calibration** 2025-07-02  
**Standard text** (51B) ISEE Seismograph 1 in/s 2-250Hz

| Channel                  | V   | L   | T  |
|--------------------------|---|---|--|
| <b>Sensor</b>            | C22   | C22   | C22  |
| <b>Serial number</b>     | 104002  | 104002                                      | 104002                                       |
| <b>Trigger type</b>      | internal                                      | internal                                    | internal                                     |
| <b>Max values</b>        | 3.09 in/s<br>1.73 g<br>277.23 mil<br>38.64 Hz | 2.34 in/s<br>0.5 g<br>265.03 mil<br>4.25 Hz | 2.82 in/s<br>0.55 g<br>223.45 mil<br>3.41 Hz |
| <b>Date and time</b>     | 2026-04-01<br>12:54:05                        | 2026-04-01<br>12:54:05                      | 2026-04-01<br>12:54:05                       |
| <b>Geophone check</b>    | passed  | passed                                      | passed                                       |
| <b>Sensor tilt check</b> | na  |   |  |

