



INFORMATION BULLETIN

IB-032

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Structural Observation

The purpose of this Information Bulletin (IB) is to highlight the policy and procedure of the Building and Safety Bureau (Bureau) in regard to the structural observation requirement of §1704.6 of the 2022 Edition of the California Building Code (CBC) as amended by §18.40.340 of the Long Beach Municipal Code (LBMC). This IB describes the responsibility of all parties involved to ensure that the requirement of the structural observation is properly understood and implemented.

PART 1: 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 to the approved construction documents. Structural observation is intended to assist and supplement the work of the Building Inspector. 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, nor does it include or waive the responsibility for progress or continuous inspections by the Building Inspector or the Registered Deputy Inspector (also known herein as the Special Inspector) that the Owner may be required to employ.

The requirement for having a Registered Design Professional (RDP) 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 RDP, or the licensed engineer or architect they designate, who performs the structural observation is known herein as the "Structural Observer."

PART 2: STRUCTURAL OBSERVATION REQUIREMENTS

LBMC §18.40.340, which amends CBC §1704.6, reads as follows:

Structural observations. Where required by the provisions of Section 1704.6.1, the owner or the owner's authorized agent shall employ a structural observer to perform structural observations. The structural observer shall visually observe representative locations of structural systems, details and load paths for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspections or special inspections in Chapter 18.07 of the Long Beach Municipal Code or the special inspections in Section 1705 or other sections of this code. The Structural Observer shall be one of the following individuals:

1. The Registered Design Professional responsible for the structural design, or
2. A Registered Design Professional designated by the Registered Design Professional responsible for the structural design.

Prior to the commencement of observations, the Structural Observer shall submit to the Building Official a written statement identifying the frequency and extent of structural observations.

The Owner or Owner’s representative shall coordinate and call a preconstruction meeting between the Structural Observer, Contractors, affected Subcontractors and Special Inspectors. The Structural Observer shall preside over the meeting. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load resisting systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the report submitted to the Building Official.

Observed deficiencies shall be reported in writing to the Owner or Owner’s representative, Special Inspector, Contractor and the Building Official. Upon the form prescribed by the Building Official, the Structural Observer shall submit to the Building Official a written statement at each significant construction stage stating that the site visits have been made and identifying any reported deficiencies which, to the best of the Structural Observer’s knowledge, have not been resolved. 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 Official.

PART 3: DOCUMENTATION OF STRUCTURAL OBSERVATION

Prior to the issuance of a building permit, the RDP responsible for the structural design shall specify structural observation at each construction stage and designate the Structural Observer on [FORM-020 Structural Observer Designation](#) (FORM-020) prescribed by the Bureau. The “Structural Observation” portion (see example below) of FORM-020 shall be made a part of the approved construction documents:

STRUCTURAL OBSERVATION (Please specify or check the structural elements/connections below that requires Structural Observation and identify the scheduled interval or stage of construction when the Structural Observation will be performed.)		
TYPE	STRUCTURAL ELEMENTS OR CONNECTIONS TO BE OBSERVED	SCHEDULED INTERVAL OR STAGE OF CONSTRUCTION
FOUNDATIONS	<input type="checkbox"/> Footing, Stem Wall	
	<input type="checkbox"/> Mat Foundation, Prestressed Conc. Slab	
	<input type="checkbox"/> Caisson, Pile, Grade Beam	
	<input type="checkbox"/> Foundation Pad, Anchor	
	<input type="checkbox"/> Other:	
WALLS	<input type="checkbox"/> Concrete	
	<input type="checkbox"/> Masonry	
	<input type="checkbox"/> Wood Shear Wall Panel	
	<input type="checkbox"/> Other:	
FRAMES	<input type="checkbox"/> Steel Moment Frame	
	<input type="checkbox"/> Steel Braced Frame	
	<input type="checkbox"/> Concrete Moment Frame	
	<input type="checkbox"/> Masonry Wall Frame	
	<input type="checkbox"/> Other:	
DIAPHRAGMS (Floor/Roof)	<input type="checkbox"/> Concrete	
	<input type="checkbox"/> Steel Deck	
	<input type="checkbox"/> Wood	
	<input type="checkbox"/> Other:	

EXAMPLE: FORM-020

In addition, for repetitive work involving similar or identical construction (i.e., floor construction at multi-story buildings), the RDP responsible for the structural design shall specify the location and/or frequency of structural observation required on the construction documents.

PART 4: PERFORMANCE OF STRUCTURAL OBSERVATION

The Structural Observer shall perform structural observation at each construction stage identified on the approved construction documents and FORM-020. Upon completion of structural observation at each construction stage, the Structural Observer shall complete and submit [FORM-021 Structural Observation Report](#) (FORM-021) as prescribed by the Bureau to the Building Inspector.

When a deficiency is noted on FORM-021, the Structural Observer shall give this form to the Owner or Owner's representative, Contractors, affected Subcontractors, Registered Deputy Inspector, and Building Inspector. The Structural Observer shall note on FORM-021 whether the correction of the deficiency needs to be verified through re-observation by him/her. At the discretion of the Structural Observer and with prior approval by the Building Inspector, the Special Inspector may verify structural observation of the corrected deficiency. In such cases, the Special Inspector shall state that the deficiency was corrected and shall complete and submit the "Registered Deputy Daily Inspection Report" form prescribed by the Bureau to the Building Inspector.

The Structural Observer shall submit a final FORM-021 upon completion of the structural system to the Building Inspector. The Structural Observer must state that the structural system generally conforms to the approved construction documents and that all observed deficiencies have been corrected. No final approval or acceptance of the structural work by the Building Inspector will occur without the submission of a final completed and signed FORM-021.

PART 5: STRUCTURAL OBSERVATION NOTE ON CONSTRUCTION DOCUMENTS

The RDP responsible for the structural design shall identify the frequency and extent of required structural observations. As a minimum, the following structural observation note and frequency of required structural observations shall be made part of the approved construction documents.

STRUCTURAL OBSERVATION

- 1. Structural observation is the visual observation of the elements and connections of the structural system by a Registered Design Professional for general conformance to the approved construction documents at significant construction stages and at the completion of the structural system. Structural observation does not include or waive the responsibility for the inspection required by the LBMC §18.07.050, CBC §1704 or other sections of the LBMC or CBC. Structural observation shall be provided in accordance with the CBC §1704, as amended by the LBMC §18.40.340.*
- 2. Where structural observation is required, FORM-020 Structural Observer Designation shall be completed, signed and submitted to the Bureau naming the Structural Observer who is to perform the required structural observation and describing the stages of construction and frequency at which structural observation is to occur.*

3. *The Owner shall employ a Structural Observer to perform structural observations. Pursuant to the LBMC §18.40.340, the Structural Observer should be one of the following individuals:*
 - A. *The Registered Design Professional responsible for the structural design, or*
 - B. *A Registered Design Professional designated by the Registered Design Professional responsible for the structural design.*

4. *Pre-construction Meeting:*

- A. *Prior to construction commencement, the Structural Observer, as Owner's representative, shall coordinate and preside over a pre-construction meeting with the Registered Design Professional responsible for the structural design (if different than the Structural Observer), Owner, Contractors, affected Subcontractors, Special Inspectors and the Building Inspector.*
 - B. *The purpose of the pre-construction meeting is to identify the major structural elements and connections that affect the vertical and lateral force-resisting systems of the structure and to review the scheduling of required structural observations.*
 - C. *The first report to the Building Inspector shall include a record of the pre-construction meeting and name of the designated Structural Observer to perform the structural observation program.*
 - D. *Additional construction meetings may be required at different stages and/or for different trades.*
5. *The Structural Observer shall complete, sign, wet stamp and submit FORM-021 Structural Observation Report after each site visit requiring structural observations.*

6. *Observation Schedule:*

Where the structural observation is required, the Structural Observer shall perform site visits at each significant construction stages in the progress of the work that allow for correction of deficiencies without substantial effort or uncovering of the work involved. The Structural Observer shall, as a minimum, perform structural observation for the following structural elements and their connections at the scheduled intervals or stages of construction.

7. *Observed Deficiencies:*

- A. *Observed deficiencies by the Structural Observer shall be reported in writing on FORM-021 Structural Observation Report and submitted to the Owner, Registered Design Professional responsible for the structural design (if different than the Structural Observer), Contractors, affected Subcontractors, Special Inspectors and the Building Inspector.*
- B. *The Contractor shall resolve all identified deficiencies to the satisfaction of the Structural Observer and Building Inspector prior to requesting the next inspection.*

C. At the conclusion of the project, the Structural Observer shall submit to the Building Inspector a final written statement on FORM-021 Structural Observation Report that the site visits have been made and report that all observed deficiencies, to the best of the Structural Observer's knowledge, has been resolved and that the structural system generally conforms to the approved construction documents.

8. When the Owner elects to change the Structural Observer, the Owner shall:

A. Notify the Building Inspector in writing and receive approval before requesting the next inspection,

B. Call for a new pre-construction meeting and notify to the Building Inspector in writing that the meeting was conducted, and

C. Furnish the new Structural Observer with copies of all previous structural observation reports.

The new Structural Observer shall approve the correction of all deficiencies identified in the previous FORM-021 reports unless otherwise approved by the Building Inspector.