



Special Inspection Requirements for Occupancy Permits

Performing the required special inspections throughout a construction project can help avoid the denial of occupancy permits, project delays and costly rework. Although the current Special Inspection requirements have been in place for a few years, the design and construction community is still adjusting to the new expectations.

Below are the most common questions fielded by GCI staff and the answers you need to ensure that the Special Inspections required on your projects are properly completed.



What are Special Inspections?

Special Inspections involve monitoring of materials and construction critical to the structural integrity of buildings. While these materials and construction processes are routinely observed during construction, the Special Inspections code defines the frequency of inspections and whether they need to be periodic or continuous. Special Inspections provide greater confidence that the completed work complies with the contract documents and specifications resulting in enhanced quality and safety of the structure.

If Special Inspections have been around since 1988, why am I hearing about them now?

The National Building Code (BOCA) first introduced Special Inspection requirements in 1988 as a means to protect public safety and improve the quality of construction practices. The International Building Code (IBC), first published in 2000, merged the Uniform Building Code and BOCA Special Inspection provisions into Chapter 17, but the authority to enforce the provisions contained in the Building Code rests with the state, county or local municipal building official. As more local municipalities have adopted the Ohio Building Code (OBC) and focused on enforcement of the existing provisions, Special Inspections are getting more attention.

How do I know if special inspections are required for my project?

Special Inspections are required for most engineered building projects. Special Inspections are required unless one of the following three exceptions apply to the project:

1. The Building Official may waive the requirements for Special Inspections if he or she deems that the work is of a minor nature or if the local Building Department has the resources to provide comparable inspections with its own staff.
2. If the size and use of the building is such that local state statutes and regulations do not require a Registered Design Professional in responsible charge of the project, the project is exempt for the Special Inspection requirements.
3. Special Inspections are not required for one and two family residences (Use Group R-3) or utility buildings such as garages or barns that are accessory to a residence.



Who determines what Special Inspections are needed?

The Code requires a Statement of Special Inspections (SSI) to be submitted to the Building Official (BO) along with the application for Building Permit. The SSI form indicates specific inspection and testing to be performed, specific firms to perform them, and the qualifications of the individual inspectors and testing technicians.

The Code requires the program of inspection and testing for a project to be prepared by the Registered Design Professional (RDP) in charge of the building system requiring inspections and testing. For example, the Structural Engineer of Record (SER) should determine what level of inspection and testing is required for the structural elements such as foundations, concrete and structural steel. The Architect and MEP engineers must prepare aspects of the inspection and testing program for the building systems for which they have responsibility.



Who is responsible for making sure special inspections are performed?

Prior to the start of construction, it is advisable to have a pre-construction conference to discuss the inspection and testing program and to make sure that all of the participants understand their roles and responsibilities. The conference should be attended by the Registered Design Professional, Prime Contractor, Sub-contractors, Inspectors and Testing Agencies.

I already have testing done during construction, so does that cover the special inspection requirement?

No. Testing involves the analysis of materials in accordance with approved standards to determine compliance with contract documents and project specifications. Testing Agencies are firms responsible for performing specific tests as part of the project specifications. Testing Agencies may be engaged by the Contractor, Owner or by the Owner's agent.

Special Inspections involves the evaluation of materials, workmanship and the interpretation of contract documents. A special inspector makes professional judgment as to the quality and acceptability of the construction in-place based on his/her knowledge and experience. Inspectors are individuals responsible for performing specific instructions as part of the Special Inspection program. They are engaged by the Owner or by the Owner's agent. At the completion of the required inspections, the Inspector submits an Agent's Final Report of Special Inspections to the Special Inspection Coordinator.

Can the Contractor's Testing Agency also perform the Special Inspections on my project?

The Code requires inspectors and testing agencies to be engaged by the Owner or the Owner's agent and not by the Contractor to avoid a conflict of interest. There are some projects where the Owner is also the Contractor and a potential conflict of interest may be unavoidable.

How much should I budget for this?

Special Inspections typically cost approximately 1% of the cost of construction. Masonry buildings that require continuous observations and other construction processes that call for more frequent inspections will cost more. The owner pays for all Special Inspections.



The Ohio Building Code (OBC) and International Building Code (IBC) contain 13 categories of special inspections that may be required on your construction project. The special inspections are briefly described below.

The registered design professional in responsible charge (RDP) on your project will prepare a complete list of materials and work requiring special inspections and will also define the required frequency of inspections. Inspections may be continuous and require the full-time observation of the construction work or periodic inspections which requires part-time or intermittent observation by the inspector.

In order to obtain the building permit, the RDP will submit the special inspections schedule (Part I) along with the building permit application. The submission also includes Part II which is a list of special inspectors who are qualified and competent to the particular type of inspections. Completion of all special inspections are required to obtain the building occupancy permit upon completion of construction.



1. Fabricators

- Structural load-bearing members and structural load-bearing assemblies require inspection.
- Where structural elements or assemblies are fabricated off site, such as structural steel, pre-engineered metal buildings, precast concrete or prefabricated wood trusses, inspections are required to be performed in the fabricator's shop.

2. Steel Construction

- Inspection is required of high-strength bolt installation and tightening. Continuous inspection is required of slip-critical connections or where bolts are tightened by the calibrated wrench method or by the turn-of-nut method without match marking.
- After structural steel erection has been completed, the details of the steel frame must be inspected for compliance with the construction documents. The code can be interpreted to mean all details or just elements critical to the lateral stability of the system such as those providing bracing, stiffening, etc. The RDP will indicate which details are deemed to require inspection for a specific project.

3. Concrete Construction

- The requirements for special inspection of concrete construction cover both cast-in-place and precast concrete.
- Reinforcing steel must be inspected prior to concrete placement.
- If continuous testing is required during concrete placement, the testing technician must remain at the site for the duration of concrete placement.
- Inspection is required during concrete placement to verify that proper procedures are being followed for transporting, placing, consolidating, curing and finishing of concrete.



4. Masonry Construction

- The emphasis of the masonry special inspection requirements is on structural details. Inspection of reinforcing steel placement, masonry anchors and ties is crucial.
- The code defines two levels of inspection for masonry. The inspection tasks are similar for Level 1 and Level 2 inspections and all masonry is subject to Level 1 inspections.
- For Level 2 masonry inspections, more items are identified as continuous rather than periodic inspections. Level 2 inspections are required for engineered masonry (not empirically designed) in essential facilities such as hospitals, police stations and firehouses.
- Continuous inspection is required of grouting operations.

5. Wood Construction

The fabrication process of prefabricated wood structural elements and assemblies, installation of high-load diaphragms and metal-plate-connected wood trusses spanning 60 feet or greater, and the grade, thickness, spacing and size of wood panel sheathing, framing members and fasteners require varying degrees of special inspections.



6. Soils

- Special Inspections are required of controlled fill installation. The subgrade must be inspected to verify that all unsuitable material has been removed prior to placement of controlled fill. Each lift of fill must be inspected and tested for proper density.
- There are requirements for the inspection of the soil below footings.

7. Pile Foundation

Deep foundations such as driven piles and helical piles require continuous special inspection during installation and testing.

8. Pier Foundation

Drilled pier foundations also require continuous special inspection during installation and testing.

9. Sprayed Fire-Resistant Materials

Sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members require special inspections for spray thickness, density and bonding strength.

10. Mastic and Intumescent Fire Resistant Coatings

Special inspections are required for mastic and intumescent fire-resistant coatings applied to structural elements and decks.

11. EIFS System

Exterior Insulation and Finish Systems (EIFS) and the underlying water-resistive barrier typically require special inspections.

12. Special Cases

Special inspections may be required for proposed work that is, in the opinion of the building official, unusual in its nature or are to be installed according to manufacturer's instructions that are not referenced in the standard code.

13. Smoke Control System

Smoke control systems require special inspections during erection of ductwork, prior to concealment, prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detection and control verification.

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