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RESEARCH REPORT: RR 26131  
(CSI # 13440)

Expires: May 1, 2019  
Issued Date: May 1, 2018  
Code: 2017 LABC

**GENERAL APPROVAL** – 130-SMHR/9 Accelerograph, 130-SMHR Accelerograph, 147A-01/3 Accelerometer, 147A-01/1 Accelerometer.

## DETAILS

The 130-SMHR/9 & 130-SMHR Accelerographs and 147A-01/3 & 147A-01/1 Accelerometers, as manufactured by Trimble, Inc. are approved strong motion recorders when complying with the following:

### A. Instrument Package Requirements:

1. Maintenance and servicing of the instrument shall be in accordance with information Bulletin P/BC 2017- 048, and Section 1613.10 of the 2017 Los Angeles City Building Code.
2. These instruments shall meet all specifications contained in Information Bulletin P/BC 2017-048 including power supplied by battery with a trickle charger.
3. The Power Supply shall be UL listed.

### B. Site Installation Requirements:

1. **Location:**  
Strong Motion Recorder are to be located as required by the Department. It is desirable to locate the upper instruments at a point that will give representative

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vibration patterns for the building as a whole (i.e. - not adjacent to an extremely stiff shear wall, or on cantilever projections where torsional effects are excessive). Each instrument shall be located in an area that is protected from shock other than due to earthquake and from handling by unauthorized persons. The instrument shall be accessible for servicing by an accelerograph maintenance agency approved by the City of Los Angeles.

**2. Space Requirements:**

- i. The minimum space required for the installation is 4' 3" x 5' 0" x 4' 0" high.
- ii. Clear space of at least 2' 6" shall be provided at the recorder end and at the left side of the instrument when looking from the recorder to the seismometers. Minimum space of one foot shall be provided on the other two sides.
- iii. Space access shall be arranged so that the instrument may be easily serviced by Los Angeles City approved accelerograph maintenance agency.
- iv. The instruments, batteries, and trickle charger shall be protected by being located in a locked closet with no other use, or covered with a cage that is locked in place.

**3. Attachment:**

Each strong motion recorder must be securely anchored to the concrete floor system. If either Accelerograph or accelerometers are installed on a wall, it should be attached to the wall using an L-shaped (or 90 degree) aluminum bracket.

**4. Orientation of Instrument:**

The strong motion recorder are recommended to be aligned with the principal axis of the building.

**5. Electrical Inter-Connection:**

- Strong Motion Recorder sites - multiple Strong Motion Recorders shall be electrically inter-connected with wire assembly installed in rigid metal conduit of ½" minimum diameter with the approval from a Los Angeles City licensed accelerograph maintenance agency.
- All interconnecting conductors to remote sensors and the GPS unit, shall be listed and installed in Rigid Metal Conduit (RMC), Intermediate Metal Conduit (IMC) or Electrical Metallic Tubing (EMT) in accordance with the requirements of California Electrical Code (CEC).
- A electrical permit is required for said installations.

**6. Electrical Outlets:**

A 110 Volt electrical outlet shall be provided adjacent to each instrument for trickle charger and servicing needs.

**Trimble, Inc.**

**RE 130-SMHR System-Strong Motion Accelerographs and 147A-01 Accelerometers**

**7. Qualified Installers:**

The strong motion recorder shall only be installed, maintained and used by qualified and trained personnel.

**C. Certification:**

The manufacturer shall submit a written certification to Chief of Engineering Bureau, 201 N. Figueroa Street, Room 1030, Los Angeles, California, 90012, stating that the required instruments are properly installed and operational prior to the issuance of the Certificate of Occupancy.

**DISCUSSION**

The report is in compliance with the 2017 Los Angeles City Building Code.

The System- Strong Motion Accelerograph has been demonstrated to show that it exceed the minimum specifications for strong motion recorder as outlined in Information Bulletin P/BC 2017-48 and Section 1613.10 of the 2017 Los Angeles Building Code.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

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