

**PORT CODE
PROCEDURE**

NO. PCP-014 :

DATE : January 9, 2020

SUBJECT : Special Inspections

TITLE : Special Inspection and Structural Observation Procedures

PURPOSE : The purpose of this Port Code Procedure is to describe the procedures to be used in the administration and enforcement of special inspection and structural observation requirements of the Port of San Francisco Building Code (PSFBC). It is intended as an aid for design professionals in their preparation of inspection and observation programs. It provides information for building owners, architects and engineers, contractors, and special inspection agencies about their responsibilities regarding special inspection and structural observation and includes standardized forms and formats applicable to these functions.

REFERENCE : - 2019 Port of San Francisco Building Code
- Section 108A Inspections
- Chapter 17 Structural Tests and Inspections

I DEFINITION AND PURPOSE: Special Inspection

A. Special Inspection

Special Inspection is the monitoring of the materials and workmanship that are critical to the integrity of the building structure or public safety. Special inspection is the review of the work of the contractors and their employees to assure that the approved plans and specifications are being followed and that relevant codes and ordinances are being observed. The special inspection process is in addition to the regular inspections conducted by Port of San Francisco building inspectors and by the engineer or architect of record as part of periodic structural observation. The special inspectors furnish continuous or periodic inspection as required by the Port of San Francisco Building Code.

Good communication between the special inspector and the designers, contractor, and building department is essential to project quality assurance.

B. Structural Observation

Structural Observation is defined as 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 108A, Chapter 17, and other sections of this code.

II DUTIES AND RESPONSIBILITIES OF THE PARTIES RESPONSIBLE FOR SPECIAL INSPECTION PROGRAM AND STRUCTURAL OBSERVATION PROGRAM

A. Duties and Responsibilities of the Project Owner

1. The project owner, or the project owner's agent, is responsible for funding special inspection services.
2. The project owner, or the project owner's agent, shall employ the engineer or architect responsible for the structural design, or another engineer or architect designated by the engineer or architect responsible for the structural design, to perform structural observation.
3. Before final building inspection, the project owner, or the project owner's agent, shall submit to the Port of San Francisco final compliance reports covering each item requiring special inspection and structural observation. Final reports shall be signed and stamped by the responsible engineer of the special inspection agency, geotechnical firm, engineer or architect of record - as appropriate to the type of report. See Exhibit No. 2, Special Inspection Final Compliance Report and Exhibit No. 3, Structural Observation Final Compliance Report. Submissions may be made to the Building Permit desk or in electronic form to "special-inspections@sfport.com"

B. Duties and Responsibilities of the registered design professional in responsible charge

The registered design professional in responsible charge must be a California registered civil or structural engineer or architect and has many duties and responsibilities related to special inspection and structural observation activities. These include the following:

1. Identify the need for special inspection and structural observation services.

The registered design professional in responsible charge prepares *Statement of Special Inspections* (See Exhibit No. 1) in accordance with Chapter 17 of the PSFBC. The Statement of Special Inspection shall be attached to each set of project plans and specifications which are submitted to the Chief Harbor Engineer as part of building permit application. In addition, provide an electronic version to "special-inspections@sfport.com"

2. Review reports from special inspection agencies/special inspectors/structural observer and respond to field discrepancies

The registered design professional reviews all structural observation and special inspection reports. Material and design discrepancies which are not resolved in a timely manner or are about to be incorporated in the work must be brought to the attention of the registered design professional in responsible charge and the Chief Harbor Engineer. Uncorrected field deficiencies observed by the special inspector and structural observer must be brought to their attention. The registered design professional in responsible charge is instrumental in effecting

the remedial process of deficiency correction. The registered design professional in responsible charge is responsible for any design changes in addition to acknowledgment and approval of shop drawings which may detail structural information, and for submission of such changes to the Chief Harbor Engineer for approval.

C. Duties and responsibilities of the registered design professional responsible for the structural observation program

The owner shall employ a California registered design professional (Civil or Structural) to perform structural observation as defined in PSFBC Chapter 17. The registered design professional assigned to perform structural observation shall submit to the Port Building Department and the registered design professional in responsible charge, a written statement declaring that the site visits have been made and identifying any reported deficiencies that, to the best of the his/her knowledge, have not been resolved. See Exhibit No. 3 - *Special Observation Final Compliance Report*.

D. Duties and Responsibilities of the Special Inspection Agencies/Special Inspectors

The special inspectors are individuals with highly developed, specialized skills who observe those critical building or structural features which they are qualified to inspect. Duties of the special inspectors and/or inspection agencies include the following:

1. Observe all work for which they are responsible

Special inspectors shall inspect all work for conformance with the Port of San Francisco approved set of plans and specifications and applicable provisions of the PSFBC.

2. Provide timely reports

The special inspector shall complete written inspection reports in compliance with Section 1704.2.4 of PSFBC for each inspection visit and provide the reports in a timely manner. The special inspector or inspection agency shall furnish these reports directly to the Port Building Department (by email at special-inspections@sfport.com) and the registered design professional in responsible charge. A copy of these reports shall also be kept at job site. Special inspectors shall bring all non-conforming items to the immediate attention of the contractor. If any such item is not resolved in a timely manner or is about to be incorporated in the work, the registered design professional in responsible charge and the Port Building Department shall be notified immediately.

3. Submit a final signed report

Special inspectors or special inspection agencies shall submit a final report signed by a California registered design professional (civil or structural), who is responsible for the special inspection, to the Port Building Department (by email at special-inspections@sfport.com) and the registered design professional in responsible charge stating that all items requiring special inspection and testing were constructed, to the best of their knowledge, in conformance with the approved design drawings, specifications, approved change orders and the applicable

provisions of the code. See Exhibit No. 2 - *Special Inspection Final Compliance Report*.

E. Duties and Responsibilities of the Chief Harbor Engineer

1. Review and examine plans, specifications and contract documents for compliance with special inspection and structural observation requirements

The Chief Harbor Engineer is charged with the legal authority to review the plans and specifications for compliance with the code requirements.

2. Monitor the special inspection and structural observation activities

The Chief Harbor Engineer shall monitor the job site to see that special inspection and structural observation is being performed and that an adequate number of special inspection staff is present depending upon the extent and complexity of the project.

3. Review inspection reports

The Chief Harbor Engineer receives, reviews and makes the inspection reports part of the inspection records.

4. Review the final report

The Certificate of Occupancy shall not be issued until the final report has been received and approved by the Chief Harbor Engineer.

F. Duties and Responsibilities of the Contractor

The contractor's duties include the following:

1. Notify the special inspector

The contractor is responsible for notifying the special inspector or special inspection agency regarding special inspections required by the Port of San Francisco. Adequate notice shall be provided so that the special inspector has time to become familiar with the project.

2. Provide access to approved plans

The contractor is responsible for providing the special inspector with access to approved plans at the job site.

3. Retain special inspection records

The contractor is responsible for retaining at the job site all special inspection records submitted by the special inspector, and providing these records for review by the Port of San Francisco building inspector upon request.

III SPECIAL INSPECTOR QUALIFICATIONS:

The Port of San Francisco Building Department will accept special inspection and testing agencies working on projects in the Port of San Francisco who are recognized by the Special Inspection Joint Review Committee of participating Bay Area jurisdictions, which reviews the qualifications of inspection and testing agencies including conformance with ASTM E329 and inspector certification and experience criteria. The current list of the Joint Review Committee's Recognized Special Inspection and Testing Agencies is available on the Port of San Francisco website.

Qualified staff of the City and County of San Francisco working on Port projects may also perform special inspection work.

Alternatively, special inspectors shall be one of the following:

A. A qualified person employed by an approved inspection and testing agency conforming insofar as applicable to the requirements of ASTM E329.

Except for testing of materials and reporting of numerical results from such tests, the inspector shall work under the general supervision of a registered Civil Engineer, and all reports and certification of compliance must be signed by the engineer.

B. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved agency and their personnel are permitted to act as special inspectors for the work designed by them, provided they qualify as special inspectors

C. For life-safety provisions required by PSFBC Section 403, construction review and validation testing shall be performed by, or under the supervision of a registered Electrical or Mechanical Engineer responsible for those areas of work involving his or her design. All reports on construction review and testing, and certification of compliance and full operational status, shall be signed by the engineer and endorsed by the design professional of record for the building. The design professional of record shall bear overall responsibility for the proper installation and testing of the life-safety system. When approved by the Chief Harbor Engineer this responsibility may be borne by an approved independent testing agency.

D. The Engineer (or Architect) of Record.

Note: The engineer who prepared the geotechnical report may be considered the engineer of record for the geotechnical work requiring special inspection.

E. For special inspection of fabricated items, see PSFBC Section 1704.2.5.

IV SPECIAL INSPECTION AND STRUCTURAL OBSERVATION OPERATIONAL PROCEDURE WITHIN ENGINEERING DIVISION'S BUILDING PERMIT GROUP

A. Building Permit Group (BPG) - Plan Review Engineers/Inspectors

1. Review the special inspection and structural observation requirements in Statement of Special Inspection (Exhibit No. 1) prepared by the registered design professional in responsible charge.

2. During construction, the BPG reviews and files special inspection progress reports received by email at special-inspections@sfport.com. Resolution reports shall be submitted to BPG for review and file.
3. Before final building inspection approval, the project owner/ project owner's agent submits to the Building Permit Group final compliance reports covering each item requiring special inspection and structural observation. Final reports shall be signed and stamped by the responsible engineer of the special inspection agency, geotechnical firm, engineer or architect of record - as appropriate to the type(s) of special inspection. See Exhibit No. 2, *Special Inspection Final Compliance Report* and Exhibit No. 3, *Structural Observation Final Compliance Report*. Documents shall be sent by email to special-inspections@sfport.com
4. When final reports are submitted, the BPG will review the documents for compliance and completeness. If documentation is not sufficient, the BPG informs the registered design professional in responsible charge regarding what items are missing.
5. The BPG files the final compliance approval in the Special Inspection file.
6. The Chief Building Inspector confirms that the necessary special inspection and structural observation work has been completed and notifies the building inspectors that final inspection and permit close out can be completed.

B. Building Inspection

1. For projects requiring special inspection, at the first site inspection, building inspectors inform the applicant or applicant's agent of the Special Inspection procedures and discuss the requirements with the person in charge of the work. The Special Inspector shall be identified to building inspector prior to start of the work for which special inspection is required. See Exhibit No. 1, *Schedule of Special Inspections*.
2. Building inspectors monitor the special inspection activities at the project site for compliance with this procedure. In the event that building inspectors discover that required special inspection is not being performed, or not in compliance with the approved plans, they are authorized to suspend or stop the progress of the work.

ATTACHMENTS:

1. Exhibit No. 1-Statement of Special Inspections
2. Special Inspection Final Compliance Report
3. Structural Observation Final Compliance Report

Rod Iwashita

Date

Chief Harbor Engineer

Port of San Francisco

Update reviewed and approved by Neil Friedman, Chief Building Inspector,
01-17-2020

Exhibit No. 1
Statement of Special Inspections

PROJECT NAME _____

PERMIT NO. _____

This Statement of Special Inspections is submitted in fulfillment of the requirements of PSFBC Chapter 17. Included are:

- Schedule of Special Inspections and tests applicable to this project:
- List of the Testing Agencies and other special inspectors that will be retained to conduct the tests and inspections.

Special Inspections and Testing will be performed in accordance with the approved plans and specifications, this statement and PSFBC Chapter 17

The Schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.

Interim reports will be submitted to the Chief Harbor Engineer and the Registered Design Professional in Responsible Charge in accordance with PSFBC Chapter 17

A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Final Completion and Occupancy (Section 109A.1, 109A.3, 1704.2.4). A Certificate of Temporary Occupancy (Section 109A.4) may be issued with written approval of the Chief Harbor Engineer. The Final Report will document:

- Required special inspections.
- Correction of discrepancies noted in inspections.

The Project Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Project Owner will retain and directly pay for the Special Inspections as required in PSFBC Chapter 17.

This plan has been developed with the understanding that the Chief Harbor Engineer will:

- Review and approve the qualifications of the Special Inspectors who will perform the inspections.
- Monitor special inspection activities on the job site to assure that the Special Inspectors are qualified and are performing their duties as called for in this Statement of Special Inspection.
- Review submitted inspection reports.
- Perform inspections as required by the local building code.

PROJECT NAME _____

PERMIT NO. _____

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project.

Responsibility	Firm (or Registered Professional)	Address, Telephone, e-mail
1. Special Inspection (except for geotechnical)		
2. Geotechnical Inspections		
3. Structural Observation		

In accordance with Chapter 17 (PSFBC), Special Inspection and/or testing is required for the following work:

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> 1. <input type="checkbox"/> Concrete (Placement & sampling) 2. <input type="checkbox"/> Bolts installed in concrete 3. <input type="checkbox"/> Special moment - Resisting concrete frame 4. <input type="checkbox"/> Reinforcing steel and prestressing tendons 5. Structural welding: <ul style="list-style-type: none"> A. Periodic visual inspection <input type="checkbox"/> Single pass fillet welds 5/16" or smaller <input type="checkbox"/> Steel deck <input type="checkbox"/> Welded studs <input type="checkbox"/> Cold formed studs and joists <input type="checkbox"/> Stair and railing systems <input type="checkbox"/> Reinforcing steel B. Continuous visual inspection and NDT (Section 1704) <input type="checkbox"/> All other welding (NDT exception: Fillet <input type="checkbox"/> Reinforcing steel; and <input type="checkbox"/> NDT required <input type="checkbox"/> Moment-resisting frames <input type="checkbox"/> Others _____ | <ul style="list-style-type: none"> 6. <input type="checkbox"/> High-strength bolting 7. <input type="checkbox"/> Structural masonry 8. <input type="checkbox"/> Reinforced gypsum concrete 9. <input type="checkbox"/> Insulating concrete fill 10. <input type="checkbox"/> Sprayed-on fireproofing 11. <input type="checkbox"/> Piling, drilled piers and caissons 12. <input type="checkbox"/> Shotcrete 13. <input type="checkbox"/> Special grading, excavation and filling (Geo. Engineered) 14. <input type="checkbox"/> Smoke-control system 15. <input type="checkbox"/> Demolition 16. <input type="checkbox"/> Exterior Facing 17. Not used (UMB) | <ul style="list-style-type: none"> 18. Bolts Installed in existing concrete or masonry: <input type="checkbox"/> Concrete <input type="checkbox"/> Masonry <input type="checkbox"/> Pull/torque tests 19. <input type="checkbox"/> Shear walls and floor systems used as shear diagrams 20. <input type="checkbox"/> Holdowns 21. Special cases: <input type="checkbox"/> Shoring <input type="checkbox"/> Underpinning: <input type="checkbox"/> Not affecting adjacent <input type="checkbox"/> Affecting adjacent property: <input type="checkbox"/> Others 22. <input type="checkbox"/> Crane safety (Apply to the operation of tower cranes on high-rise building) (Section 1705.22) 23. <input type="checkbox"/> Others: "As recommended by professional of record" _____ |
|---|---|--|
24. **Structural observation per Sec. 1704.6 for the following:** Foundations Steel framing
- Concrete construction Masonry construction Wood framing
- Other: _____
25. Certification is required for: Glu-lam components
26. Firestops in high-rise building

Prepared by:		Project Owner's Authorization	
Registered Design Professional in Responsible Charge (Print Name):		Project Owner (print name)	
Signature	Date	Signature	Date

Exhibit No. 2

SPECIAL INSPECTION FINAL COMPLIANCE REPORT

[Date]

Building Permit Desk
Port of San Francisco Engineering Division
Building Permit Group
Pier 1, The Embarcadero
San Francisco, CA 94111

Building Permit No. _____

Re: Project Name: _____

In accordance with Chapter 17 of the 2019 Port of San Francisco Building Code, Special Inspection has been provided for items as specified in the Statement of Special Inspections (Exhibit No. 1):

Based upon inspections performed and my substantiating reports, it is my professional judgment that, to the best of my knowledge, the inspected work was performed in accordance with the approved plans, specifications, and applicable workmanship provisions of the Port of San Francisco Building Code.

Signature: _____ Agency: _____
d: _____ : [Agency Responsible Engineer's stamp]

Print full name: _____

cc: Client/Project Owner

Exhibit No. 3

STRUCTURAL OBSERVATION FINAL COMPLIANCE REPORT

[Date]

Building Permit Desk
Port of San Francisco Engineering Division
Building Permit Group
Pier 1, The Embarcadero
San Francisco, CA 94111

Building Permit No. _____

Re: Project Name: _____

In accordance with Chapter 17 of the 2019 Port of San Francisco Building Code, I have provided structural observation for items as specified in the Statement of Special Inspections (Exhibit No. 1):

Based upon inspections performed and my substantiating reports, it is my professional judgment that, to the best of my knowledge, the observed structural work was performed in accordance with the approved plans, specifications, and applicable workmanship provisions of the Port of San Francisco Building Code.

By Registered Design Professional:

Signed: _____ Date: _____

Print full name:

cc: Client/Project Owner