

REVISION RECORD FOR THE STATE OF CALIFORNIA

ERRATA

January 1, 2011

2010 Title 24, Part 1, California Administrative Code

**PLEASE NOTE: The date of this errata is for identification purposes only.
See the History Note Appendix.**

It is suggested that the section number, as well as the page number be checked when inserting this material and removing the superseded material. In case of doubt, rely on the section numbers rather than the page numbers because the section numbers must run consecutively.

It is further suggested that the superseded material be retained with this revision record sheet so that the prior wording of any section can be easily ascertained.

Please keep the removed pages with this revision page for future reference.

Note

Due to the fact that the application date for a building permit establishes the California Building Standards Code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.

Part 1

Remove Existing Pages

v and vi
17 through 20
43 through 46
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Insert Buff Colored Pages

v and vi
17 through 20
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CALIFORNIA CODE OF REGULATIONS, TITLE 24

California Agency Information Contact List

California Energy Commission

Energy Hotline (800) 772-3300
or (916) 654-5106

Building Efficiency Standards
Appliance Efficiency Standards
Compliance Manual/Forms

California State Lands Commission

Marine Oil Terminals (562) 499-6317

California State Library

Resources and Information (916) 654-0261
Government Publication Section (916) 654-0069

Corrections Standards Authority

Local Adult Jail Standards (916) 324-1914
Local Juvenile Facility Standards (916) 324-1914

Department of Consumer Affairs—Acupuncture Board

Office Standards (916) 445-3021

Department of Consumer Affairs—Board of Pharmacy

Pharmacy Standards (916) 574-7900

Department of Consumer Affairs—Bureau of Barbering and Cosmetology

Barber and Beauty Shop and (916) 574-7570
College Standards (800) 952-5210

Department of Consumer Affairs—Bureau of Home Furnishings and Thermal Insulation

Insulation Testing Standards (916) 574-2041

Department of Consumer Affairs—Structural Pest Control Board

Structural Standards (800) 737-8188
(916) 561-8708

Department of Consumer Affairs—Veterinary Medical Board

Veterinary Hospital Standards (916) 263-2610

Department of Food and Agriculture

Meat & Poultry Packing Plant Standards . . . (916) 654-1447
Dairy Standards (916) 654-1447

Department of Public Health

Organized Camps Standards (916) 449-5661
Public Swimming Pools Standards (916) 449-5693
Asbestos Standards (510) 620-2874

Department of Housing and Community Development

Residential—Hotels, Motels, Apartments
Single-Family Dwellings (916) 445-9471
Permanent Structures in Mobilehome
and Special Occupancy Parks (916) 445-9471
Factory-Built Housing, Manufactured
Housing and Commercial Modular (916) 445-3338
Mobilehomes—Permits & Inspections
Northern Region (916) 255-2501
Southern Region (951) 782-4420
Employee Housing Standards (916) 445-9471

Department of Water Resources

Gray Water Installations Standards (916) 651-9667

Division of the State Architect—Access Compliance

Access Compliance Standards (916) 445-8100

Division of the State Architect—Structural Safety

Public Schools Standards (916) 445-8100
Essential Services Building Standards (916) 445-8100
Community College Standards (916) 445-8100

Division of the State Architect—State Historical Building Safety Board

Alternative Building Standards (916) 445-8100

Office of Statewide Health Planning and Development

Hospital Standards (916) 440-8356
Skilled Nursing Facility Standards (916) 440-8356
Clinic Standards (916) 440-8356
Permits (916) 440-8356

Office of the State Fire Marshal

Code Development and Analysis (916) 445-8200
Fire Safety Standards (916) 445-8200
Fireplace Standards (916) 445-8200
Day-Care Centers Standards (916) 445-8200
Exit Standards (916) 445-8200

CHAPTER 4

ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF THE STATE ARCHITECT-STRUCTURAL SAFETY (DSA-SS)

ARTICLE 1 ESSENTIAL SERVICES BUILDINGS

4-201. Purpose. Essential services buildings constructed pursuant to these rules and regulations shall be designed and constructed to resist gravity forces, to minimize fire hazards and to resist, insofar as practical, the forces generated by winds and major earthquakes of the intensity and severity of the strongest anticipated at the building site without catastrophic collapse, but may experience some repairable architectural or structural damage. An essential services building as designed and constructed shall be capable of providing essential services to the public after a disaster. In addition, the equipment and other accessories which are necessary for the continued functioning of the essential services operation shall be anchored and braced to resist earthquake forces.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16001.

4-202. Scope. These regulations apply to the administrative procedures concerning the construction, reconstruction, alteration of or addition to any essential services building under the jurisdiction of a city, city and county, county (including special fire districts) or the State of California.

When the enforcement agency is the Division of the State Architect (DSA) all parts of the *California Building Standards Code*, as contained in Title 24 of the California Code of Regulations and adopted by that agency designate the building regulations which shall apply to an essential services building. The term “essential services building” shall include all buildings, structures, appurtenances and related systems or facilities as defined in Section 4-207.

These rules and regulations establish reasonable standards and minimum requirements for the design and construction of an essential services building. An essential services building shall also be designed and constructed to conform to the regulations adopted by the California State Fire Marshal in Title 24, CCR, for the particular occupancy concerned.

When the enforcement agency is a local agency, the locally adopted editions of the model codes and the administrative regulations contained in Part 1 (Sections 4-201 through 4-222 and 4-243 through 4-249) Title 24, California Code of Regulations (CCR) designate the building regulations which shall apply to an essential services building. The term “essential services building” shall include all buildings, structures, appurtenances and related systems or facilities as defined in Section 4-207.

If the building standards and regulations adopted by the city, city and county or county agency responsible for building safety are more restrictive than those adopted in the applicable sections of Title 24, CCR, then the local building standards and regulations shall govern within its jurisdiction.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16001.

4-203. Interpretation. No regulation shall be construed to deprive the enforcing agency of its right to exercise the powers conferred upon it by law or limit the enforcing agency in such enforcement as is necessary to secure the safety of construction as required in the Essential Services Seismic Safety Act (see “Act,” Section 4-207.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16001.

4-204. Delegation of authority. Any powers, duties and responsibilities pursuant to carrying out the provisions of the Essential Services Buildings Seismic Safety Act for the State Architect may be delegated by the State Architect to the Chief Structural Engineer, Division of the State Architect, subject to the direction of the State Architect.

Those powers, duties and responsibilities so delegated may include the observation of the implementation and administration of the Act, the adoption in consultation with local jurisdictions of the regulations necessary for carrying out the provisions of the Act, providing advice and assistance to local jurisdictions in matters concerning the Act or these regulations and acting as an appeals agency relative to the administration of the Act.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16022.

4-205. Application of building standards. Building standards are set forth in Parts 2, 3, 4, 5, 6, 7 and 12 of Title 24, CCR, and have been adopted as a basis for the approval of plans and specifications. These regulations shall not be construed to prevent the use of higher design standards nor to restrict the use of new or innovative design or construction techniques.

Where the designer desires to use innovative design or construction techniques not addressed in these regulations, it shall be necessary to submit for review and approval information including computations, test data and recommendations covering the design in question. The Division of the State Architect or local enforcement agency must be satisfied that the degree of safety achieved is equivalent to that achieved by the standards contained in Title 24, CCR. The enforcement agency review and approval of the innovative design or construction techniques shall precede the submission of plans and specifications utilizing these techniques.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16001.

4-206. Approval of new essential services buildings. Plans and specifications shall be submitted to the appropriate enforcement agency for every new owned or leased essential services building before the plans are adopted by the governing board, authority, owner, corporation or other agency proposing to construct any essential services building.

Before any agency may convert an existing building into an essential services building, that agency shall submit plans and

specifications for the alteration of the building to the appropriate enforcement agency for approval. The plans shall provide for the alterations necessary for compliance with the requirements of these rules and regulations.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Section 16011.

4-207. Definitions. The words defined in this section shall have the meaning stated therein throughout the rules and regulations contained in Part I (Administrative), Title 24, CCR.

ACT shall mean the Essential Services Buildings Seismic Safety Act of 1986, Sections 16000-16023, inclusive, of the Health and Safety Code.

ADDITION shall mean an increase in floor area or volume of enclosed space which is physically attached to an existing building by connections which are required for transmitting vertical or horizontal loads between the addition and the existing structure. The area exemption in Section 16010 of the Act does not apply to additions to essential services buildings when the total area of the existing building and the addition exceeds 2,000 square feet. An "addition" which is not required to be physically attached either for its own support or for support of the existing building shall be separated as required by Part 2, Title 24, CCR, and shall be deemed to be the construction of a new essential services building.

ALTERATION shall mean changes within an existing building as defined in Part 2, Title 24, CCR. Alterations to existing essential services buildings shall conform to the requirements of Title 24, CCR. Major alterations will be permitted, provided the entire essential services building as modified, including the structural alterations or additions, conform to the requirements of Title 24, CCR, if the area of the existing building, including additions, exceeds 2,000 square feet.

APPROVED PLANS AND SPECIFICATIONS shall mean plans, specifications, addenda and change orders which have been duly approved by the appropriate enforcement agency pursuant to Sections 16013 and 16016 of the Health and Safety Code and which are identified by a stamp bearing the name of the enforcement agency, the identification number, the date and the signature of the qualified reviewer as required in Section 16011 of the Act.

COMPLYING BUILDING shall mean a building which has been constructed or reconstructed in accordance with these rules and regulations.

DIVISION OF THE STATE ARCHITECT, or **DIVISION** or the initials **DSA** shall mean the Division of the State Architect in the Department of General Services, State of California.

ENFORCEMENT AGENCY shall mean the Division of the State Architect for state-owned or state-leased buildings and shall mean the enforcement agency of any city, county or city and county having jurisdiction over locally owned or locally leased essential services facilities.

ESSENTIAL SERVICES BUILDING means any building, or any building a portion of which is used or designed to be used as a fire station, police station, emergency operations center, California Highway Patrol office, sheriff's office or emergency communication dispatch center.

EQUIPMENT shall mean all new or replacement equipment installed in any new or existing owned or leased building which is required for the functioning of the essential services operation. The installation of such equipment shall meet the support, bracing and anchorage requirements of Title 24, CCR. The area exemption in Section 16010 of the Act does not apply to the anchorage or bracing of equipment necessary to the operation of the essential services function.

FIRE STATION shall mean any building that contains the operational facilities, fire suppression, alarm and communications equipment necessary to respond to fire emergencies.

MAINTENANCE shall mean and include ordinary upkeep or repair work such as replacement in kind, repainting, replastering and reroofing.

NEW ESSENTIAL SERVICES BUILDING shall mean any newly erected essential services building or any existing building converted to essential services use subsequent to the effective date of the Act regardless of whether the building is owned or leased by the public agency. Existing buildings housing essential services facilities owned or leased by the state, a city, a city and county or a county prior to the effective date of the Act are exempt from these regulations except for the installation of new or replacement equipment. When a portion of a building is to be utilized for an essential services operation, the area so utilized and the utilities systems and components servicing the area shall be constructed according to these rules and regulations and shall be separated or protected from damage due to failures of other portions of the structure to the extent determined by the enforcement agency to insure continued functioning after an earthquake or other disaster. Ancillary buildings and facilities related to the essential services building function may be exempt from these regulations if the enforcement agency determines that such buildings and facilities are not necessary to the functioning of the essential services operation after an earthquake or other disaster.

NONSTRUCTURAL ALTERATIONS shall mean only such alterations which do not affect the safety of the essential services building and do not change, in any manner, its structural elements.

OWNER for the purposes of these regulations shall mean the public agency responsible for the essential services functions performed under its authority within an essential services building. The owner is responsible for applying for and obtaining the approvals and certifications required by these regulations.

PLANS as used in these regulations shall mean the drawings associated with the project such as, but not limited to, vicinity maps, site plans, foundation plans, floor plans, ceiling plans, roof plans, cross-sections, interior elevations, exterior elevations and details which are used in conjunction with the project specifications and which are necessary to accomplish construction in conformance with the requirements of the Act.

POLICE STATION shall mean any building that contains the operational facilities and the alarm and communications equipment necessary to respond to police emergencies. This definition shall include the offices of local police departments, county sheriffs, California Highway Patrol and all offices nec-

essary to the functioning of the essential services operation after an earthquake or other disaster.

PROJECT INSPECTOR shall mean any individual duly approved by the enforcement agency as the on-site inspector for a particular project. The project inspector shall be employed and paid by the owner and shall act under the general direction of the architect or registered engineer in general responsible charge of the project and under the supervision of the enforcement agency. The project inspector shall be responsible for inspecting all work included in the construction contract, except for work that must be inspected by an approved special inspector. (See Section 4-211 (c) for special inspection.)

RECONSTRUCTION is the repair of damage to an existing complying essential services building or an alteration of an existing noncomplying building to bring it into conformance with the safety standards established by these regulations for essential services buildings.

REGISTERED ENGINEER as used in these regulations shall mean a structural engineer, civil engineer, mechanical engineer or electrical engineer holding a valid certificate under Chapter 7, Division 3, of the *California Business and Professions Code*.

SPECIFICATIONS as used in these regulations shall mean the written document which is used in conjunction with the project plans to establish the job conditions, the quality and quantity of construction materials used in the project and the quality of workmanship required to accomplish the construction in conformance with the provisions of the Act.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Sections 16003, 16011, 16018 and 16019.

4-208. Application for approval of drawings and specifications.

(a) Before adopting plans and specifications, the agency responsible for the essential services function shall submit an application to the appropriate enforcing agency for written approval of said plans and specifications except where the new construction is a Type V or Type II-N one-story structure which contains 2000 square feet or less of floor area and is not located in a special studies zone as defined in Section 2622 of the Public Resources Code.

(b) An architect, structural engineer or civil engineer may act as the agent for the essential services agency when filing the application for approval of plans and specifications.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Sections 16010, 16011 and 16015.

4-209. Designation of responsibilities.

(a) **General responsible charge.** For every essential services building project there shall be an architect, structural engineer or civil engineer in general responsible charge of plans, specifications and observation of construction, except that plans, specifications and observation of construction may be under the responsible charge of a registered mechanical or electrical engineer for work involving only those respective branches of engineering. A project may be divided into parts, provided that each part is clearly defined by a building or similar distinct unit. The part, so defined, shall include all portions

and utility systems or facilities necessary to the complete functioning of that part. Separate assignments of general responsible charge may be made for the parts.

(b) **Delegation of responsibility.** The architect, structural engineer or civil engineer in general responsible charge may delegate responsibility for any portion of the work to, or may employ, or retain other architects, structural engineers or civil engineers. Registered mechanical and electrical engineers may be delegated responsibility for the mechanical and electrical portions of the work, respectively.

(c) **Evidence of responsibility.** The stamp and signature of the architect or registered engineer on a plan, specification or other document shall be deemed evidence that full responsibility is assumed by the signator for the work shown thereon, including also those portions of the accompanying computations, specifications or plans which pertain to such work.

(d) **Alternates.** The applicant, or the architect or registered engineer having general or delegated responsibility, may name one or more persons to act as alternate(s) for the design and/or observations of the work of construction, provided such persons are architects or registered engineers who themselves are qualified under these regulations to assume the responsibility assigned.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Sections 16011, 16012 and 16015.

4-210. Plans, specifications, computations and other data.

(a) **General.** When an application is filed, it shall be accompanied by the required number of complete sets of the plans and specifications, the complete structural design calculations, site data and a fee as established by the enforcement agency.

(b) **Plans.** Plans shall show the use or occupancy of all parts of the essential services buildings and shall give such other information as may be required to indicate the nature of the work proposed and to show compliance with the act and these regulations. The drawings shall be legible and sufficiently detailed and cross-referenced to show clearly the pertinent features of the construction, and shall have sufficient dimensions to be readily interpreted. Where a project includes several buildings, the plans for each shall be drawn independently except that details common to all need not be repeated. Submitted plans and specifications, which are obviously incomplete or incorrect, shall be returned to the architect or registered engineer in general responsible charge with a request for compliance with these regulations before checking is begun or resumed by the enforcement agency.

(c) **Specifications.** Specifications shall completely set forth the requirements for the various types of materials that will enter into the permanent construction and shall describe the methods not covered in the technical regulations which are to be used to obtain the required quality of the work shown on the plans and described in the specifications.

(d) **Design computations.** Computations, stress diagrams and other pertinent data shall accompany the plans and specifications and shall be sufficiently complete so that calculations for individual structural members can be readily interpreted. The computations shall be prefaced by a statement clearly and concisely outlining the basis for the structural design and indi-

cating the manner in which the proposed essential services building will resist vertical loads and horizontal forces. The computations shall be sufficiently complete to establish that the structure will resist the loads and forces prescribed in Part 2, Title 24, CCR. Assumed safe bearing pressures on soils and specified strengths of concrete shall be given in the computations and noted on the plans. Where unusual conditions occur, such additional data as are pertinent to the work shall be submitted.

(e) **Site data.** Site data for all essential services buildings covered by these regulations shall include a soil investigation report providing information on subsurface site work and laboratory testing, an evaluation of site soil conditions, a recommendation for the type of foundation to be used and an allowable design value for the soil bearing capacity. For all essential services building sites not exempted from the provisions of the act, a geologic and earthquake hazard report including an evaluation of both known and potentially active local and regional fault systems, slope stability, liquefaction potential and other hazards shall be prepared by competent persons and submitted with the application, plans and specifications. All or parts of the geologic and earthquake hazard investigation and report may be waived by the enforcement agency when in the judgment of the enforcement agency those requirements are unnecessary and would not be beneficial to public safety.

(f) **Signatures required.** All plans and specifications submitted for approval shall bear the stamp and signature of the architect or professional engineer in general responsible charge of design. When responsibility for a portion of the work has been delegated, the plans and specifications covering that portion of design shall also bear the stamp and signature of the responsible registered engineer or architect.

Authority: Health and Safety Code Section 16022.

Reference: Health and Safety Code Sections 16009, 16011, 16012, 16013 and 16014.

4-211. Observation and inspection of construction.

(a) **Observation by architect or registered engineer.** The Act provides that the observation of the work of construction, reconstruction, alteration or addition shall be under the general responsible charge of an architect, structural engineer, civil engineer or, under certain conditions, a registered mechanical or electrical engineer for work involving only those respective branches of engineering. A geotechnical engineer shall provide the observation for placement of fills and shall submit a verified report attesting to the compliance of the engineered fill.

(b) **Inspection by project inspector.** The owner must provide for and require competent, adequate and continuous inspection of all construction work by a project inspector approved for each individual project by the enforcement agency. The project inspector so approved shall cooperate with the architect or registered engineer in general responsible charge of the observation of the work of construction to ensure compliance with the approved drawings and specifications. The project inspector shall request interpretations and clarifications of the approved contract drawings and specifications when necessary from the responsible architect or registered engineer.

For every project there shall be a project inspector who shall have personal knowledge as defined in Section 16021 of the Health and Safety Code of all work done on the project or its parts. On large projects adequate inspection may require the employment of one or more approved assistant inspectors. The employment of special inspectors or assistant inspectors shall not be construed as relieving the project inspector of his/her duties and responsibilities under Sections 4-214 and 4-219 of these regulations. The project inspector shall, under the direction of the architect or engineer, be responsible for monitoring the work of the special inspectors and testing laboratories to ensure that the special inspection and testing program is satisfactorily completed.

No work shall be carried out except under the inspection of the project inspector approved by the enforcement agency. The project inspector shall have had at least three years equivalent experience in construction work of a type similar to that for which he/she is proposed as inspector, shall have a thorough knowledge of building materials, and shall be able to read and interpret plans and specifications.

The cost of project inspection shall be paid for by the owner (see "Project Inspector" definition in Section 4-207).

(c) **Special inspection.** Special inspection by inspectors specially approved by the enforcement agency may be required for masonry construction, glued laminated lumber fabrication, wood framing using timber connectors, concrete batching, shotcrete, prestressed concrete, structural steel fabrication, high-strength steel bolt installations, welding, pile driving, electrical work or mechanical work. The cost of all special inspectors required by this section shall be paid for by the owner.

The project inspector may perform special inspections if the project inspector has been specially approved for such purposes and has the time available to complete the special inspections in addition to project inspection work.

The detailed inspection of all work covered by this section is the responsibility of the project inspector when special inspection is not provided. The enforcement agency may require special inspection for shop fabrication procedures that preclude the complete inspection of the work after assembly. The enforcement agency may require special inspection at the site in addition to those listed above if found necessary because of the special use of material or methods of construction.

Approved special inspectors shall submit verified reports as required by Section 4-214, for the special work covered. Special inspectors shall periodically submit reports of inspections to the enforcement agency, the architect, the registered engineer responsible for the observation of structural work and the project inspector. Construction work that the special inspector finds not to be in compliance with the approved plans and specifications, and which is not immediately corrected upon notifying the contractor, shall be reported immediately to the project inspector, the enforcement agency, the architect and the registered engineer responsible for observation of the structural work.

Authority: Health and Safety Code Sections 16017 and 16022.

Reference: Health and Safety Code Sections 16015, 16017, 16020 and 16021.

unused portion of the retainer fees shall be returned to the owner.

Authority: Education Code Sections 17310.

Reference: Education Code Sections 17280.5.

HISTORY:

1. (DSA/SS (EF 02/03) Emergency adoption/approval of administrative and procedural requirements for the adaptive reuse of existing buildings for public school use; CCR Title 24, Part 1. Approved as emergency by the California Building Standards Commission on May 14, 2003, and filed with the Secretary of State on May 15, 2003. Effective May 15, 2003.

ARTICLE 5 CERTIFICATION OF CONSTRUCTION

4-330. Time of beginning construction and partial construction. Construction work, whether for a new school building, reconstruction, rehabilitation, alteration or addition, shall not be commenced, and no contract shall be let until the school board has applied for and obtained from DSA written approval of plans and specifications. Construction shall be commenced within one year after the approval of the application, otherwise the approval may be voided. DSA may require that the plans and specifications be revised to meet its current regulations before a renewal of the voided approval is granted.

Renewal shall not be granted after a period of four years beyond the initial date of the application approval, except for projects suspended pursuant to the Department of Finance Budget Letter No. 08-33 dated December 18, 2008 (Interim Loans for General Obligation and Lease Revenue Bond Projects), which are eligible for extension of approval beyond four years from the initial date of the application approval.

A written request for extension of approval must be made by the school board to DSA and shall include evidence that the project suspension is pursuant to the Department of Finance Budget Letter No. 08-33 dated December 18, 2008. This extension of approval shall be granted by DSA for up to one additional year, not to exceed five years from the initial date of the application approval.

The school board may complete all work or proceed with the construction of any part of the work included in the approved plans and specifications with the intent of completing the work later. All work done and materials used and installed must be in accordance with and in conformity to the approved plans and specifications.

An uncompleted building shall not be considered as having been constructed under the provisions of Article 3 or 7 commencing with Sections 17280 and 81130 of the Education Code, respectively. Section 17372 of the Education Code restricts the use of such a building.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17280, 17372 and 81130.

4-331. Notice to DSA at start of construction. The architect or registered engineer responsible for the project shall submit the following documents to DSA within five days of awarding a contract for construction:

- (a) Form DSA-102: Contact Information Form, and
- (b) Form DSA-5: Project Inspector Qualification Record [see Section 4-341(d)].

DSA forms are available at any DSA regional office, or on the internet at www.dgs.ca.gov/dsa.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17280, 17295, 81130 and 81133.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-331, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-332. Notice of suspension of construction.

(a) When construction is suspended for more than two weeks, the project inspector shall notify DSA [see Section 4-336(c)4].

(b) If all construction is suspended or abandoned for any reason for a continuous period of one year following its commencement, the approval of DSA shall become void. DSA may reinstate the approval on the request of the school board.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17310 and 81142.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-332, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-333. Observation and inspection of construction.

(a) **Observation by architect or registered engineer.** The Act requires that the observation of the work of construction, reconstruction, rehabilitation, alteration or addition shall be under the general responsible charge of an architect, structural engineer, or under certain conditions a professional engineer registered in that branch of engineering applicable to the work. (See Section 4-316.)

A geotechnical engineer, or his or her qualified representative shall perform special inspection of the placement and compaction of fills. The geotechnical engineer shall submit verified reports in accordance with Section 4-336 and Title 24, Part 2, Section 1704A.7.1.

(b) **Inspection by project inspector.** The school board must provide for and require competent, adequate and continuous inspection by an inspector satisfactory to the architect or registered engineer in general responsible charge of observation of the work of construction, to any architect or registered engineer delegated responsibility for a portion of the work, and to DSA.

1. The cost of project inspection shall be paid for by the school board. An inspector shall not have any current employment relationship with any entity that is a contracting party for the construction.
2. Inspectors are prohibited from any activities involving the actual performance of construction, or the scheduling, coordination or supervision of construction contractors for the project.
3. For every project there shall be a project inspector who shall have personal knowledge as defined in Sections 17309 and 81141 of the Education Code of all work done on the project or its parts as defined in Section 4-316. No work shall be carried on except under the inspection of an inspector approved by DSA. On large

projects adequate inspection may require the employment of one or more approved assistant inspectors in accordance with Section 4-333(e). The employment of special inspectors or assistant inspectors shall not be construed as relieving the project inspector of his or her duties and responsibilities under Sections 17309 and 81141 of the Education Code and Sections 4-336 and 4-342 of these regulations.

4. The inspector shall be capable of performing all essential functions of the job.
5. The project inspector and any assistant inspector must be approved by DSA for each individual project. An inspector shall not be less than 25 years of age. Prior to being eligible for approval, any project inspector or any assistant inspector shall establish, to the satisfaction of DSA that he or she:
 - A. is appropriately certified by DSA per Section 4-333(c).
 - B. has adequate knowledge and experience to perform the required duties for the project. He or she shall have at least three years experience in inspection or construction work on building projects of a type similar to the project, and
 - C. will provide sufficient time on the project to fulfill all inspection responsibilities required by this code.
6. An approved project inspector may be removed and replaced if the work performed is not in conformance with accepted inspection standards, as determined by the school district and the project architect and engineer with the concurrence of DSA. An approved project inspector may also be removed by DSA if the inspection work performed is not in conformance with accepted standards; see Section 4-342.

(c) **Project inspector certification.** An inspector becomes DSA-certified by successfully completing a written examination administered by DSA. The examination measures the applicant's ability to read and comprehend construction plans as well as the construction, inspection and testing requirements of the *California Building Standards Code*. Examinations are given in four classes.

1. A Class 1 certified inspector may be approved to inspect any project.
2. A Class 2 certified inspector may be approved to inspect any project, except a project containing one or more new, large structures or additions with a primary lateral force resisting system of steel, masonry or concrete.
3. A Class 3 certified inspector may be approved to inspect projects containing alterations to approved buildings, site placement of relocatable buildings and construction of minor structures.
4. A Class 4 certified inspector may be approved to inspect projects containing site placement of relocatable buildings and associated site work.

DSA may charge an examination fee to recover reasonable fees and costs.

An applicant for the certification examination or an inspector possessing a valid certificate issued by the Office, shall file

name, mailing address or telephone number changes with the DSA headquarters office within 10 working days of that change. The information filed shall include the new and former name, mailing address or telephone number.

Certification will be valid for a period of four years unless revoked in accordance with Section 3-342(c) or upgraded by achieving certification in a broader class. Certification may be renewed by attending DSA training classes and passing a recertification examination.

(d) **Special inspection.**

1. Special inspection by inspectors specially approved by DSA may be required on certain types of construction work as described in Title 24, Part 2, Chapter 17A.
2. DSA may require special inspectors for types of construction in addition to those listed in Chapter 17A of Title 24, Part 2 if found necessary because of the special use of materials or methods of construction.
3. DSA may require special inspectors for any off-site fabrication procedures that preclude the complete inspection of the work after assembly.
4. Special inspectors shall be in the direct employ of the school district or a testing facility acceptable to DSA (See Section 4-335).
5. Special inspectors may be required to be approved by DSA for each individual project prior to performing inspections. Application for approval of a special inspector shall be made on an Inspector's Qualification Form (Form DSA-5) and submitted to DSA for review.
6. A special inspector shall not be less than 25 years of age, shall have had at least three years experience in construction work or inspection responsibilities on one or more projects similar to the project for which the inspector is applying, shall have a thorough knowledge of the building materials of his or her specialty, and shall be able to read and interpret plans and specifications. DSA may require evidence of the proposed inspector's knowledge and experience by successful completion of a written and/or oral examination by the applicant before approval is granted. DSA may charge a fee to administer such examinations. DSA will maintain a list of special inspectors who have successfully completed an examination by DSA, and continued eligibility to remain on that list will be dependent on demonstrated acceptable performance of duties assigned and/or attendance at continuing education classes.
7. The project inspector may perform special inspections if the project inspector has been specially approved by DSA for such purpose and has the time available to complete the special inspections in addition to project inspection work.
8. The detailed inspection of all work covered by this section is the responsibility of the project inspector when a special inspector is not provided (see Section 4-342).
9. Where responsibility for observation of construction for mechanical work and electrical work is not delegated to professional engineers registered in these particular branches of engineering [see Section 4-316(b)],

special mechanical and electrical inspection shall be provided.

10. Construction work that the special inspector finds not to be in compliance with the DSA approved plans and specifications, and which is not immediately corrected upon notifying the contractor, shall be reported immediately to the project inspector, DSA, the architect, the structural engineer and the school district.
11. Special inspectors shall submit reports within 14 days of the date of the inspection to the school district, DSA, the design professional in general responsible charge, the structural engineer delegated responsibility for design and construction observation of structural portions of the project (when such delegation has been made) and the project inspector. Reports of special inspections performed on-site shall be submitted to the project inspector on the day the inspections were performed. Reports shall include all special inspections made regardless of whether such inspections indicate that the work is satisfactory or unsatisfactory.
12. Special inspection reports shall include a description of all sampling of materials performed and/or witnessed. Reports shall clearly state whether the work was inspected in accordance with the requirements of the DSA approved documents for the project. Reports shall also clearly state whether the work inspected met the requirements of the DSA approved documents.
13. All special inspectors shall submit verified reports as required by Section 4-336 for the special work covered.
14. The costs of all special inspection required by this subsection shall be paid for by the school board, but if so specified in the contract documents the amount paid may be collected from the contractor by the school board.
15. The acceptance or approval of special inspectors may be withdrawn by DSA if the special inspector fails to comply with any part of this code or the standards referenced on the approved plans and specifications.

(e) **Assistant Inspectors.** Assistant inspectors are approved by DSA to assist the project inspectors with the inspection of one or more aspects of the construction. Assistant inspectors must work under the supervision of a Class 1 certified project inspector.

1. On large projects DSA may require the employment of assistant inspectors when the project inspector is not able to provide continuous inspection of all aspects of the construction in a timely manner. When assistant inspectors are required by DSA the project inspector shall remain on-site providing supervision of all assistants during all construction.
2. All assistant inspectors must be approved by DSA prior to performing any inspection work in accordance with Section 4-341(d). Prior to being approved by DSA as an assistant inspector the individual must satisfy all of the following requirements:
 - A. Be certified as a Class 1, Class 2, Class 3 or Class 4 inspector in accordance with Section 4-333(c).

- B. Define the type(s) of construction that the assistant will be assigned to inspect,
- C. Document at least three years of experience in the types of construction that the assistant will inspect. Experience must be obtained in construction or inspection of buildings similar to the buildings for which the individual is applying,
3. The assistant inspector shall establish, to the satisfaction of DSA that he or she meets all of the requirements established in Section 4-333(b)5.
4. Failure of the assistant inspector to perform any of the duties specified in this code may be cause for DSA to take action as outlined in Section 4-342(c).

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17280, 17309, 17311, 81130, 81139, 31141 and 81143.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-333, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.
2. (DSA/SS 2/95) Regular order by the Division of the State Architect/Structural Safety Section to amend Section 4-333. Filed with the Secretary of State on August 14, 1996, becomes effective September 13, 1996. Approved by the California Building Standards Commission on March 19, 1996.

4-334. Supervision by the Division of the State Architect.

During construction, reconstruction, rehabilitation, repair, alteration of, or addition to any school building, DSA, as provided by the Act, shall make such site visits as in its judgment are necessary for proper enforcement of the Act and the protection of the safety of the pupils, the teachers and the public. If at any time as the work progresses, prior to the issuance of the certification of compliance it is found that modifications or changes are necessary to secure safety or to comply with code requirements, DSA shall notify the responsible architect, or responsible structural engineer and school district, of the necessity for such modifications or changes.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17311 and 81143.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-334, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-334.1. Stop work order.

(a) Whenever DSA finds any construction work being performed in a manner contrary to the provisions of this code and that would compromise the structural integrity of the building, the Department of General Services, State of California, is authorized to issue a stop work order.

(b) The stop work order shall be in writing and shall be given to the owner of the property involved, or the owner's agent, or the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

(c) Any person who continues working on the cited work after having been served with a stop work order, except such

work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17307.5 and 81133.5.

4-335. Tests.

(a) **General.** Tests of materials are required as set forth in these regulations. Whenever there is insufficient evidence of compliance with any of the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, DSA may require tests as proof of compliance to be made at no expense to DSA. Test methods shall be as specified by this code or by other recognized and accepted test standards. If there are no recognized and accepted test methods for the proposed alternate, the architect or engineer shall submit written test procedures for review and acceptance by DSA.

The school board shall, with the advice of the architect or structural engineer, select a testing facility acceptable to DSA to conduct all required tests for the project, and special inspections which are contracted to the testing facility. The testing facility shall be directly employed by the school board and not be in the employ of any other agency or individual.

All tests shall be made by a facility acceptable to DSA as described in Section 4-335(b). Where job conditions warrant, the architect or registered engineer may waive certain tests with the approval of DSA (see Section 4-338 for the process of obtaining DSA approval for changes to approved plans and specifications). A copy of the list of structural tests and inspections prepared by the responsible architect or structural engineer and acceptable to DSA shall be provided to the designated testing facility and the project inspector prior to the start of construction.

(b) **Acceptable testing facilities.** Facilities conducting any testing, sampling, protection, handling, transporting or storage of samples shall be accepted by DSA. A testing facility may apply for DSA acceptance by submitting Form DSA-100, Application for Acceptance of Testing/Inspection Facility, along with supporting documentation to DSA. To qualify for acceptance a testing facility shall:

1. Comply with the requirements of ASTM E 329-07.
2. Conduct all testing and inspection operations under the engineering management of a California registered civil engineer with at least five years of experience in the testing and inspection of building materials.
3. An acceptable testing facility shall have management, laboratory and field supervisory personnel with at least five years experience in the inspection and testing of the work and materials of construction.
4. An acceptable testing facility shall have adequate facilities, equipment, personnel expertise and technical references to permit the performance of special inspections and testing in compliance with applicable regulations and standards.

DSA will evaluate the testing facility to verify that requirements are met and that engineering managerial and supervisory

staff are familiar with Title 24 requirements pertinent to materials testing and special inspection.

A letter of acceptance by DSA shall be issued to the testing facility and shall state that the testing facility has demonstrated that it has met the criteria established by DSA for performance of the special inspection of work and testing of materials. Names of accepted testing facilities shall be posted on the DSA website.

(c) **Duration of testing facility acceptance.** Acceptance will remain valid for a period of four years unless approval is withdrawn for failure to comply with the requirements of this code including but not limited to:

1. making changes in management or supervisory personnel, equipment, facility location or other key factors without prior approval of DSA,
2. reporting that materials and/or workmanship meet the requirements of DSA approved documents when they do not,
3. failing to sample, handle and/or test materials as required,
4. providing special inspectors to a project that do not meet the qualification requirements,
5. failing to adequately supervise special inspectors assigned by the lab to the project, or
6. failing to comply with any of the other requirements of this code or the DSA approved documents for a project.

(d) **Fees for testing laboratory evaluation.** DSA may charge a fee to cover the costs of evaluating and re-evaluating the testing facility. DSA reserves the right to visit and observe testing facilities.

(e) **Performance of tests.** Test samples or specimens of material for testing shall be taken by a representative of the testing facility. The project inspector may, if qualified and other duties permit, be authorized in writing by DSA to sample test specimens. In general samples are selected at random; however, if there is reason to believe that specific materials may be defective, sample locations may be selected by the project inspector, architect, structural engineer or DSA representative. In no case shall the contractor or vendor select the sample or specimens.

Sampling, handling, transportation, preparation of samples and testing shall be in accordance with the standards as provided for in the approved plans, specifications and in the applicable building regulations.

Where a sample has failed to pass the required tests the architect or engineer, subject to the approval of DSA, may permit retest of the sampled material.

(f) **Payments.** The school board shall pay for all tests, but if so specified the amount or a portion thereof may be collected from the contractor by the school board. When in the opinion of the architect or registered engineer, additional tests are required because of the manner in which the contractor executes his or her work, such tests shall be paid for by the schoolboard, but if so specified the amount paid may be collected from the contractor by the school board. Examples of such tests are: tests of material substituted for previously accepted materials, retests made necessary by the failure of

the applicant, supplying such information as is available. DSA forms are available on the Internet at www.dgs.ca.gov/dsa, or at any of the DSA regional offices.

DSA is not authorized to prepare plans or make estimates of the cost necessary to make such repairs to the building or buildings as are necessary to meet structural safety standards. (See Sections 17367 and 81162 of the Education Code.)

(b) **Examination and report by school district's structural engineer.** The school district may retain a structural engineer, at the school district's expense, to examine and report on the structural condition of any school building of the district. The structural engineer shall consult with DSA for guidance as to the standard of safety to which the structural condition must measure. The structural engineer must report on whether or not each of the buildings examined is safe or unsafe for school use, and whether or not each of the buildings is substantially compliant with applicable code requirements as required of DSA under Section 4-345 (a) above.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17313 and 81145.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-345, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-346. Cost of examinations done by DSA. Upon completion of the examination by DSA and the submission of the report thereof to the school board, DSA shall submit a statement of the actual expense involved in the examination and preparation of report. Payment by the school board shall be made to DSA upon receipt of the statement of expense involved unless waived by DSA upon recommendation of the state superintendent of public instruction.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17313 and 81145.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-346, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

ARTICLE 8 DOCUMENTS AND RECORDS

4-350. Records. The records pertaining to the supervision of the construction of school buildings by ORS are public documents and are open to inspection during office hours. Documents shall not be taken from the custody of DSA except as required by law.

Examination reports prepared under the provisions of Sections 17313 and 81145 of the Act (See Section 4-345) are considered to be the property of the school board. Inquiries regarding examination reports shall be referred to the school board concerned.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17295, 17313, 11133 and 81145; and Health & Safety Code Sections 19850 through 19853.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-350, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-351. Location of records. A file of school building plans, specifications and documents for currently active school projects in each of four regions of the state is maintained in the respective DSA regional office: Oakland (Region I), Sacramento (Region II), Los Angeles (Region III) and San Diego (Region IV). Completed or closed project records including files, plans and specifications are stored in the State Records Center in Sacramento or in electronic format at the regional offices.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17295, 17299, 17309, 81133, 81135 and 81141.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-351, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

4-352. Submission of documents.

(a) **Application.** Applications for approval of plans and specifications shall be submitted to the DSA regional office serving the project location unless specific approval for submittal elsewhere is given by the state architect. Processing shall be completed by the receiving office but portions of the work may be reassigned.

(b) **Construction documents.** All documents such as notices (see Section 4-331), qualification records (see Sections 4-333 and 4-341), test reports (see Section 4-335), special inspection reports (see Section 4-333), verified reports (see Section 4-336), and semimonthly reports (see Section 4-337) shall be submitted to the appropriate DSA regional office according to location of project.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17295, 17299, 17309, 81133, 81135 and 81141.

HISTORY:

1. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-352, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

ARTICLE 9 STATE ADVISORY BOARD TO THE DIVISION OF THE STATE ARCHITECT FOR THE FIELD ACT

4-355. Advisory board.

(a) **General.** The State Architect may appoint an advisory board whose duty it is to serve in an advisory capacity to DSA in connection with technical or structural matters and with reference to regulations and requirements pertaining to the administration of the Act. This board shall also act as a board of review relating to enforcement of Title 24 for building projects under the jurisdiction of DSA.

(b) **Membership.** The board shall consist of 17 members appointed by the State Architect. Of the appointive members:

two shall be structural engineers; two shall be architects; one shall be a geotechnical engineer; one shall be a general contractor; one shall be a local building official; one shall be an electrical engineer; one shall be a mechanical engineer; two shall be school district personnel; one shall be a project inspector; one shall be a fire and panic safety representative; one shall represent the field of accessibility compliance; one shall represent community colleges personnel; and two shall be members of the general public.

Each member shall be appointed for a term of four years and shall hold office until the appointment and qualification of his or her successor or until one year has elapsed since the expiration of the term for which he or she was appointed, whichever first occurs. No person shall serve as a member of the board for more than two consecutive terms. The State Architect may remove any member of the board for neglect of duty or other just cause. All appointed board members may vote.

The State Architect may also appoint up to three additional ex officio members. State Architect-appointed ex officio members may continue to serve until appointment of their successors by the State Architect. Appointed ex officio members may vote.

Appointive members, except for the public members and the appointed ex officio members, shall be qualified by close connection with public school and state building design and construction. They shall be appointed from nominees recommended by the governing bodies of California-based professional organizations representing school districts, architects, engineers construction inspectors, construction managers, consultants and facility planners, contractors, building officials and fire and panic safety representatives.

There shall be eight state representative members of the board, who shall be: the State Architect; the State Geologist; the Executive Director of the California Seismic Safety Commission; the State Superintendent of Public Instruction; the Chancellor, California Community Colleges; the Director of the Office of Statewide Health Planning and Development; the Deputy Director of the Department of General Services, Real Estate Services Division; and, the State Fire Marshal; or their officially designated representatives. These members are not entitled to vote.

(c) **Meetings.** The board shall elect its own chairperson and vice chairperson and shall convene upon the call of the chairperson or the State Architect whenever it may be necessary in his or her judgment for the board to meet. The board shall adopt such rules of procedure as are necessary to enable it to perform the obligations delegated to it. The chairperson of the board shall at his or her discretion or upon instructions from the board designate subcommittees to study and report back to the board any technical subject or matter regarding which an independent review or further study is desired or regarding which appeal is made to the board from decisions or rulings of the office. The board members will be reimbursed from the fund defined in Sections 17301 and 81137 of the Act for their reasonable actual expenses in attending meetings, but shall receive no compensation for their services.

Authority: Education Code Sections 17310 and 81142.

Reference: Education Code Sections 17310 and 81142.

HISTORY:

1. Editorial renumbering of Article 5 to Article 9 to correct printing error (Register 83, No. 45).
2. (OSA/SS 1/92) Regular order by the Office of the State Architect/Structural Safety Section to amend Section 4-355, Part 1, Title 24, C.C.R. Filed with the Secretary of State on December 15, 1992; effective July 1, 1993. Approved by the California Building Standards Commission on December 9, 1992.

HISTORY NOTE APPENDIX FOR CHAPTER 4

Administrative Regulations for the Division of State Architect, Structural Safety (Title 24, Part 1, California Code of Regulations)

The format of the history notes has been changed to be consistent with the other parts of the *California Building Standards Code*. The history notes for prior changes remain within the text of this code.

1. (DSA-SS 1/02) Chapter 4, Section 4-309. Reconstruction or Alternation Projects in Excess of \$25,000 in Cost. Approved by the Building Standards Commission on May 14, 2003 and effective 180 days after publication.

2. (DSA-SS EF 02/03) Emergency adoption/approval of technical design and construction building standards for the adaptive reuse of existing building public school use: CCR, Title 24, Part 1. Approved by the California Building Standards Commission on May 14, 2003 and filed with Secretary of State on May 15, 2003. Effective May 15, 2003.

3. (DSA-SS EF 04/03) Emergency re-adoption/re-approval of technical design and construction building standards for the adaptive reuse of existing building public school use; CCR, Title 24, Part 1. Approved by the California Building Standards Commission on July 16, 2003 and filed with Secretary of State on September 10, 2003. Effective September 10, 2003.

4. (DSA-SS EF 04/03) Emergency re-adoption/re-approval of technical design and construction building standards for the adaptive reuse of existing building public school use; CCR, Title 24, Part 1. Approved as permanent by the California Building Standards Commission on January 7, 2004 and filed with the Secretary of State on January 8, 2004. Effective January 8, 2004.

5. (DSA-SS 03/06) Editorial amendments to administrative standards for public elementary and secondary schools and community colleges which correlate with DSA-SS adoption of the 2006 *International Building Code* into Part 2 of Title 24. Effective January 1, 2008.

6. (DSA-SS EF 01/09) Modification to project renewal timeframes. Approved by the commission January 22, 2009 and filed with the Secretary of State on January 26, 2009 with an effective date of January 26, 2009.

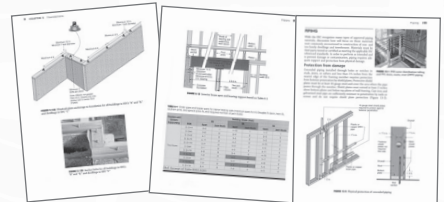
|| 7. Erratum to correct editorial errors in preface and Chapter 4.



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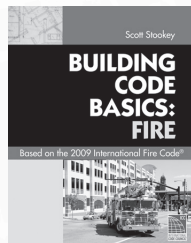
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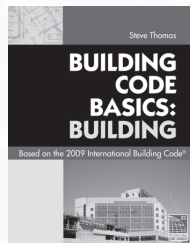


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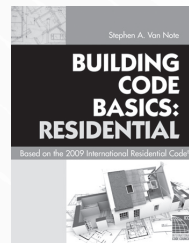


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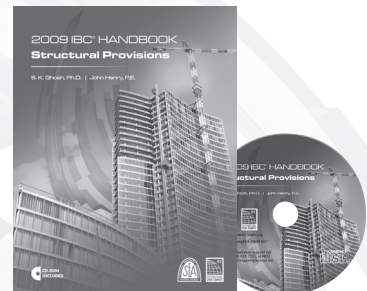
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