

# STRUCTURAL OBSERVATION

## I. INTRODUCTION

This Information Bulletin stipulates the Los Angeles Department of Building and Safety (LADBS) policy and procedure in regards to Structural Observation as mandated by Los Angeles Municipal Code (LAMC) Section 91.1704, and describes the responsibility of all parties involved in compliance with Structural Observation.

## II PURPOSE OF STRUCTURAL OBSERVATION

Structural Observation is the visual observation of the structural system by a Registered Design Professional (i.e., licensed engineer or architect) for general conformance with the approved construction documents. Structural Observation is intended to assist and supplement the work of the Building Official. Structural Observation by itself does not certify, guarantee or ensure conformance with all of the specific requirements of the approved construction documents. It does not provide the quality assurance of continuous inspection by the Registered Deputy Inspector, nor does it include or waive the responsibility for progress or inspections by the Building Official.

The requirement for having a Registered Design Professional present during key construction phases provides an additional observation of the gravity and/or lateral load structural systems by a knowledgeable observer. This will substantially increase the likelihood that the structural system will be in general conformance with the approved construction documents by tracking the load paths to prevent gross errors and omissions. The Registered Design Professional who performs the Structural Observation is known herein as the “Structural Observer”.

## III. DEFINITIONS

**Structural Observation** is the visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural Observation does not include or waive the responsibility for the inspection required by LAMC Sections 91.110 and 91.1704.

**Significant Construction Stages** are the stages of construction identified by the Structural Observer as significant and require site Structural Observation.

**Structural Observer** is the engineer or architect responsible for the structural design, or a registered engineer or licensed architect designated by the engineer or architect responsible for the structural design to perform site Structural Observation required by LAMC Section 91.1704.6.

**Designated Observer** is a registered engineer or licensed architect designated by the engineer or architect responsible for the structural design to perform site Structural Observation required by LAMC Section 91.1704.6.

**Structure** is that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

#### IV. PROJECTS REQUIRING STRUCTURAL OBSERVATION

##### A. Structural Observation for Seismic Design

Structural Observation shall be provided for those structures included in Seismic Design Category D, E or F, as determined in LABC Section 1613, where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV in accordance with LABC Table 1604.5.
2. The height of the structure is greater than 75 feet (22860 mm) above the base.
3. The structure is classified as Risk Category I or II in accordance with LABC Table 1604.5, and is greater than two stories and a lateral design is required for the structure or portion thereof.

**EXCEPTION:** One-story wood-framed Group R-3 and Group U Occupancies less than 2,000 square feet in area, provided the adjacent grade is not steeper than 1 unit vertical in 10 units horizontal (10% sloped), assigned to Seismic Design Category D.

4. When so designated by the registered design professional in responsible charge of the structural design.
5. When such observation is specifically required by the Department. Structures under this category shall include, but are not limited to:
  - a. Retaining or freestanding walls greater than 8 feet in height.
  - b. Large signs.
  - c. Storage racks over 10 feet in height.
  - d. Swimming pools not covered by a Los Angeles City standard plan.

##### B. Structural Observation for Wind Design

Structural Observation shall be provided for those structures sited where  $V_{asd}$  as determined in LABC Section 1609.3.1 exceeds 110 mph (49 m/sec), where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV in accordance with LABC Table 1604.5.
2. The height of the structure is greater than 75 feet (22860 mm) above the base.
3. When so designated by the registered design professional in responsible charge of the structural design.
4. When such observation is specifically required by the Department. Structures under this category shall include, but are not limited to:
  - a. Retaining or freestanding walls greater than 8 feet in height.

- b. Large signs.
- c. Storage racks over 10 feet in height.
- d. Swimming pools not covered by a Los Angeles City standard plan.

## V. DOCUMENTING STRUCTURAL OBSERVATION REQUIREMENTS

Prior to the issuance of a building permit, the architect or engineer responsible for the structural design of the building or structure shall specify Structural Observation at each construction stage identified in LAMC Section 91.108 on the “Structural Observation/Significant Construction Stages” form attached. The “General Notes for Structural Observation” included in this Information Bulletin shall be made part of the approved plans with all the significant construction stages identified. In addition, for repetitive work involving similar or identical construction, i.e., floor construction at multi-story buildings, the architect or engineer shall specify the location and/or frequency of Structural Observation required therein on the plan. Also, see section “Repetitive Construction for Single-Family Wood-Framed Structures” of this document.

The individual or firm responsible for performing the Structural Observation shall be employed by the owner. This information shall be specified either on the “Structural Observation/Significant Construction Stages” form if the Structural Observer is the engineer or architect of record for the structural design, or on the “Structural Observation Program and Designation of the Structural Observer” form IN/Form.08 (Part 2) attached. If the Structural Observer is designated by the engineer or architect of record, such individual or firm may be called the “Structural Observer of Record” for the project. The Structural Observer of record must meet the following three conditions:

1. The Structural Observer must be a person or firm registered in California to practice engineering or architecture.
2. The Structural Observer must have a direct contractual relationship with the owner, or owner’s representative, to provide the Structural Observation service.
3. The Structural Observer must be either the engineer or architect of record for the structural design, or another engineer or architect designated by the engineer or architect of record. The Architect or Engineer of Record shall complete the “Structural Observation Program and Designation of the Structural Observer” form IN/Form.08 (Part 2) when another engineer or architect is designated as “Structural Observer”.

Note: The person who actually performs visual Structural Observation at the construction site in the field may be either the Structural Observer of Record, or a registered engineer registered or a licensed architect under the responsible charge of the Structural Observer of Record.

## VI. EXECUTION OF STRUCTURAL OBSERVATION

### Pre-construction meeting

The owner or owner’s representative shall arrange a preconstruction meeting to be attended by the engineer or architect responsible for the structural design, Structural Observer,

contractor, affected subcontractors, deputy inspectors, and the building inspector. As a minimum, tele-conference meetings between various parties are to be held before the start of construction. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first report submitted to the building official.

### **Performing Structural Observation and Submission of Structural Observation Reports**

The Structural Observer shall perform Structural Observation(s) at the construction site in accordance with the Structural Observation Report Form and the approved plans. Upon completion of the Structural Observation at each construction stage, the Structural Observer of record shall complete the "Structural Observation Report Form" IN/Form.08 (Part 1).

Observed deficiencies shall be reported in writing, to the owner's representative, Registered Deputy Inspector, contractor and the Superintendent of Building. The Structural Observer shall submit a Structural Observation Report on "LADBS/LARUCP Structural Observation Report" form IN/Form.08 (Part 1) to the Superintendent of Building, at each significant construction stage, indicating that the site visits have been made, identifying any deficiencies, to the best of the Structural Observer's knowledge, that have not been resolved, and whether the correction of the reported deficiencies needs to be verified by the structural engineer or architect of record or the designated Structural Observer.

A final Structural Observation Report on, "LADBS/LARUCP Structural Observation Report" form IN/Form.08 (Part 1), by the Structural Observer, at each significant construction stage where deficiencies were reported, which states that all observed deficiencies have been resolved, is required before acceptance of the work by the Superintendent of Building.

A licensed engineer or registered architect, who works under the supervision of the Structural Observer of record and actually performs the observation, may fill out the required "LADBS/LARUCP Structural Observation Report" form IN/Form.08 (Part 1) noting any observed deficiencies. The person working under the Structural Observer of record, name and registration number shall be noted in the report. The report shall be reviewed, completed, stamped and signed by the Structural Observer of Record, who takes responsibility for the report.

At the conclusion of the work included in the permit, the Structural Observer shall submit to the Superintendent of Building a Structural Observation Report on "Structural Observation Report Form" form IN/Form.08 (Part 1). The Structural Observer shall state in writing, on "Structural Observation Report Form" form IN/Form.08 (Part 1), the site visits have been made and identify any reported deficiencies, to the best of the Structural Observer's knowledge, that have not been resolved, if any.

### **Repetitive Construction for Single-Family Wood-Framed structures**

The Structural Observer of record may request a reduction in the scope of Structural Observation for any repeated single-family detached wood frame structure. Administrative

approval will be considered for alternative quality control programs that meet the following minimum requirements:

1. The structure shall be repeated a minimum of three times. Repetitive structures also include reversed floor plans and allow non-structural changes in exterior elevations.
2. The department determines that the repeated structure is not unusual in its size, shape or orientation.
3. The personnel responsible for the construction for the owner, contractor, and subcontractors shall remain constant during the phase or phases of construction considered.
4. The building inspector shall attend any pre-construction meetings.
5. The Structural Observer shall fully observe the initial structure in any repeated group.
6. The Structural Observer shall make a final observation visit of the construction site and report for each structure after any mechanical penetrations are in place and before approval of the rough framing and covering of the work.
7. The repeated construction does not result in deficient critical elements or their connections which would normally be reported under full Structural Observation.

### **Inspection by Building Inspector**

Structural Observation does not include or waive the responsibility of the inspection required by the building code by the Department inspector.

(See Page 6 for General Notes for Structural Observation)

---

## GENERAL NOTES FOR STRUCTURAL OBSERVATION

- (1) Structural Observation is required for the structural system in accordance with the Information Bulletin No. P/BC 2017-024. Structural Observation is the visual observation at the construction site of the elements and connections of the structural system at significant construction stages, and the complete structure for general conformance to the approved plans and specifications. Structural Observation does not waive the responsibility for the inspections required of the building inspector or the deputy inspector.
- (2) The owner shall employ a State of California registered civil or structural engineer or licensed architect to perform the Structural Observation. The Los Angeles Department of Building and Safety (LADBS) requires the use of the engineer or architect, or his/her designee responsible for the structural design who are independent of the contractor.
- (3) The Structural Observer shall provide evidence of employment by the owner or the owner's representative. A letter from the owner, the owner's representative, or a copy of the agreement for services shall be sent to the building inspector before the first site visit.
- (4) The owner or owner's representative shall coordinate and call for a meeting between the engineer or architect responsible for the structural design, Structural Observer, contractor, affected subcontractors and deputy inspectors. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first observation report submitted to the building inspector.
- (5) The Structural Observer shall perform site visits at those steps in the progress of the work that allow for correction of deficiencies without substantial effort or uncovering of the work involved. At a minimum, the listed significant construction stages on either the "Structural Observation/Significant Construction Stages" form or the "Structural Observation Program and Designation of the Structural Observer" form IN/Form.08 (Part 2) require a site visit and an observation report from the Structural Observer.
- (6) The Structural Observer shall prepare a report of the "Structural Observation Report Form" IN/Form.08 (Part 1) for each significant stage of construction observed. The original of the Structural Observation report shall be sent to the building inspector's office and shall be signed and sealed (**wet stamp**) by the responsible Structural Observer. One copy of the observation report shall be attached to the approved plans. The copy attached to the plans shall be signed and sealed (**wet stamp**) by the responsible Structural Observer or their designee. Copies of the report shall also be given to the owner, contractor, and deputy inspector. Any deficiency noted on the observation report will become the responsibility of the structural engineer or architect of record to verify its completion by the Structural Observer.
- (7) A final observation report must be submitted which shows that all observed deficiencies were resolved and structural system generally conforms with the approved plans and specifications. The Los Angeles Department of Building and Safety (LADBS) will not accept the structural work without the final observation report and the correction of specific deficiencies noted during normal building inspection.

(8) The Structural Observer shall provide the original stamped and signed “Structural Observation Report Form” to the City of Los Angeles Department of Building and Safety Building Inspector.

(9) When there is a need to replace the Structural Observer of record, the owner shall:

- a) Notify the building inspector in writing before the next inspection by submitting completed “Structural Observation Program and Designation of the Structural Observer” form IN/Form.08 (Part 2).
- b) Call an additional preconstruction meeting, and
- c) Furnish the replacement Structural Observer with a copy of all previous observation reports.
- d) The new Structural Observer must be designated by the engineer or architect of record.

The replacement Structural Observer shall approve the correction of the original observed deficiencies unless otherwise approved by plan check supervision. The policy of the Department shall be to correct any properly noted deficiencies without consideration of their source.

(10) The engineer or architect of record shall develop all changes relating to the structural systems. The building department shall review and approve all changes to the approved plans and specifications.





## Los Angeles Regional Uniform Code Program

### STRUCTURAL OBSERVATION REPORT FORM

**STRUCTURAL OBSERVATION** means the visual observation of the structural system, for general conformance to the approved plans and specifications, at significant construction stages and at completion of the structural system. Structural observation does not include or waive the responsibility for the inspections required by Section 108, 1704 or other sections of the code.

Report No. \_\_\_\_\_

This report includes all construction work through \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ Page No. \_\_\_\_\_ of \_\_\_\_\_

Project Address:		Structural Observer of Record (SOR):	Phone No. of SOR:
Building Permit No.:	Structural Observation performed by:	Professional Lic./Reg. No. of Observer:	Phone No. of Observer:

#### OBSERVED STRUCTURAL ELEMENTS AND THEIR CONNECTIONS

FOUNDATION	WALL	FRAME	FLOOR	ELEMENT/ CONNECTION OBSERVATION LOCATION
<input type="checkbox"/> Footing, Stem Walls, Piers	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel Moment Frame	<input type="checkbox"/> Concrete	
<input type="checkbox"/> Mat Foundation	<input type="checkbox"/> Modulus of Elasticity* Concrete Shear Walls	<input type="checkbox"/> Steel Braced Frame	<input type="checkbox"/> Steel Deck	
<input type="checkbox"/> Caisson, Piles, Grade Beams	<input type="checkbox"/> Masonry	<input type="checkbox"/> Concrete Moment Frame	<input type="checkbox"/> Wood	
<input type="checkbox"/> Retaining Foundation Hillside Special Anchors	<input type="checkbox"/> Wood	<input type="checkbox"/> Modulus of Elasticity* Seismic Moment Frames	<input type="checkbox"/> Others:	
<input type="checkbox"/> Others:	<input type="checkbox"/> Others:	<input type="checkbox"/> Others:		

\* For concrete buildings more than 160 feet in Structural Height: Concrete mix meets the modulus of elasticity requirements in design for seismic force resisting systems.

**NOTED DEFICIENCIES with the proposed corresponding corrective actions with respect to general conformance with the approved plans or in the load path:** (A final report by the structural observer which states that all observed deficiencies have been resolved is required before acceptance of the work by the building officials.)

---



---



---



---

I DECLARE THAT THE FOLLOWING STATEMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE:

1. I AM THE ENGINEER OR ARCHITECT RETAINED BY THE OWNER TO BE IN RESPONSIBLE CHARGE FOR THE STRUCTURAL OBSERVATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF LOS ANGELES.
2. I, OR ANOTHER ENGINEER OR ARCHITECT WHO I HAVE DESIGNATED ABOVE AND IS UNDER MY RESPONSIBLE CHARGE, HAS PERFORMED THE REQUIRED SITE VISITS AT EACH SIGNIFICANT CONSTRUCTION STAGE TO VERIFY IF THE STRUCTURE IS IN GENERAL CONFORMANCE WITH APPROVED PLANS AND SPECIFICATIONS;
3. ALL NOTED DEFICIENCIES WHICH REMAIN TO BE CORRECTED HAVE BEEN INDICATED ABOVE;
4. I RECOMMEND THAT ACCEPTANCE OF THE STRUCTURAL SYSTEMS BY THE CITY OF LOS ANGELES BE WITHHELD UNTIL ALL OBSERVED DEFICIENCIES ARE CORRECTED.

\_\_\_\_\_  
SIGNATURE OF STRUCTURAL OBSERVER

\_\_\_\_\_  
DATE

\_\_\_\_\_  
STAMP OF STRUCTURAL OBSERVER



## Los Angeles Regional Uniform Code Program

Committee I-3: Structural Observation

### STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: \_\_\_\_\_ PERMIT APPL. NO.: \_\_\_\_\_

Description of Work: \_\_\_\_\_

Owner: \_\_\_\_\_ Architect: \_\_\_\_\_ Engineer: \_\_\_\_\_

<b>STRUCTURAL OBSERVATION</b> (only checked items are required)			
Firm or Individual to be responsible for the Structural Observation:			
Name: _____		Phone: (    ) _____	Calif. Registration: _____
FOUNDATION	WALL	FRAME	DIAPHRAGM
<input type="checkbox"/> Footing, Stem Walls, Piers	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel Moment Frame	<input type="checkbox"/> Concrete
<input type="checkbox"/> Mat Foundation	<input type="checkbox"/> Masonry	<input type="checkbox"/> Steel Braced Frame	<input type="checkbox"/> Steel Deck
<input type="checkbox"/> Caisson, Piles, Grade Beams	<input type="checkbox"/> Wood	<input type="checkbox"/> Concrete Moment Frame	<input type="checkbox"/> Wood
<input type="checkbox"/> Step'g/Retain'g Foundation, Hillside Special Anchors	<input type="checkbox"/> Others: _____	<input type="checkbox"/> Others: _____	<input type="checkbox"/> Others: _____
<input type="checkbox"/> Others: _____			

**DECLARATION BY OWNER**

I, the Owner of the project, declare that the above listed firm or individual is hired **by me** to be the Structural Observer.

\_\_\_\_\_  
Signature Date

**DECLARATION BY ARCHITECT OR ENGINEER OF RECORD** (required if the Structural Observer is different from the Architect or Engineer of Record)

I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

\_\_\_\_\_  
Signature License No.      Date