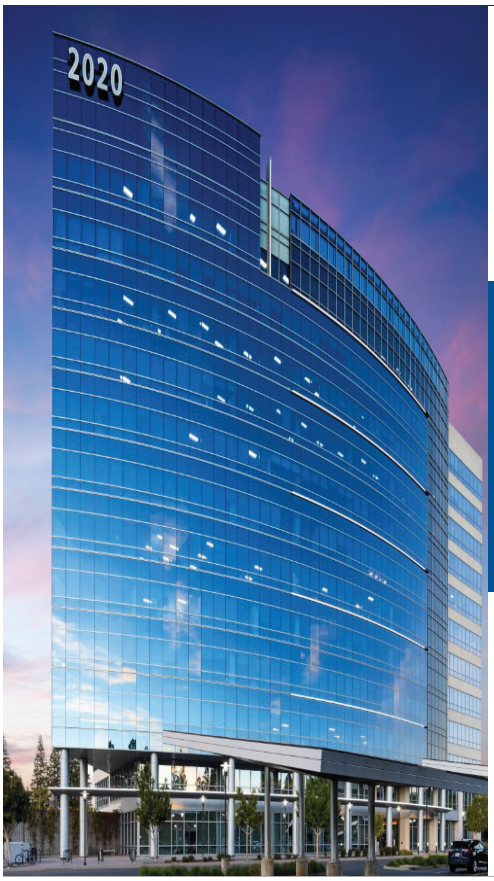
The Department of Health Care Access and Information and the Hospital Building Safety Board presents

California Hospital Projects A to Z . . .

Tips from the Experts



HCAi

Session 1: Introduction to OSHPD

Health Care Access and Information | Hospital Building Safety Board

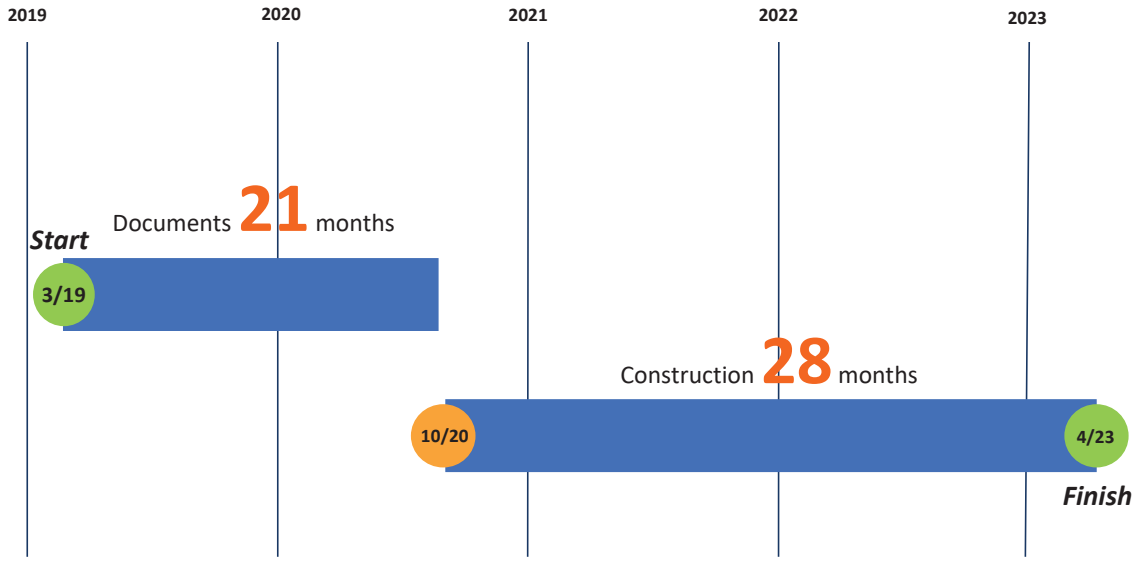
October 2023


IF YOU ARE WORKING ON SOMETHING EXCITING THAT YOU REALLY CARE ABOUT, YOU DON'T HAVE TO BE PUSHED. THE VISION PULLS YOU.
- STEVE JOBS -

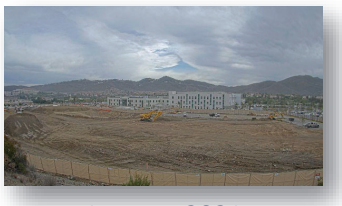

433,000 s.f.
206 Beds
KAISER PERMANENTE

Project Delivery Schedule

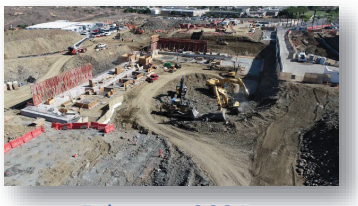
Overall Schedule 49 months



Construction Progress in Time



January 2021



February 2021

March 2021

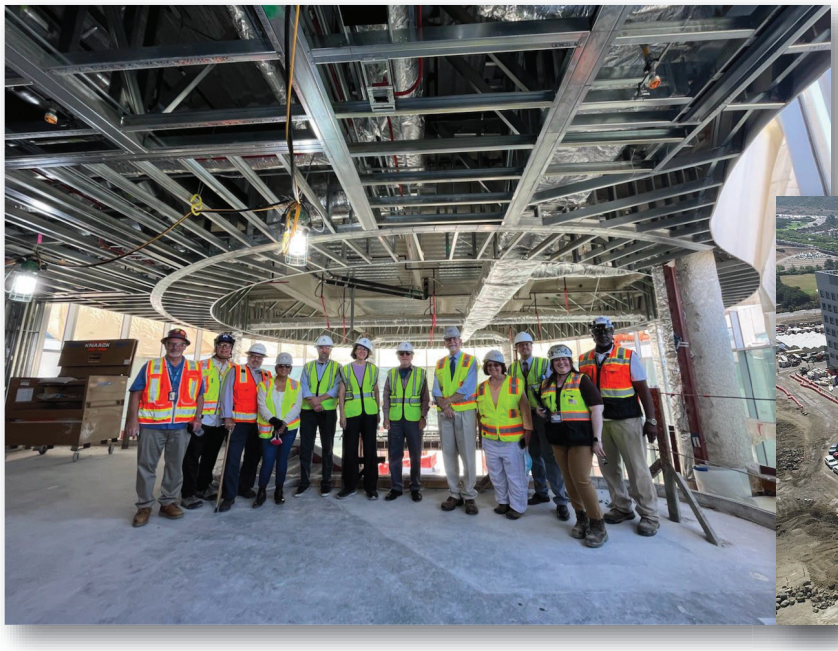
Earthwork to Envelope – 10 Months

May 2021

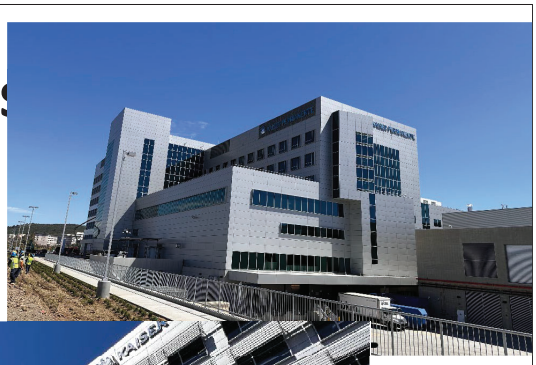
July 2021

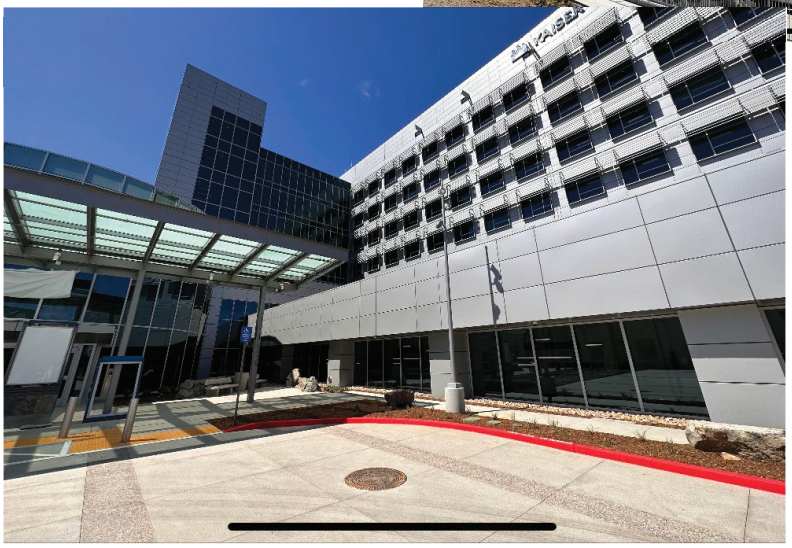
October 2021

HCAI Visit To Kaiser San Marcos
June 23, 2022



HCAI Visit To Kaiser San Marcos
March 22, 2023





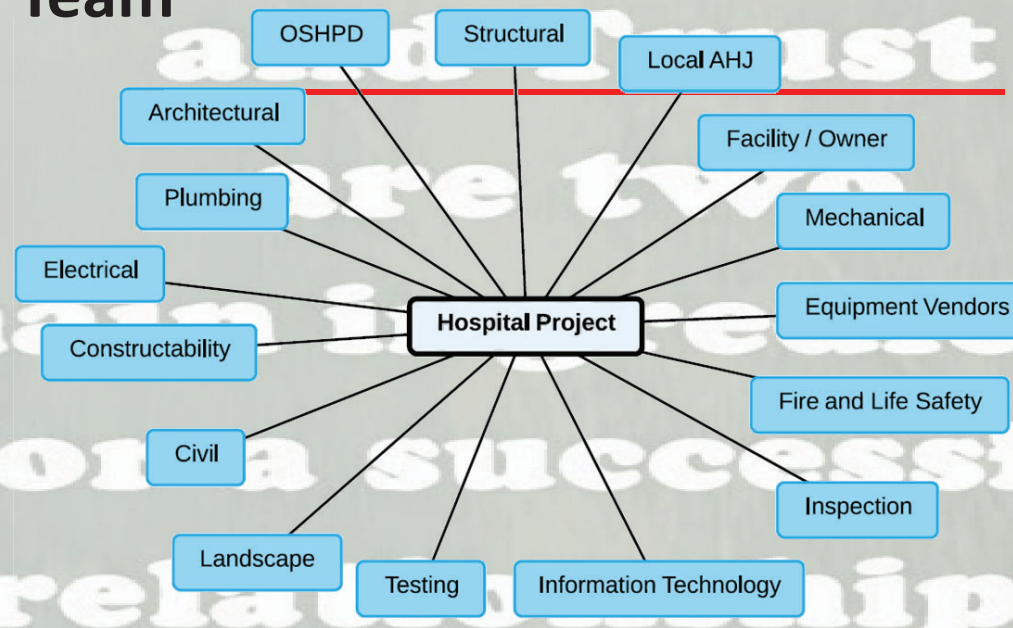
Hospital Building Safety Board

HCAI

Challenges & Obstacles

Obstacles Do Not Block the Path, They Are the Path

The Team



> Great things in business are never done by one person. They're done by a team of people.
> -Steve Jobs

The KAISER/HCAI/DPOR/Contractor Team

▪HCAI Plan Review – S. Region

- ▪Sup HFR/Deputy Division Chief
- ▪Senior Architect
- ▪Fire Life Safety Officer
- ▪Senior Structural
- ▪Senior Mechanical
- ▪Senior Electrical

▪HCAI Field Team

- ▪Regional Compliance Officer
- ▪Area Compliance Officer
- ▪Fire Life Safety Officer
- ▪District Structural Engineer

▪ Kaiser Permanente

- ▪ Executive Director
- ▪ Project Director
- ▪ Senior Project Manager
- ▪ Inspector of Record

▪ Construction

- ▪ Project Executive
- ▪ General Superintendent

▪ DPOR

- ▪ Principal In Charge
- ▪ Principal/PM– Lead DPOR

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- Project Executive
- General Superintendent

DPOR

- Principal In Charge
- Principal/PM– Lead DPOR

OWNER's Notes for a Successful Project Delivery

- All team members together from the start
- Study the approved documents and do NOT Deviate
- Check your ego at the door
- KP Templated Programs
- Understanding of goals by all, can we do it?
- Relationships – know your team
- Involvement is continuous by all
- Rowing in one direction

Chris Tokas, S.E., F.SEAOC, C.B.O

Deputy Director, HCAI/OSHPD

Richard Tannahill, Architect

Deputy Division Chief, HCAI/OSHPD

Mia Marvelli, Architect

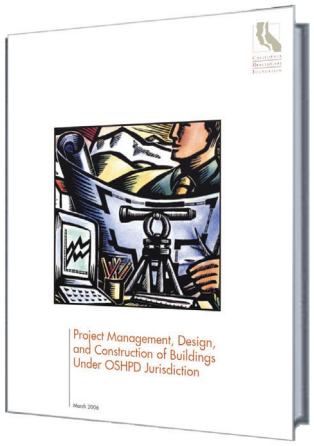
Supervisor, Building Standards Unit, HCAI/OSHPD

Agenda/Topics

- The History of the Guide
- HCAI/OSHPD W^5 - who, what, when, where, and why?
- Seven areas of OSHPD responsibility
- OSHPD's Quality of Service Survey
- CPR
- POTS and PANS
- eSP
- Q & A

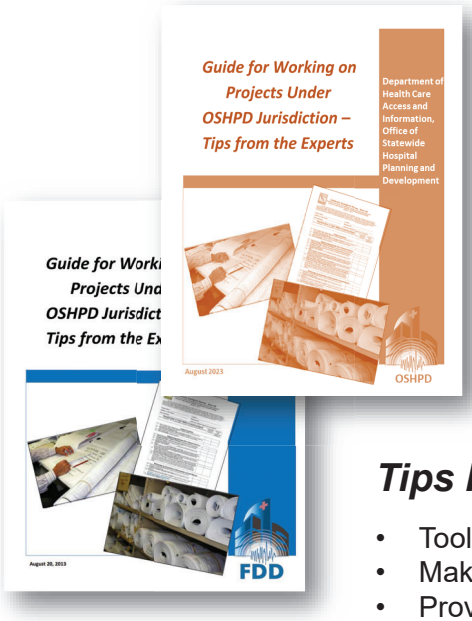
- Will not be line-by-line or paragraph-by paragraph review of the Guide
- Will provide additional ***Tips*** not found in the Guide

The History of the Guide



- aka “Best Practices Manual”
- CHA + CSHE + OSHPD
- Funded and published by the California Healthcare Foundation
- Task force – various disciplines from private and public sector
- Published on January **15, 2006**
- General guideline and reference tool

The History of the Guide



- California Healthcare Foundation turned ownership to OSHPD
- Condition – must be a public document available to the public at no cost: https://hcai.ca.gov/wp-content/uploads/2020/10/Guide-Working-on-Projects-OSHPD-Jurisdiction-Tips-from-Experts-1.pdf
- Product of Collaboration: HCAI/OSHPD & HBSB
- Current as of October 2023
- Still a general guideline and reference tool
- Looking Ahead or plans for the future: Update on a triennial basis

Tips From the Experts

- Tools
- Make things work
- Proven methods
- **Expert = someone who has performed a task or job successfully at least once**

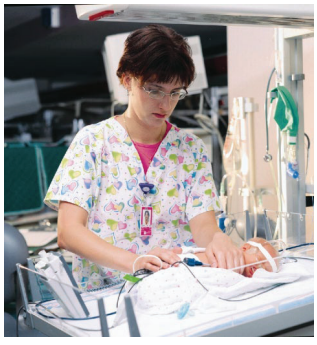
HCAi Department of Health Care Access and Information

Office of Statewide Hospital Planning & Development (OSHPD) is the Building Department for California's Hospitals

Hospital Building Safety Board

OSHPD's Purpose (Mission)

"Advancing a partnership with healthcare design professionals and providers, to build Safe, Sustainable, and Resilient facilities for all Californians that remain Functional through all disasters."



Hospital Building Safety Board

OSHPD's Jurisdiction/Funding

- 1,610 healthcare facilities
  - More than 5,200 buildings
  - 198,013 licensed beds
- Funding source: Fees paid by hospitals and SNFs for plan review and building permits of construction projects. Fees have not increased since January 23, 1992 (more than 31 years)
  - 1.64% of construction costs for hospitals
  - 1.5% of construction costs for SNFs
- 2 office locations to serve clients:
  - Sacramento, CA
  - Los Angeles, CA

6 Geographical Regions

Sacramento Office

- Central Region
- Coastal Region
- North Region

Los Angeles Office

- North Los Angeles Region
- South Los Angeles Region
- South Region

Why Have an HCAI/OSHPD?

1971 Sylmar Quake –
a “call to action“

Hospital Building Safety Board

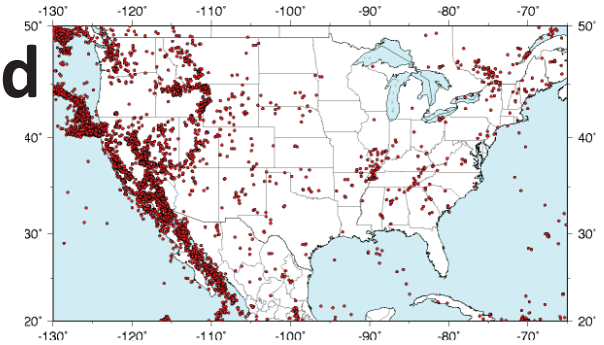
Why Have an HCAI/OSHPD?

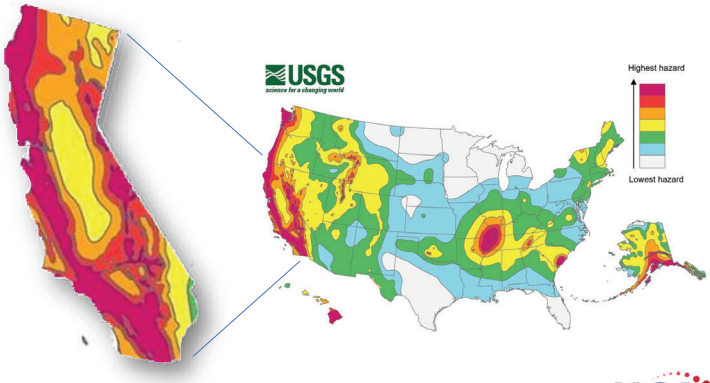
- The Earthquake demonstrated Deficiencies in:
  - Building Design Codes
  - Code enforcement process
    - Plan review
    - Construction inspection

Hospital Building Safety Board

Building on Shaky Ground

- California in total has higher seismic risk than most US states.
- All regions of the state are at risk for earthquakes.
- The most earthquake prone regions in the state are also the most heavily populated.



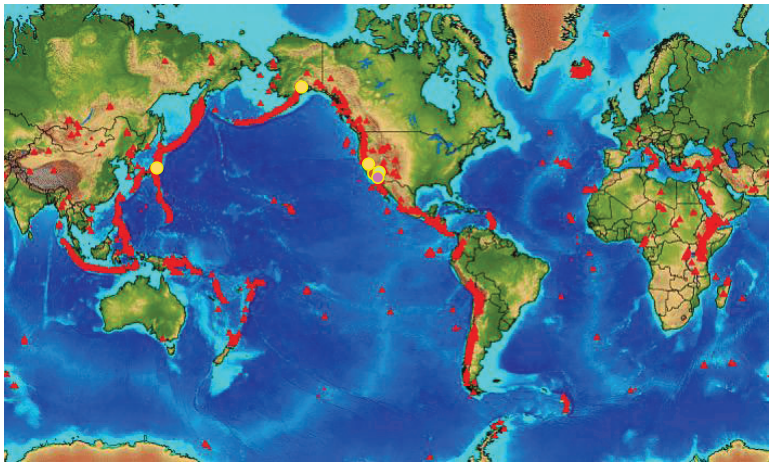


Hospital Building Safety Board

HCAi

Earthquakes as a Catalyst for Change

- Major advances in the Earthquake Engineering Art are associated with damaging earthquakes.
  - 1933 Long Beach
  - 1964 Alaska
  - 1971 San Fernando
  - 1989 Loma Prieta
  - 1994 Northridge
  - 1995 Kobe
  - . . .



Hospital Building Safety Board

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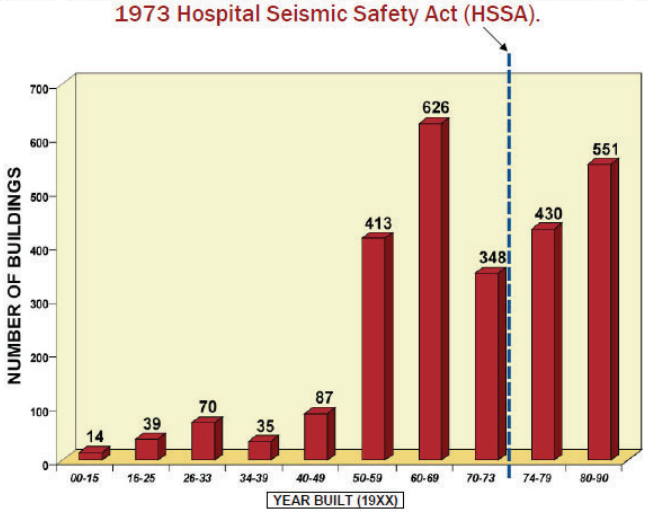
Why Have an HCAI/OSHPD?

Most of California's hospital buildings were constructed prior to the 1973 Hospital Seismic Safety Act (HSSA).



Results of the 1994 Northridge Earthquake On Hospital Buildings

Performance of all Buildings at 23 Hospital Sites with One or More Yellow or Red Tagged Buildings

	Number (%) of Buildings	
Type of Damage	Pre Act	Post Act
Structural Damage		
Red tagged	12 (24%)	0 (0%)
Yellow tagged	17 (33%)	1 (3%)
Green tagged	22 (43%)	30 (97%)
Nonstructural Damage		
Major	31 (61%)	7 (23%)
Minor	20 (39%)	24 (77%)
Total Buildings	51	31

Hospital Building Safety Board

Why is hospital safety important?

- Safety of patients and staff
- Evacuation of seriously ill patients can be fatal
- Patients may be exposed to additional risks due to the time needed to evacuate them
- Hospitals are needed to provide medical assistance to disaster victims
- Hospitals serve as a beacon of life and hope for a community following a catastrophic event
- Important to protect taxpayer, community, and investor dollars
- Replacing a hospital building after it is destroyed can take a decade or longer
- Prolonged earthquake recovery inhibits an area's long-term economic & social renewal, as well as its healthcare access

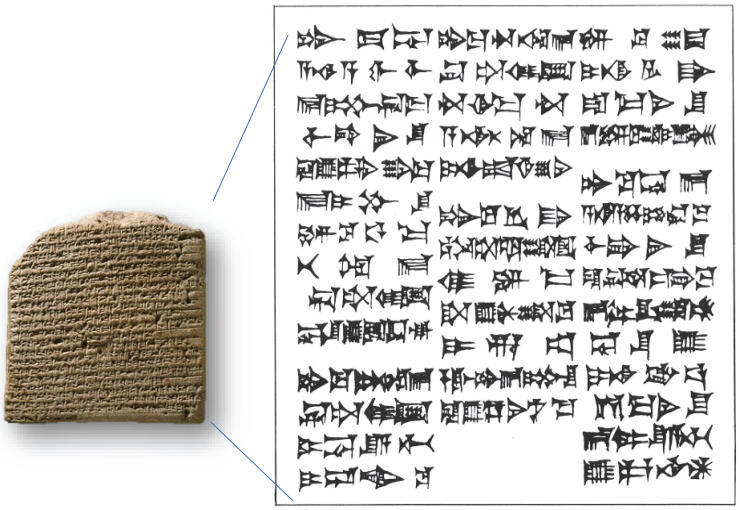
Hospital Building Safety Board

Seven Areas of OSHPD Responsibility

- **Develop Building Standards for hospitals, skilled nursing, clinics, and Correctional Treatment Centers**
- Plan review and approval of hospital and skilled nursing construction projects
- Building permit and construction observation of hospital and skilled nursing construction projects
- Hospital Seismic Retrofit Program (SB 1953)
- Hospital Building Safety Board (Advisory and Appeals Board)
- Emergency response after an earthquake or other disaster
- Research: earthquake engineering; new & advanced technologies; computer analyses

Hospital Building Safety Board

- While building codes have a long history what is generally accepted as the first published and enforceable building code was the Code of Hammurabi
- Early building codes were performance based



FROM THE CODE OF HAMMURABI (2200 B.C.)

If a builder builds a house for a man and does not make its construction firm and the house collapses and causes the death of the owner of the house — that builder shall be put to death. If it causes the death of a son of that owner — they shall put to death the son of that builder. If it causes the death of a slave of the owner — he shall give to the owner a slave of equal value.

If it destroys property — he shall restore whatever it destroyed and because he did not make the house firm he shall rebuild the house which collapsed at his own expense. If a builder builds a house and does not make its construction meet the requirements and a wall falls in — that builder shall strengthen the wall at his own expense.

Hospital Building Safety Board

Today the Building Codes are Much More Complex than in the Past

- **Especially for hospital buildings in California,**
- **Contain both performance and prescriptive requirements as well as many reference documents.**

2022 CBSC w/o Reference Documents

Administrative Code versus Building Code

- **Administrative Code is Process – it is not locked into a code cycle.**
- **The Building Standards Code locks into the code cycle the project was submitted under**

2022 Administrative Code

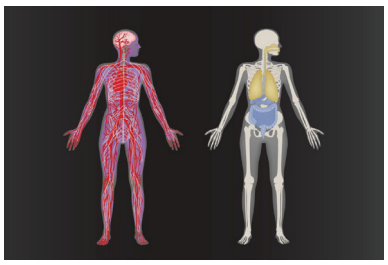
2022 Building Standards Code

In addition to the CBSC, OSHPD has C.A.N.s and P.I.N.s

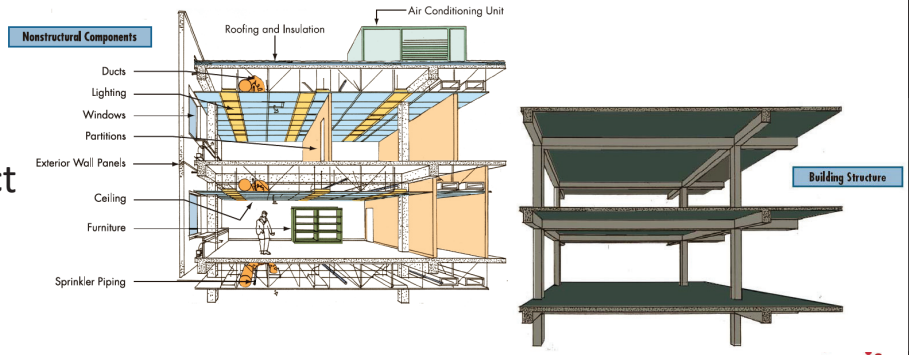
- **What is a C.A.N. (Code Application Notice)**
  - HFSSA § 129851
  - Code Application Notice – formal, enforceable interpretation of the California Building Standards Code
- **What is a P.I.N. (Policy Intent Notice)**
  - Preliminary/proposed regulations to enact a new statutory requirement or program prior to formal adoption of a building standard or regulation
  - Also used to formalize a voluntary program such as OSHPD Seismic Certification program (OSP), Phased Plan Review (PPR), etc.

https://hcai.ca.gov/construction-finance/codes-and-regulations/

Higher Standards for Performance of Hospital Buildings in California



- Health philosophy:
  - Ventilation systems must provide comfortable healing environment
  - The physical environment:
    - Do not facilitate the spread of contagious diseases
    - Do not adversely affect immune suppressed patients



Higher Standards for Performance of Hospital Buildings in California

- Commercial buildings may not be repairable or functional following a catastrophe (fire, earthquake, etc.)
- **Hospitals must function following an incident**
- **Earthquake philosophy:**
  - Hospitals must be reasonably capable of providing services to the public
  - Limited damage
  - Critical equipment and systems remain operational
  - Requires hospitals to be built 1 ½ times stronger than most other buildings
- **Fire philosophy:**
  - Patients may be too ill to evacuate
  - ***"Defend in Place"*** by moving patients to adjacent "compartments"

Loss of Functionality/Down Time

- Hospital Evacuation Data – Northridge EQ.

Hospital No.	Timing of Evacuation	Evacuation Status	Reason for Evacuation	No. of Patients Transferred	Management of Transfers to Other Hospitals	Time to Evacuation hr
1	Immediate	Partial	ND	25	Hospital	13
2	Immediate	Partial	ND	2	Hospital	1
3	Immediate	Complete	★ SD & ND	320	Hospital	9
4	Immediate	Complete	ND	125	County	19
5	Immediate	Complete	ND	270	County	9
6	Delayed	Complete	★ SD	202	Hospital	10
7	Delayed	Complete	★ SD	46	County	12
8	Immediate	Complete	ND	76	Hospital	13

ND =Nonstructural damage
SD =Structural damage
SD & ND =Structural and nonstructural damage

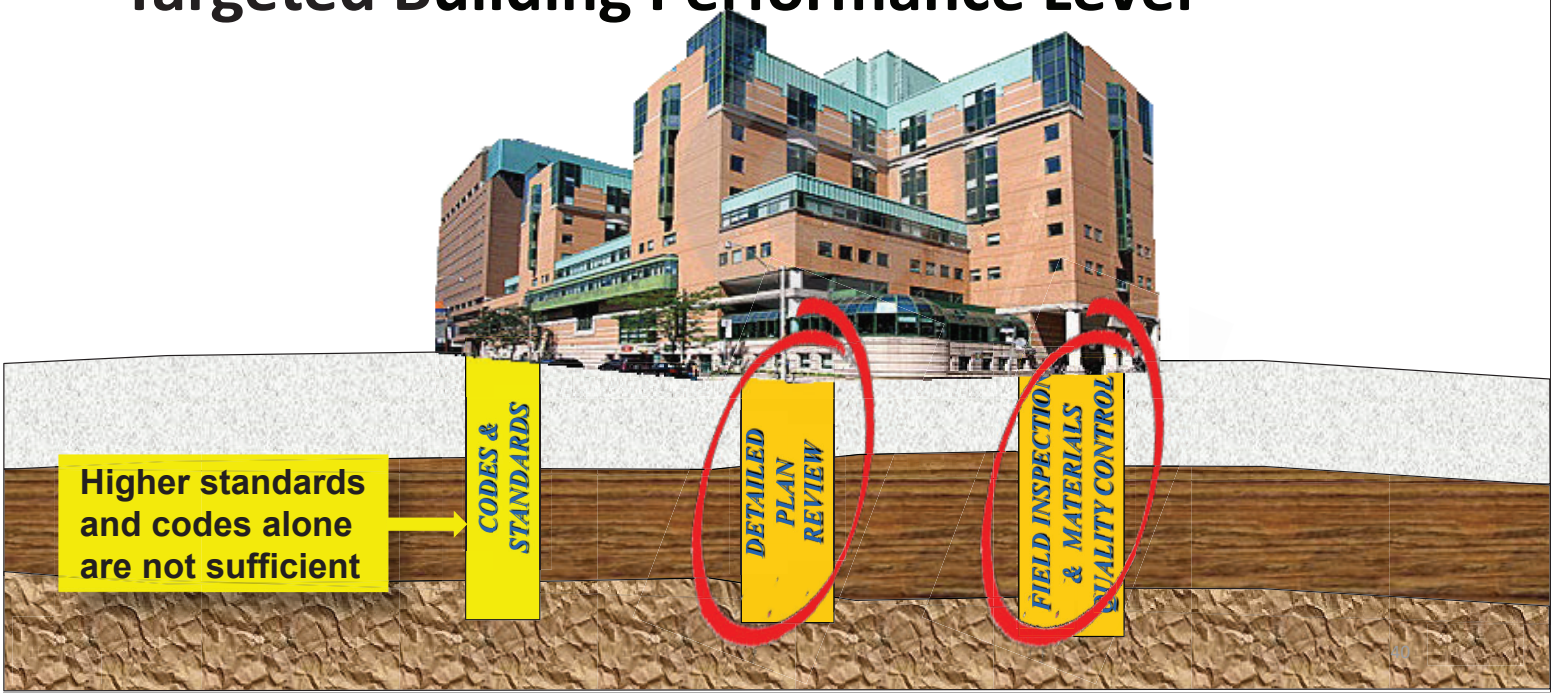
Higher Standards for Performance of Hospital Buildings in California

- **Sustained Operations philosophy:**
  - Adequate sanitation
  - Adequate lighting
  - Emergency power systems
  - Medical Gas Systems
- **Achieving this high performance in hospital construction requires:**
  - Comprehensive building codes that are more complex
  - Thorough plan review requires more time than for other types of buildings
    - OSHPD has California licensed Architects, Structural Engineers, Mechanical Engineers, and Electrical Engineers and Fire Life Safety Staff which review hospital construction drawings
  - Continuous construction inspection and quality assurance which is more demanding on contractors and inspectors

Nuclear power plants may be the only buildings more complex than a hospital building in California.

Hospital: Not Just A Building

The Foundation Pillars for Achieving the Targeted Building Performance Level



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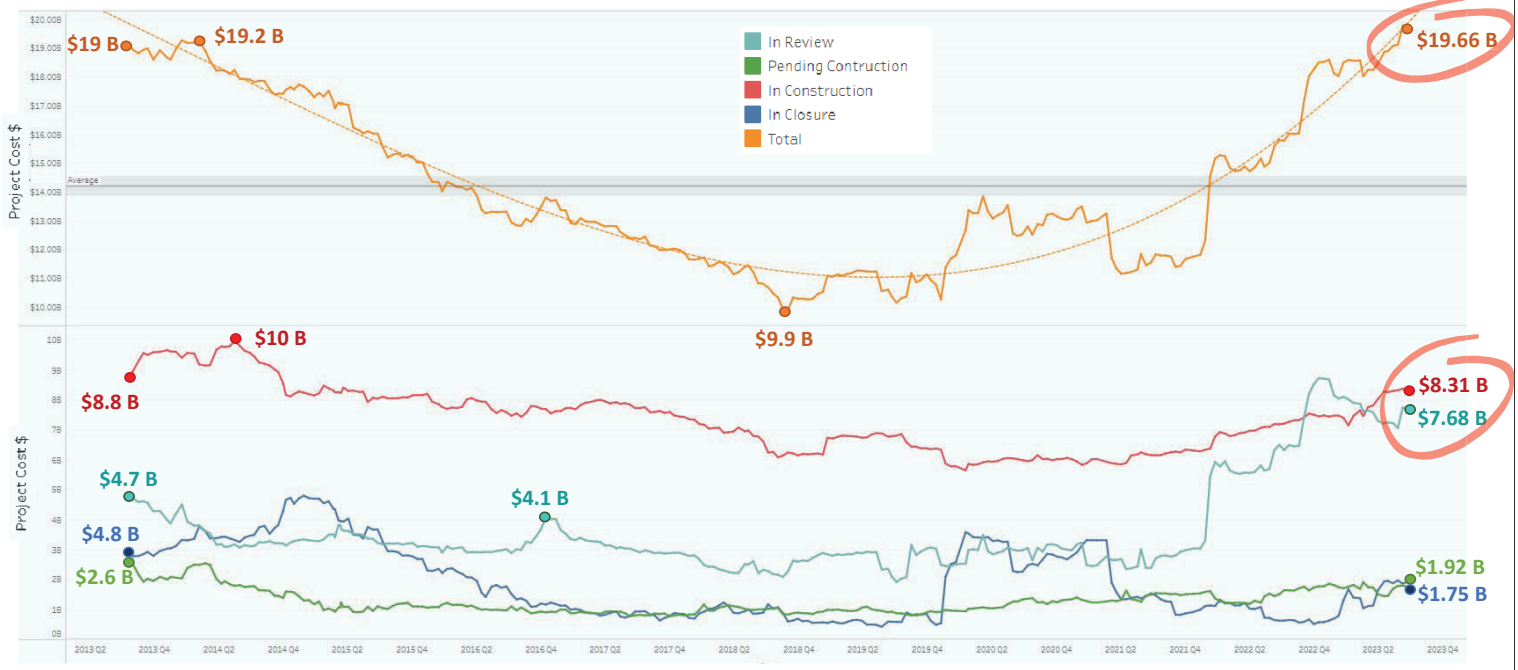
Workload in Construction Costs for Projects Over Time



OSHPD Plan Review Staff

- Supervisor, Health Facilities Review aka Regional Supervisor
- Senior Architect
- Fire Life Safety Officer
- Senior Mechanical Engineer
- Senior Electrical Engineer
- Senior Structural Engineer

Other Plan Review Staff:

- CGS
- Contract Reviewers

OSHPD Has Many Plan Review Process Options

- **Preliminary Review** – a review conducted at an earlier stage of plan development to ensure the design is heading in a code-compliant direction
- **Expedite Review** – reduced turnaround goals for projects that fall within targeted review hour estimates
- **Over-the-counter Reviews** – same day review with the client
- **Incremental Review** – allows "fast-track" construction of large, complex building projects whereby work begins on some increments of work while other work is still in the plan review process
- **Integrated (Collaborative + Phased) Review** – Allows review to begin at the "conceptual" phase of design and continue through all phases & provides for one-on-one collaborative meetings at each transfer of documents
- **Deferred Approval Review** - allows work that is typically done by a subcontractor or fabricator to be deferred until the subcontractor or fabricator has been selected
- **Field Review** – reviews conducted at the facility or other off-site location by OSHPD's field compliance staff

- Most plan review is performed by OSHPD staff.
- For larger projects, structural plan review may be performed by contract plan review consultants

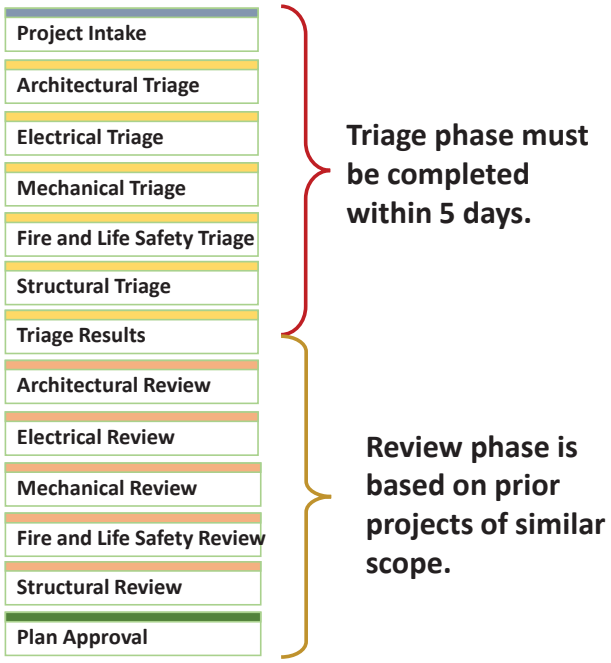
- Plan review may include Over-the-Counter reviews with design professionals

- Plan review is solely based on Electronic Document Processing

The Plan Review Process

- **"S" Projects** – Standard Remodel/Renovation projects with no primary structural work

- **"H" Projects** – Projects with primary structural work

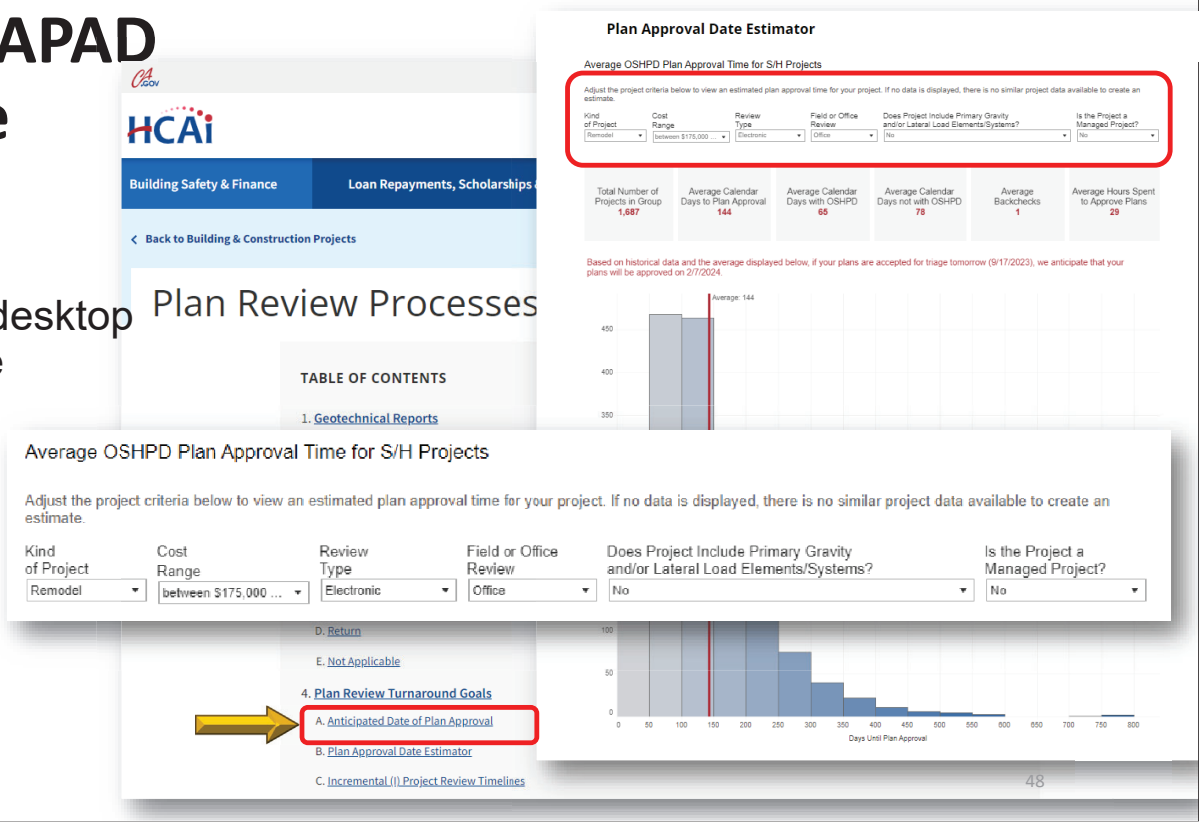


Plan Submittal to Approval Time Duration

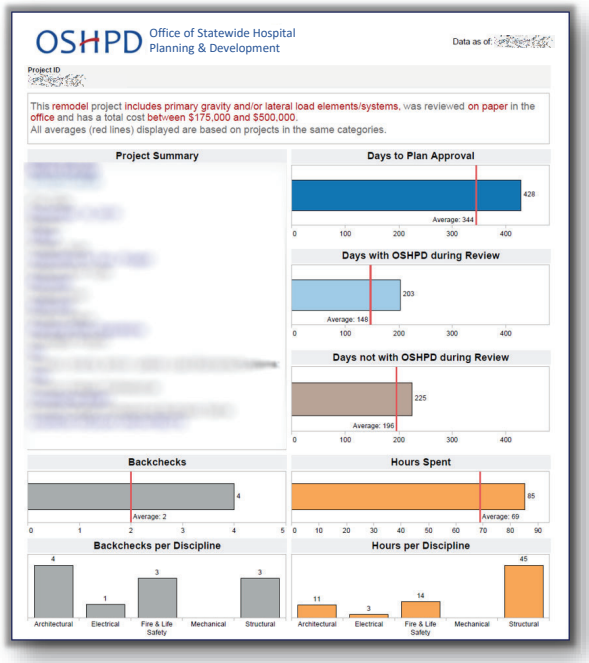
- **Managed Projects** - (Review goals negotiated with client)
- **“Anticipated Plan Approval Date”.**
  - Date your review is expected to be approved
    - Not just first review cycle.
  - Based on a weighted average of historical data from prior projects of similar scope.
  - Results in a review cycle significantly less than the **old** traditional 80-40-30 days rigid turnaround goals.

OSHPD APAD Website

- Live since 6/1/2018
- Works on desktop and mobile devices.



Project Assessment Report

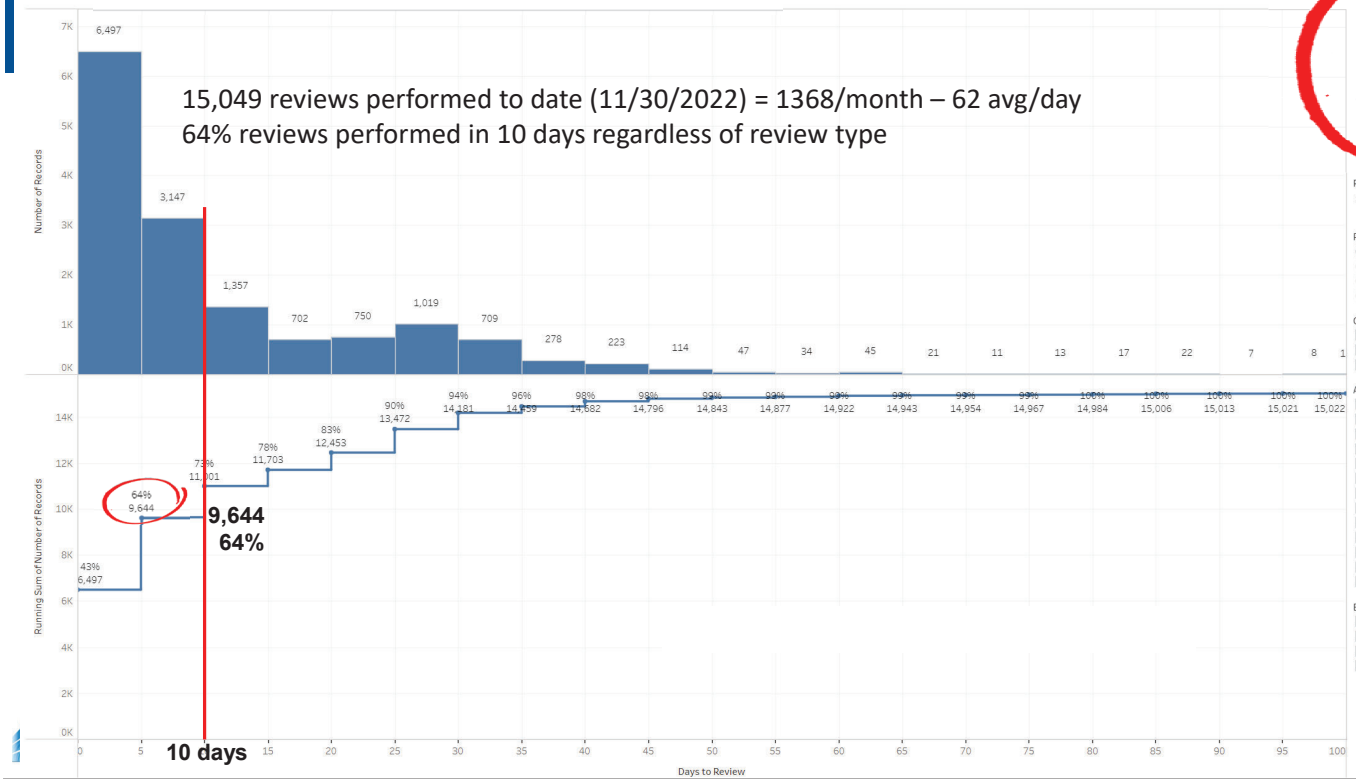


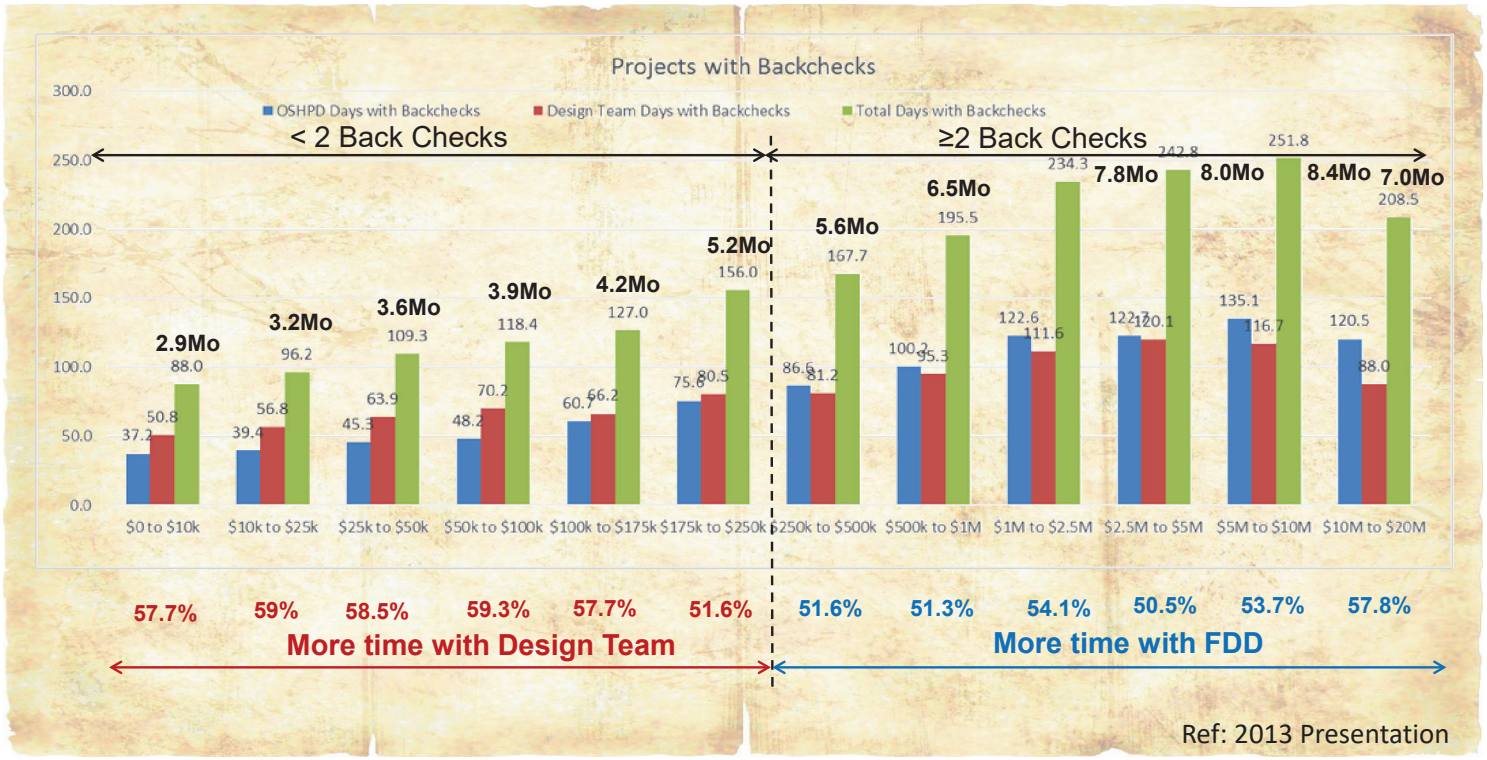
- Project Assessment Report generated and automatically uploaded to the Project Documents upon approval

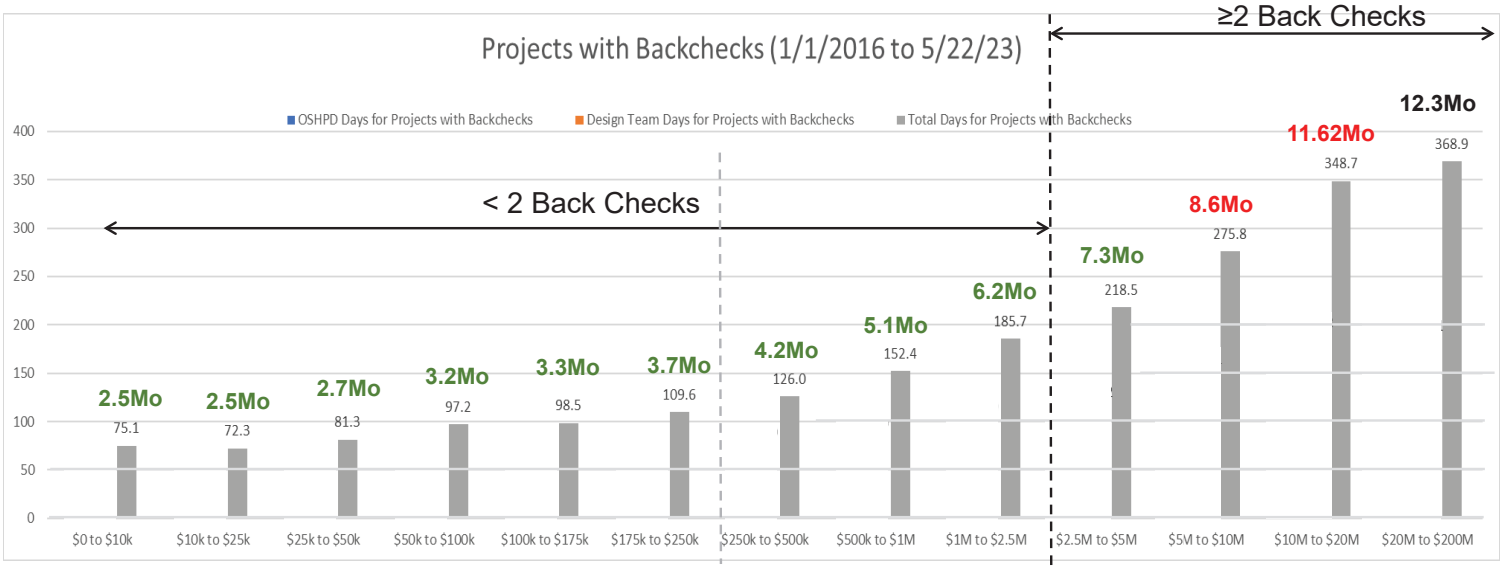
- Fact-based visualization
- Graphically displays project key metrics
  - Compares them to statistical averages

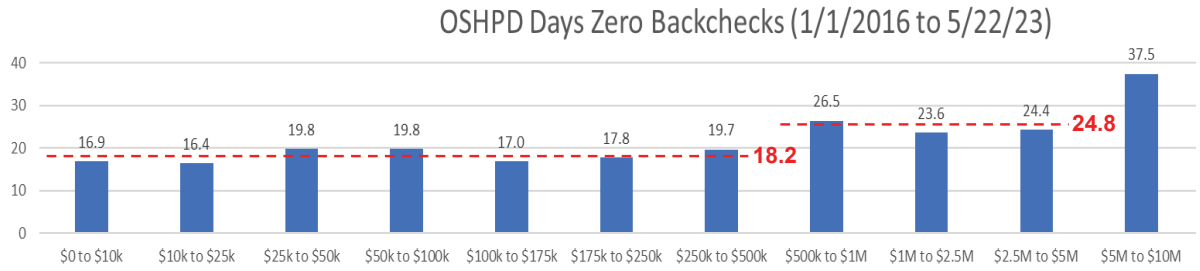
Project Review Turnaround Times

Performance for Period Selected (1/3/2022 to 11/29/2022)



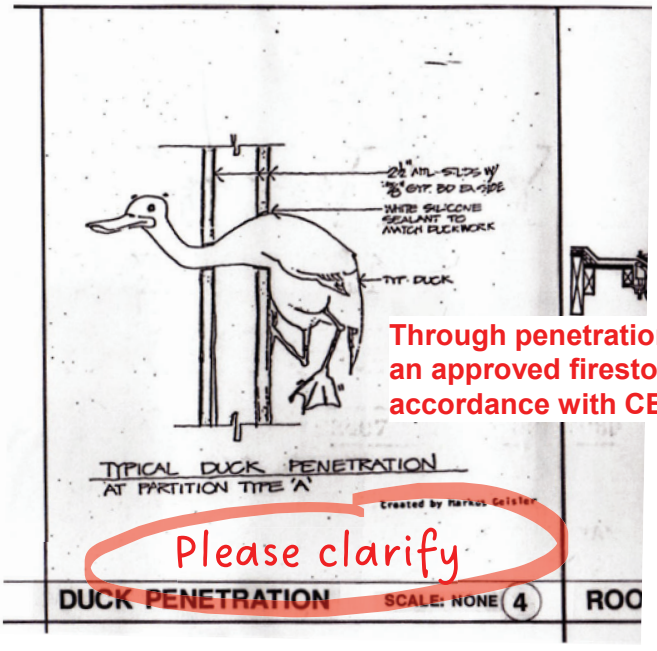

Projects with Backchecks
OSHPD Days with Backchecks
Design Team Days with Backchecks
Total Days with Backchecks
< 2 Back Checks
≥2 Back Checks
2.9Mo
3.2Mo
3.6Mo
3.9Mo
4.2Mo
5.2Mo
5.6Mo
6.5Mo
7.8Mo
8.0Mo
8.4Mo
7.0Mo
$0 to $10k
$10k to $25k
$25k to $50k
$50k to $100k
$100k to $175k
$175k to $250k
$250k to $500k
$500k to $1M
$1M to $2.5M
$2.5M to $5M
$5M to $10M
$10M to $20M
57.7%
59%
58.5%
59.3%
57.7%
51.6%
51.6%
51.3%
54.1%
50.5%
53.7%
57.8%
More time with Design Team
More time with FDD
Ref: 2013 Presentation


Projects with Backchecks (1/1/2016 to 5/22/23)
OSHPD Days for Projects with Backchecks
Design Team Days for Projects with Backchecks
Total Days for Projects with Backchecks
< 2 Back Checks
≥2 Back Checks
2.5Mo
2.5Mo
2.7Mo
3.2Mo
3.3Mo
3.7Mo
4.2Mo
5.1Mo
6.2Mo
7.3Mo
8.6Mo
11.62Mo
12.3Mo
$0 to $10k
$10k to $25k
$25k to $50k
$50k to $100k
$100k to $175k
$175k to $250k
$250k to $500k
$500k to $1M
$1M to $2.5M
$2.5M to $5M
$5M to $10M
$10M to $20M
$20M to $200M



Tip from the expert:

Tip: *Provide complete, quality plans in order to eliminate or reduce back checks and thus decrease overall time to plan approval*

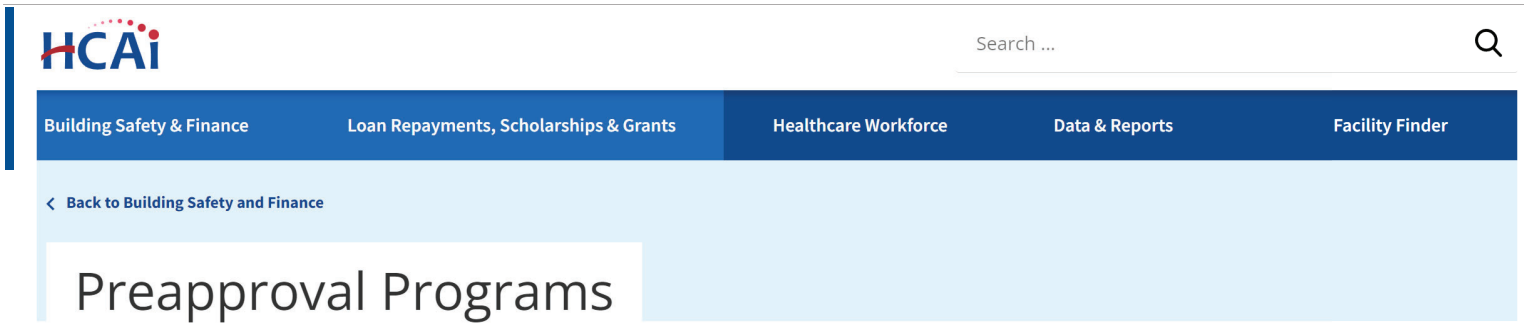


Through penetration shall have an approved firestop system in accordance with CBC § 713.3.1.2

Chris's policy regarding plan review comments*:

1. **If the comment is not in writing it doesn't exist**
2. **If it is a code violation and a code section is not cited it is a recommendation and not a requirement**

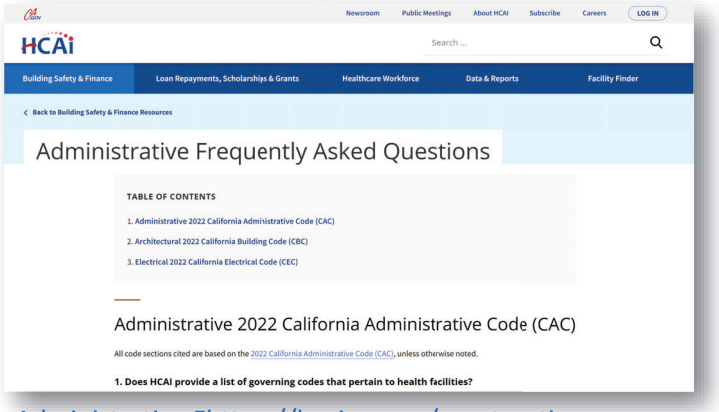
*** Based on HFSSA § 129770 (b)**



https://hcai.ca.gov/construction-finance/preapproval-programs/

Tips from the expert

- **Tip:** The designer may contact the Regional Supervisor prior to submittal of an application to OSHPD to assist them in determining the process which best fits their project needs
- **Tip:** Use OSPs, OPMs, and OPDs to reduce design and plan review time
- **Tip:** Use the reminder lists and FAQs (a question that has been asked at least once) on HCAI/OSHPD's website



Administrative Fhttps://hcai.ca.gov/construction-finance/resources/administrative-faqs/requently Asked Questions - HCAI

Tips from the expert

Check lists/Reminder Lists

- Very important – why design or construct a hospital building without using them?
- Why a pilot completes a checklist before takeoff even if he/she is the most experienced one?
- A “CHECKLIST” Can Really Eliminate “Human Errors” In Both Personal and Professional Life

Tips from the expert

- **Tip:** Use the OSHPD Jurisdiction C.A.N. 2-0 to determine the scope of work under OSHPD's jurisdiction

- **Tip:** Use the Remodel C.A.N. 2-102.6 to determine the scope of remodel/renovation projects

- **Tip:** Use the Accessibility C.A.N. 2-11B to determine the scope of accessibility for a project

Seven Areas of OSHPD Responsibility

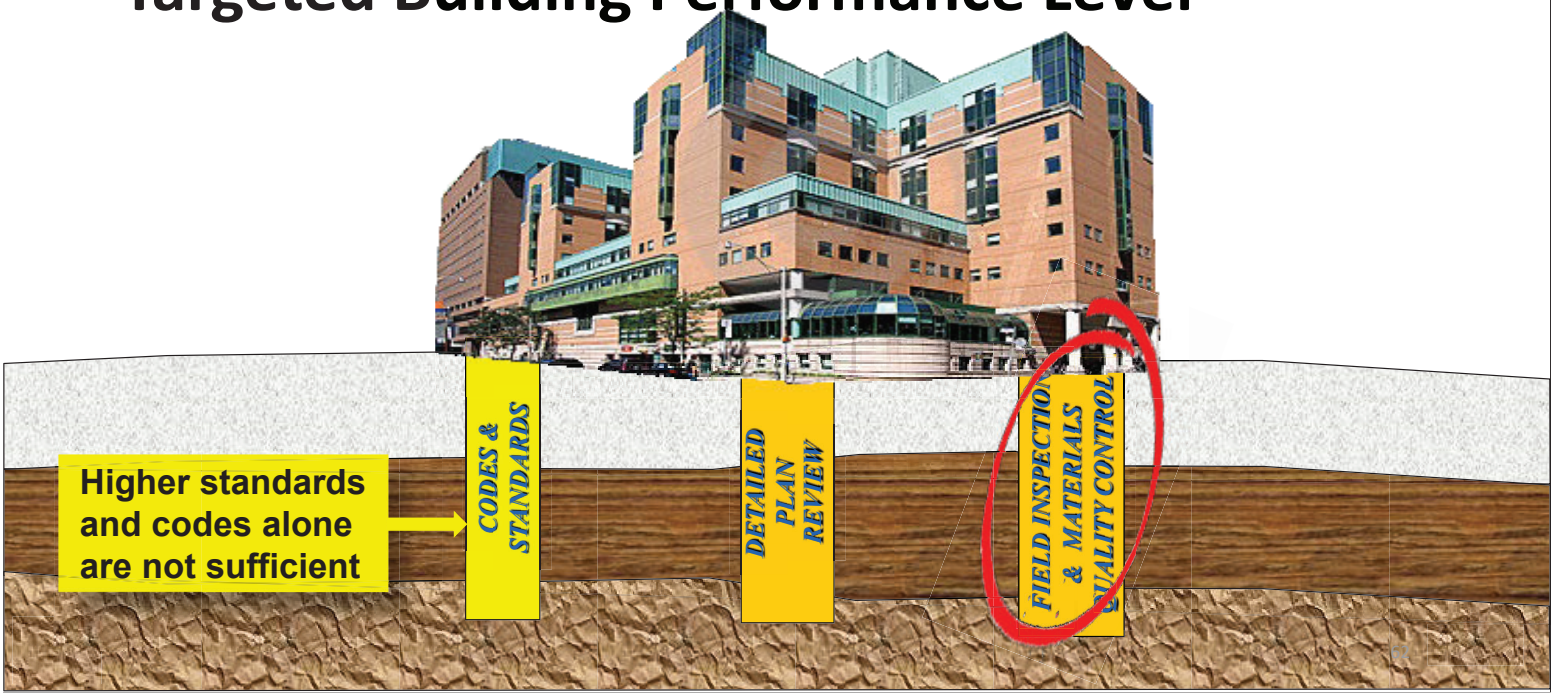
- Develop Building Standards for hospitals, skilled nursing, clinics, and Correctional Treatment Centers
- Plan review and approval of hospital and skilled nursing construction projects
- **Building permit and construction observation of hospital and skilled nursing construction projects**
- Hospital Seismic Retrofit Program (SB 1953)
- Hospital Building Safety Board (Advisory and Appeals Board)
- Emergency response after an earthquake or other disaster
- Research: earthquake engineering; new & advanced technologies; computer analyses

If California hospital construction was simple, anyone could do it

Hospital Building Safety Board

HCAi

The Foundation Pillars for Achieving the Targeted Building Performance Level



The Mandates of the HSSA

. . .

Comprehensive multi-level construction QA/QC by:

- DPORs (Architect, Structural, Geotechnical, etc. Engineers)
- Inspector of Record
- Special inspector (concrete, steel, and masonry, welding and bolting, etc.)
- Compliance Officers employed by OSHPD
- Field Fire Life Safety Officers employed by OSHPD
- Field Structural Engineers employed by OSHPD

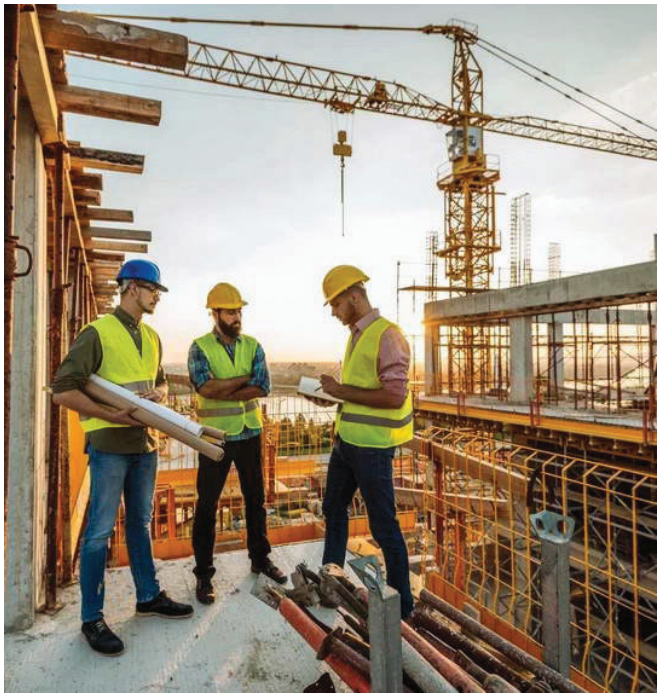
. . .

OSHPD Field Staff

- Regional Compliance Officer
- Compliance Officer
- Fire Life Safety Officer
- District Structural Engineer

Other Field Staff

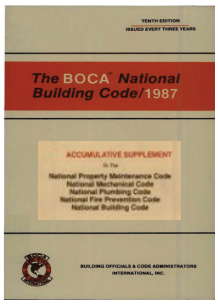
- Inspector(s) of Record
- Design Professional(s)
- Contractor/Builder
- Owner's Representative



Numerous High Profile Structural Failures Draws National Attention

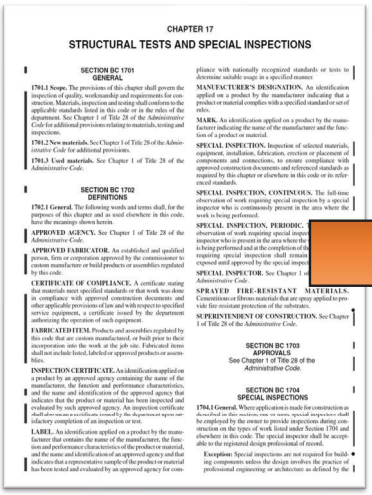
1982 Congress gets involved

- U.S Congress Sub-Committee on Science & Technology
  - 1982 studies of structural failures
  - 1984 the Investigations and Oversight Subcommittee in House Report 98-621 presents findings on Structural Failures in Public Facilities
    - **Need for improved communication during the construction process**
    - **Need for construction inspection**
- ….special inspection is born
- 1988 special inspection is adopted by BOCA



Model Code Adopts provisions for QC

- 1994 Northridge EQ. further substantiates lessons learned from previous EQs
  - Deficiencies in Construction Inspection
- Chapter 17 of 1997 UBC created



CHAPTER 17

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

SECTION BC 1701
GENERAL

1701.1 Scope. The provisions of this chapter shall govern the inspection of quality, workmanship and requirements for construction. Materials, inspection and testing shall conform to the applicable standards listed in this code or in the rules of the department. See Chapter 1 of Title 28 of the Administrative Code for additional provisions relating to materials, testing and inspections.

1701.2 New materials. See Chapter 1 of Title 28 of the Administrative Code for additional provisions.

1701.3 Used materials. See Chapter 1 of Title 28 of the Administrative Code.

SECTION BC 1702
DEFINITIONS

1702.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

APPROVED AGENCY. See Chapter 1 of Title 28 of the Administrative Code.

APPROVED FABRICATOR. An established and qualified person, firm or corporation approved by the commissioner to custom manufacture or build products or assemblies regulated by this code.

CERTIFICATE OF COMPLIANCE. A certificate stating that materials meet specified standards or that work was done in compliance with approved construction documents and other applicable provisions of law and with respect to specified service equipment, a certificate issued by the department authorizing the operation of such equipment.

FABRICATED ITEM. Products and assemblies regulated by this code that are custom manufactured, or built prior to their incorporation into the work at the job site. Fabricated items shall not include listed, labeled or approved products or assemblies.

INSPECTION CERTIFICATE. An identification applied on a product by an approved agency containing the name of the manufacturer, the function and performance characteristics, and the name and identification of the approved agency that indicates that the product or material has been inspected and evaluated by such approved agency. An inspection certificate shall also mean a certificate issued by the department upon satisfactory completion of an inspection or test.

LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that a representative sample of the product or material has been tested and evaluated by an approved agency for compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.

MANUFACTURER'S DESIGNATION. An identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules.

MARK. An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material.

SPECIAL INSPECTION. Inspection of selected materials, equipment, installation, fabrication, erection or placement of components and connections, to ensure compliance with approved construction documents and referenced standards as required by this chapter or elsewhere in this code or in referenced standards.

SPECIAL INSPECTION, CONTINUOUS. The full-time observation of work requiring special inspection by a special inspector who is continuously present in the area where the work is being performed.

SPECIAL INSPECTION, PERIODIC. [illegible] observation of work requiring special inspection by a special inspector who is present in the area where the [illegible] is being performed and at the completion of the [illegible] requiring special inspection shall remain exposed until approved by the special inspector.

SPECIAL INSPECTOR. See Chapter 1 of Title 28 of the Administrative Code.

SPRAYED FIRE-RESISTANT MATERIALS. Cementitious or fibrous materials that are spray applied to provide fire-resistant protection of the substrates.

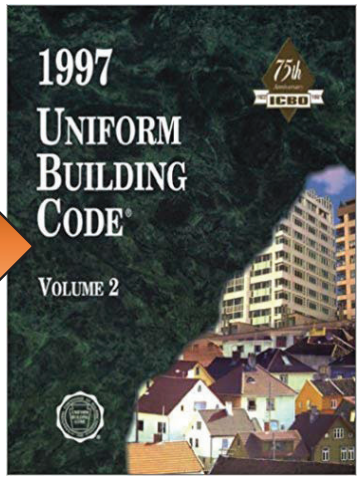
SUPERINTENDENT OF CONSTRUCTION. See Chapter 1 of Title 28 of the Administrative Code.

SECTION BC 1703
APPROVALS
See Chapter 1 of Title 28 of the Administrative Code.

SECTION BC 1704
SPECIAL INSPECTIONS

1704.1 General. Where application is made for construction as described in this section, one or more special inspectors shall be employed by the owner to provide inspections during construction on the types of work listed under Section 1704 and elsewhere in this code. The special inspector shall be acceptable to the registered design professional of record.

Exception: Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by the

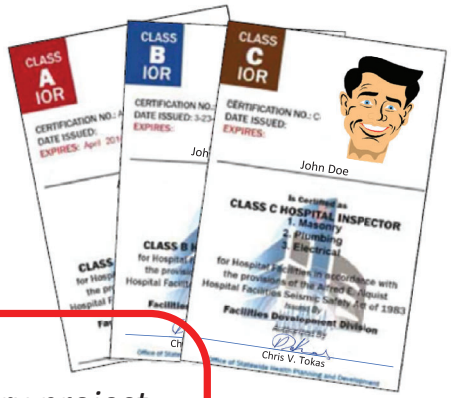


IBC adopts provisions for QC

- In 2000 Chapter 17 of IBC was created from legacy codes (UBC, BOCA, SBC)

Hospital Inspector of Record

- Hired by the Hospital Owner
- Works under the direction of the Design Professionals(s)
- Monitored by OSHPD Field Staff



Tip from the expert:

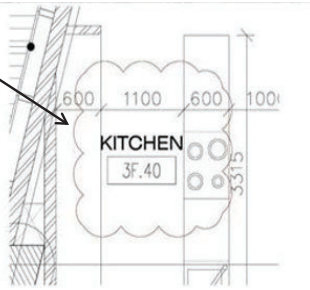
Tip: *Selecting the right IOR(s) is critical to the success of every project*

- *Appropriate level of certification for the work*
- *Experience with work of similar scope, cost, and complexity*
- *Geographic location of current work sites*
- *Scope of current projects*
- *Current phase/construction completion of each workload project*
- *Number of current projects*

Why Continuous Inspection is Required

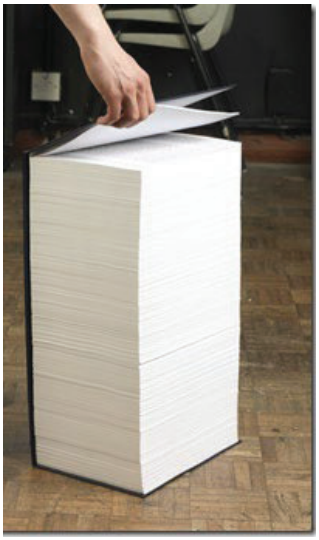
Hand Wash Fixture

Be careful what you show on the drawings – inspectors want the work to look like the drawings



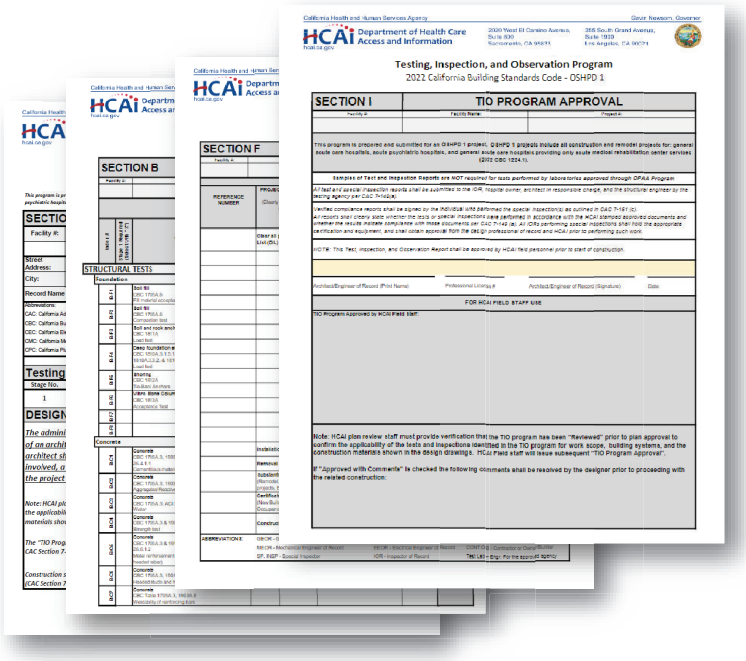
Like the plan review comments, field staff comments must be in writing and reference the appropriate code section

T-24 Testing & Inspection Requirements



The TIO

- OSHPD's Checklist for CBSC requirements on testing and inspections
- The Inspection/Observation Job Card for Hospitals



What is Supposed to Happen

- The Hospital Design Team (Architects, Engineers, etc.)
  - Identify existing conditions
  - Design a code compliant project
- OSHPD Reviewers
  - Identify every code deficiency and see they are corrected
- Contractors
  - Build according to the approved drawings
- IORs and OSHPD Field Staff
  - Inspect for conformance with the approved drawings

What does happen

- The Hospital Design Team
  - Designs a code compliant project based on the information they have and constraints of time and budget
- OSHPD Reviewers
  - Identifies major code deficiencies, major coordination issues
- Contractors
  - Builds according to the approved drawings, accounting for variations in the existing conditions and uncertainty in the code and drawings, corrects "unbuildable" conditions

What Does Happen (Continued)

- IORs
  - Inspects for conformance with the approved drawings and the code – identifying major and minor code deficiencies
  - Attempts to be flexible when code is "unclear" or where the design is "unbuildable"
- **Problems are encountered**
  - Unforeseen Conditions
  - Work that does not match the approved drawings
  - Code deficiencies that were not caught in plan review
  - Code interpretation issues

What Does Happen (Continued)

- What to do
  - Contact OSHPD Field Staff
- What next
  - Field staff confirm whether change materially alters the work or not
  - Only changes that materially alter the work need be submitted for plan review as an Amended Construction Document

Tip from the expert:

- *Refer to C.A.N. 1-7-153 Amended Construction Documents*

More Tips from the Expert for a Successful Construction Project

- ***Tip:*** *Timely submittals of changes, redesign, alternate means, and material substitutions*
- ***Tip:*** *Avoid redesign and material substitutions after construction start*
- ***Tip:*** *Install materials in accordance with the contract documents, manufactures installation instructions and/or approved listings*
- ***Tip:*** *Make sure your installation instructions and material submittals are available to the inspector(s)*
- ***Tip:*** *Install per approved construction documents; review changes and any items subject to interpretation prior to installation*

More Tips from the Expert for a Successful Construction Project

- ***Tip:*** *Don't perform work that is not shown on the approved contract documents which alters the intent, scope, or function of the project (materially alters) until approved by OSHPD*
- ***Tip:*** *Whether the bracing system is an engineered (project specific) or pre-approved system (with verification of suitability for the specific structure) the specific approved details must be used*
- ***Tip:*** *Have a copy of the OSHPD approved plans and specifications (contract documents) onsite.*
- ***Tip:*** *Have a pre-construction meeting with the GC, major subs, design professionals, IORs and OSHPD field staff*
- ***Tip:*** *Don't substitute for approved materials or methods without project engineer and OSHPD approval*

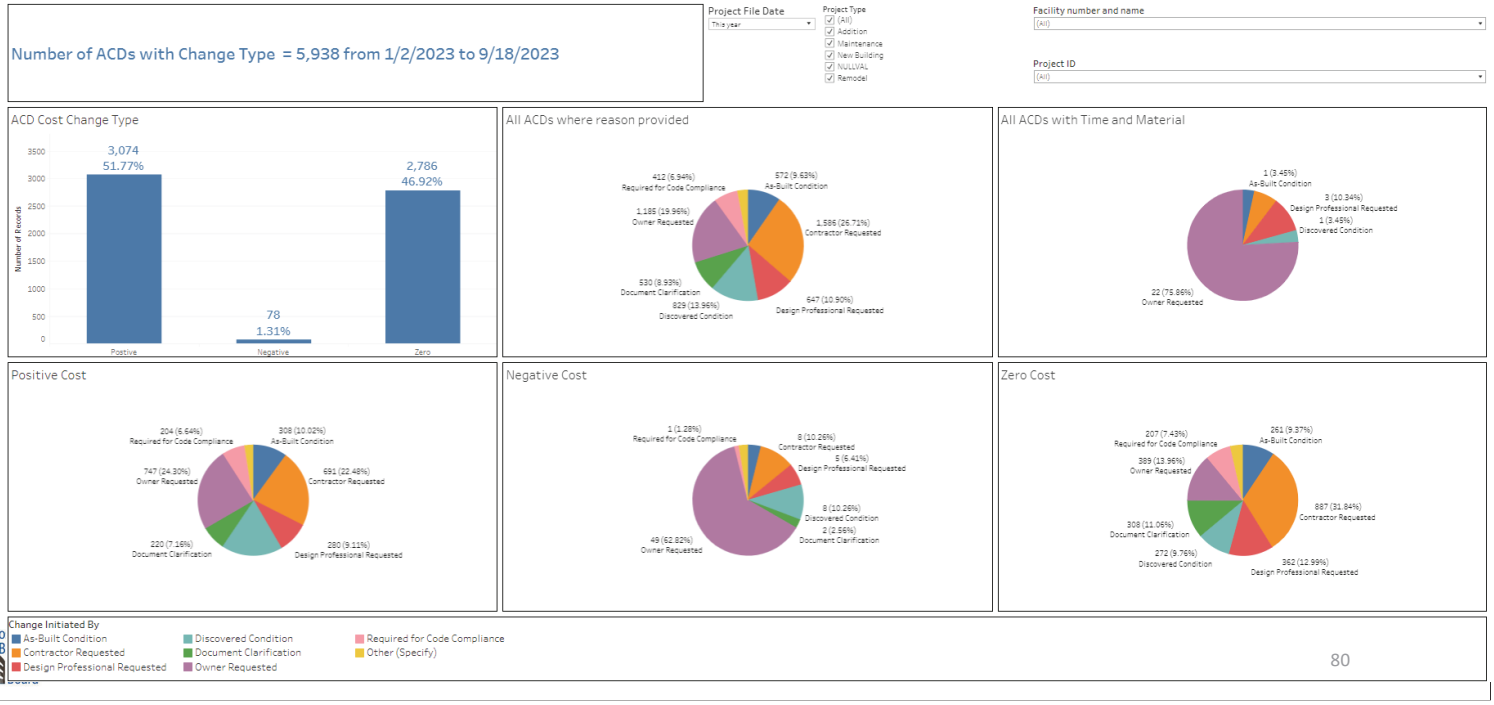
OSHPD's Policy on Field Directed Changes to Approved Drawings

- Field staff must bring all seeming errors or discrepancies to the attention of the RCO for resolution
  - Prior to giving any direction, verbal or written, to the designer, IOR, contractor, owner, etc. regarding a change from the approved plans
  - OSHPD eRAD form for internal use only
- The RCO will consult with staff as necessary to determine the proper course of action
- Insofar as is practical, the plans will stand as approved
- **Issues involving life safety must be corrected or changed as necessary to make the building and its occupants safe**

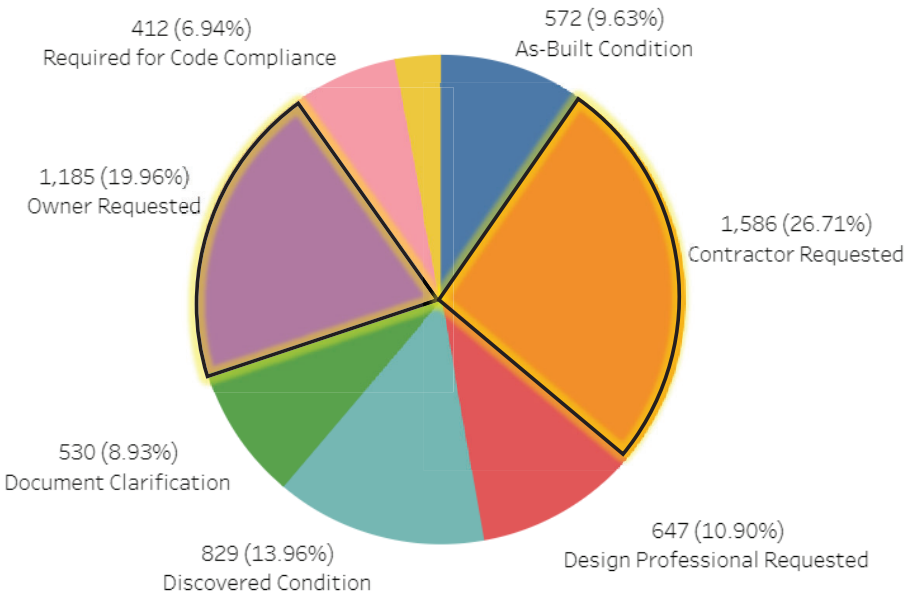
Field and Over-the-Counter Reviews

- Field staff perform triage of post-approval documents (PADS)
  - Perform field reviews – may require submittal through eCA
  - Perform “split” reviews - may require submittal through eCA
- Prioritize review of critical path change orders (CPER’s)
- Can arrange on-site Over-the-Counter reviews

ACDs

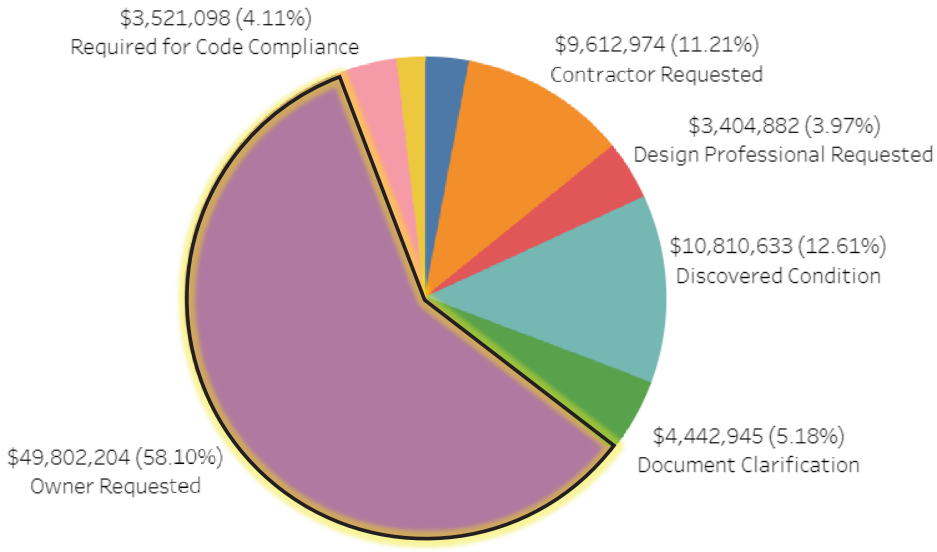


ACDs



Based on Count

ACDs



Based on Costs

Amended Construction Documents (ACDs)

Field staff is the initial point of contact for the triage and/or plan review of ACD's

- Verify the accuracy and completeness of documents
- ACDs may be approved, defected, noted as review not required by specified disciplines, or referred to the office for plan review
- DSEs triage and when appropriate, review structural issues on ACDs whenever they occur within the region, on all types of projects
- ACDs will be evaluated/triaged for field reviewability using the FREER Manual Guidelines
- **ACDs that do not materially alter the work will not be accepted**

Amended Construction Documents FAQs

1) Is an ACD required if I move a wall over one foot?
   - Perhaps (most common response). More than 35 categories of rooms have min. sq. ft. size and least dimensions and there are specific spaces and/or room requirements for various units within a hospital. Chances are that any reconfiguration of rooms and/or spaces will require a PAD.

2) Is an ACD required for final configuration of mechanical ducts, plumbing pipes or electrical conduits?
   - Usually No. These systems are typically shown diagrammatically on the approved plans.
   - IF the duct, pipe or conduit size/capacity remains unchanged, the general routing has been maintained and the anchorage/bracing is unaffected, no PAD is necessary. The final routing must be reflected on the "as-built" drawings.

Alternate Solutions Example No. 1

Ducts interfere with ceiling wire installation

- A/E issues a response to RFI to install trapeze assemblies per approved details
- Category: Interpretation/clarification

Action required: No OSHPD Action Required

Alternate Solutions Example No. 2

Ducts interfere with ceiling wire installation

- A/E issues a response to RFI to shift ceiling grid pattern one foot east so that hanger wire locations will no longer interfere
- Category: NMA

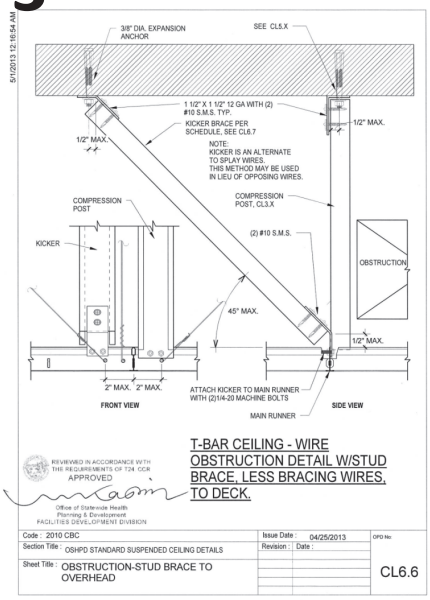
Action required: OSHPD to issue concurrence that the change is “Non-Material”

Alternate Solutions Example No. 3

Ducts interfere with ceiling wire installation

- A/E issues a response to RFI to use an OSHPD Pre-approved detail
- Category: NMA

Action required: OSHPD to issue concurrence that the change is “non-material”



Alternate Solutions Example No. 4

Ducts interfere with ceiling wire installation

- A/E issues a response to RFI to install an alternative system with new details
- Category: PAD

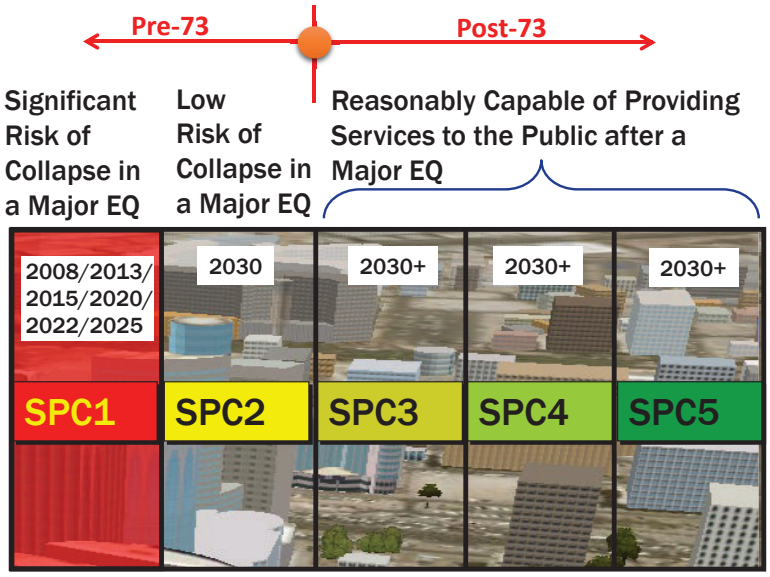
Action required: OSHPD review as a PAD

Seven Areas of OSHPD Responsibility

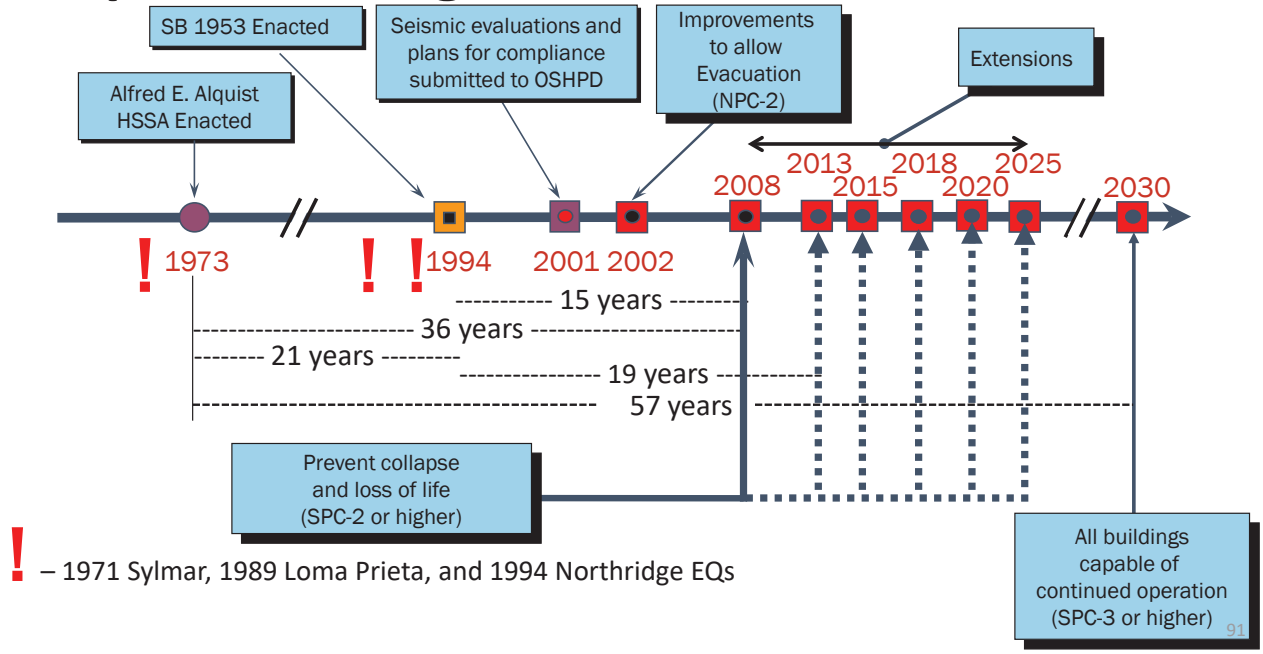
- Develop Building Standards for hospitals, skilled nursing, clinics, and Correctional Treatment Centers
- Plan review and approval of hospital and skilled nursing construction projects
- Building permit and construction observation of hospital and skilled nursing construction projects
- **Hospital Seismic Retrofit Program (SB 1953)**
- Hospital Building Safety Board (Advisory and Appeals Board)
- Emergency response after an earthquake or other disaster
- Research: earthquake engineering; new & advanced technologies; computer analyses

Hospital Seismic Safety Definitions

Structure Performance Categories

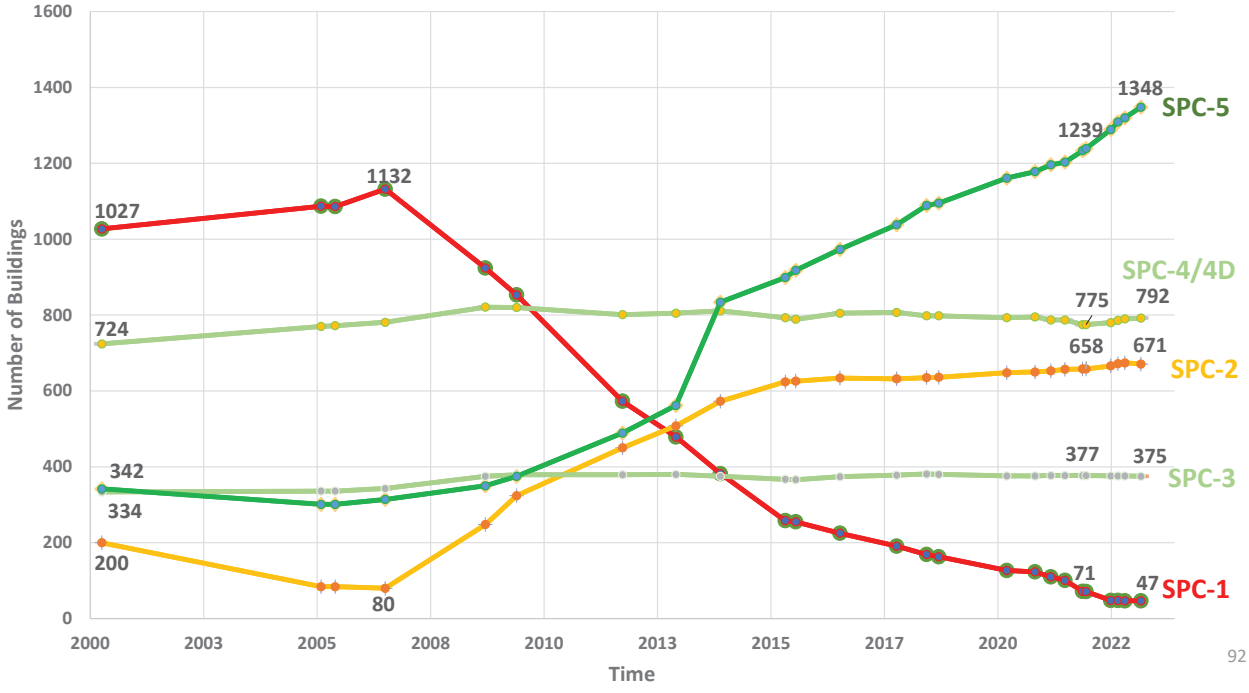


The California Hospital Seismic Safety Compliance Program



! – 1971 Sylmar, 1989 Loma Prieta, and 1994 Northridge EQs

SPC Compliance over Time



Seismic Compliance Options

- Mitigation Strategies
  - Remove acute care services
  - Reassess Seismic Risk (SPC-1s HAZUS reassessment
  - Seismic Retrofit
  - Replace
  - Rebuild

Status of Compliance

HCAI Department of Health Care Access and Information

SPC/NPC Ratings of Acute Care Hospital Buildings as of 5/18/2023

County Code	Facility Nbr	Facility Name	City	Building Nbr	Building Name	Building Status	SPC Rating *	2007 Hazus Score (%)	2010 Hazus Score (%)	HCAI NPC Rating *	AB 1882 Notice
01 - Alameda	11210	Alameda Hospital	Alameda	BLD-01278	Original Hospital	No Gen Acute Care - OSHPD Bldg	N/A		27.63	N/A	
01 - Alameda	11210	Alameda Hospital	Alameda	BLD-01279	Stephens Wing	In Service	2		0.98	1	This building does not significantly jeopardize life, but may not be repairable or functional following an earthquake.
01 - Alameda	11210	Alameda Hospital	Alameda	BLD-01280	West Wing	In Service	2			1	This building does not significantly jeopardize life, but may not be repairable or functional following an earthquake.
01 - Alameda	11210	Alameda Hospital	Alameda	BLD-01281	South Wing	In Service	3s			1	
01 - Alameda	11210	Alameda Hospital	Alameda	BLD-01282	Radiology Addition	In Service	4			1	

https://hcai.ca.gov/wp-content/uploads/2023/05/SPCNPCList05182023.pdf

Status of Extension Requests

HCAI Department of Health Care Access and Information

Extensions for Hospital Buildings as of 5/18/2023

County Code	Facility Nbr	Facility Name	Building Nbr	Building Name	Building Status	SPC Rating*	SPC Extensions							HCAI NPC rating*	NPC Extensions	AB 1882 Notice
							SB 306 Extension Status	AB 523 Extension Status	SB 1661/AB 2557/AB 81 Extension Status	SB 499 Extension Status	SB 90 Extension Status	AB 2190 Extension Status	CO/CF **			
01 - Alameda	11210	Alameda Hospital	BLD-01278	Original Hospital	No Gen Acute Care - OSHPD Bldg	N/A	Denied				12/1/2019 Com Acc Replace			N/A		
01 - Alameda	11210	Alameda Hospital	BLD-01279	Stephens Wing	In Service	2	Denied			Withdrawn	12/1/2019 Com Acc Retrofit			1		This building does not significantly jeopardize life, but may not be repairable or functional following an earthquake.
01 - Alameda	11210	Alameda Hospital	BLD-01280	West Wing	In Service	2	Denied							1		This building does not significantly jeopardize life, but may not be repairable or functional following an earthquake.
01 - Alameda	11210	Alameda Hospital	BLD-01281	South Wing	In Service	3s								1		
01 - Alameda	11210	Alameda Hospital	BLD-01282	Radiology Addition	In Service	4								1		
01 - Alameda	11210	Alameda Hospital	BLD-01283	Medical Gas Storage	In Service	3								1		
01 - Alameda	11210	Alameda Hospital	BLD-02630	Compactor Shed	In Service	4								2	1/1/2030	
01 - Alameda	11210	Alameda Hospital	BLD-03120	Emergency Room Relocation	In Service	3s								1		

https://hcai.ca.gov/wp-content/uploads/2023/05/ExtensionRequests-05182023.pdf

Hospital Building Safety Board

Seven Areas of OSHPD Responsibility

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- Emergency response after an earthquake or other disaster
- Research: earthquake engineering; new & advanced technologies; computer analyses

Hospital Building Safety Board

The Purpose of the HBSB

Established by Senate Bill 519 (Alquist) in the original Hospital Facilities Seismic Safety Act of 1973

- Advise the Director of the HCAI
  - Administration of the Hospital Facilities Seismic Safety Act,
- Act as a board of appeals
  - Issues of seismic safety and fire and life safety relating to hospital facilities

Seven Areas of OSHPD Responsibility

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- **Emergency response after an earthquake or other disaster**
- Research: earthquake engineering; new & advanced technologies; computer analyses

Emergency Response

OSHPD's Responsibilities:

- In the event of a calamity that may have affected the structural integrity or damaged a major system of a hospital building, OSHPD shall:
  - Send one or more authorized representatives
  - Examine the structure or system
  - Post the building

Seven Areas of OSHPD Responsibility

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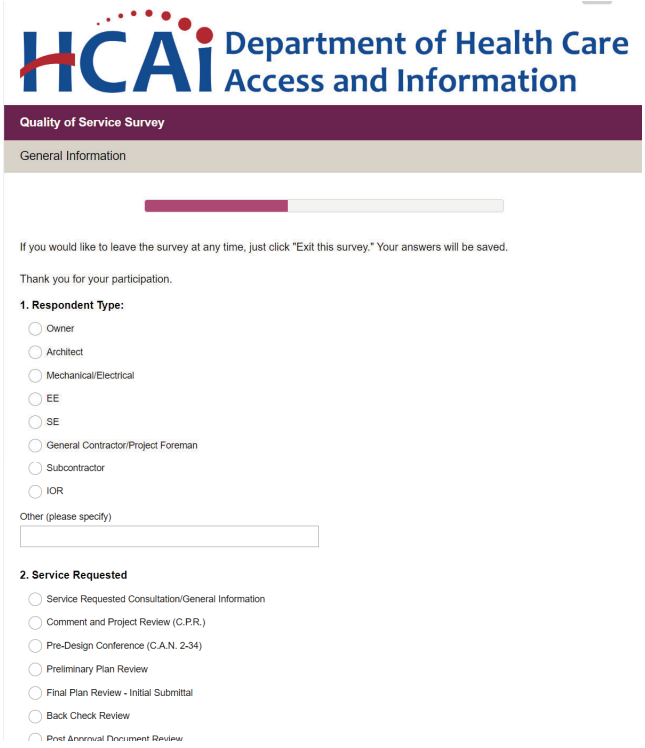
Research Projects

- Northridge Earthquake Research Projects
  - Seismic Design Factors for Hospital Non-structural Equipment
  - Impact on Hospital Elevators
  - Hospital Water Damage
- MCEER – Hospital Project
- HAZUS – OSHPD Building Specific Algorithms
- UCDSD Full-Scale Structural and Nonstructural Building System Performance During Earthquakes & Post-Earthquake Fire
- NIST Grand challenge Program on Non-Structural Components Seismic Response
- . . .

OSHPD's Quality of Service Survey

https://www.surveymonkey.com/r/T3YCK6G


HCAi Department of Health Care Access and Information

Quality of Service Survey

General Information

If you would like to leave the survey at any time, just click "Exit this survey." Your answers will be saved.

Thank you for your participation.

1. Respondent Type:

- Owner
- Architect
- Mechanical/Electrical
- EE
- SE
- General Contractor/Project Foreman
- Subcontractor
- IOR

Other (please specify)

2. Service Requested

- Service Requested Consultation/General Information
- Comment and Project Review (C.P.R.)
- Pre-Design Conference (C.A.N. 2-34)
- Preliminary Plan Review
- Final Plan Review - Initial Submittal
- Back Check Review
- Post Approval Document Review

OSHPD's Informal Dispute Resolution Process

C

P

R

- **Important Points**
  - **The Goal:** Promptly resolve all issues that develop between OSHPD staff and its clients at the lowest possible level.
  - Decisions are non-binding if the decision is made by OSHPD staff not listed on the CPR Paths.
  - Decisions must not be construed as establishing a decision for future requests.
  - At any level of the CPR Path, OSHPD staff may require the submittal of an Alternate Method of Compliance Form (OSH-FD-126).
    - OSHPD staff at levels 2 and 3 of the CPR Paths is responsible for approving or denying all Alternate Methods of Compliance requests.

OSHPD's Informal Dispute Resolution Process

C

P

R

CAC, Part 1, Section 7-161. Comment and Process Review (CPR)

- PLAN REVIEW CPR PATH
  1. Plan Review Staff Member
  2. Regional Supervisor
  3. Deputy Division Chief
  4. Deputy Director
- CONSTRUCTION OBSERVATION CPR PATH
  1. Field Staff Member
  2. Regional Compliance Officer
  3. Deputy Division Chief
  4. Deputy Director
- SEISMIC RETROFIT PROGRAM CPR PATH
  1. Staff Member
  2. Program Supervisor
  3. Principal Structural Engineer
  4. Deputy Director

Tips from the expert: How to Have a Successful CPR

Tip: *Always begin with the person making the comment. Don't start by going over the person's head*

Tip: *Always keep the discussion factually based and not personal*

Tip: *Advise the person that you wish to discuss the issue with their supervisor if a consensus agreement is not reached*

Tip: *Offer to involve the person in the discussion with the supervisor*

Tip: *Use the process immediately when an impasse has been reached. A delay with initiating the process is a potential project delay*

In addition to PINs and CANs OSHPD has POTS and PANS:

- **POTS = Plain Old Traditional Services**
- **PANS = Pretty Awesome New Services**

POTS

- **Triage Review** – verifies the submittal is complete enough for a meaningful review and determines the appropriate review process.
- **Preliminary Review** – a review conducted at an earlier stage of plan development to ensure the design is heading in a code-compliant direction.
- **Expedite Review** – reduced turnaround goals for projects that fall within targeted review hour estimates.
- **Over-the-counter Reviews** – same day review with the client.
- **Incremental Review** – allows "fast-track" construction of large, complex building projects whereby work begins on some increments of work while other work is still in the plan review process.
- **Deferred Approval Review** - allows work that is typically done by a subcontractor or fabricator to be deferred until the subcontractor or fabricator has been selected.
- **Field Review** – reviews conducted at the facility or other off-site location by OSHPD's field compliance staff.
- **Alternate Method of Compliance Review** – allows applicants to meet the intent of the code using new methods or technology.
- Geotech/Geohazard Review – reviews in conjunction with CGS to determine applicable site specific seismic loads and risks to be used in hospital design.
- **Standard Review** – process used most remodel and renovation projects. Applicants are bound to regulatory timeframes for resubmittal of plans to OSHPD. OSHPD has established turnaround goals for these kinds of reviews.
- **Annual Building Permit** – allows SNFs and hospitals to obtain a permit for which projects may subsequently be associated with.
- **Contract Review** - the structural review for large, complex new buildings may be contracted out to private engineering firms that can dedicate more staff to the review than OSHPD's staffing would permit. This provides for shorter overall review duration for the project.
- **OSHPD Pre-Approvals** – allows manufacturer's to obtain approvals for product installation on a one-time basis. Products may then be specified in future projects without requiring re-review. Leverages the plan review process.
- **Standard Details** – pre-approved details which designers may use on projects without requiring re-review.
- **Pre-design Conference** - provides a process for designers to resolve code application issues prior to beginning design.
- **Pre-design Review** - statutorily mandated for projects $20 million and above.
- **Integrated Plan Review** – a process that involves OSHPD early in the design phase and has resulted in a 5 month average reduction in time from first final submittal to approval with a first building permit being issued within 6 months of final submittal.
- **Managed Projects** – resubmittal timeframes and turnaround timeframes are negotiated with the applicant. These reviews are typically used for larger, more complex projects.
- **Approved with Comments** – allows a project to proceed with construction while minor issues are still being resolved by the applicant.
- **Critical Path Expedite Review** – provides for a quick turnaround time for review of post approval documents that affect the critical path of a project under construction.
- **AB 2632 Permit** – plans do not need to be submitted for review for certain kinds of projects for single story SNF and hospital buildings.
- **SB 1838 Exempt Project** – projects costing $50,000.00 or less, excluding fixed equipment costs, may be exempted from plan review.
- **OSHPD Seismic Certification Program** – creates an inventory of products that have special seismic certification for use in hospitals
- **OSHPD Pre-approval of Manufacturer's Certification** - program for review and preapproval of seismic design of supports and attachments for nonstructural components to be used in hospitals
- **OSHPD pre-approved Laboratory Program** – creates a list of Testing/Inspection Agencies that are approved to perform tests and special inspections on hospitals
- **Evaluation** – review performed on a time-and-material basis
- **HAZUS** – an analytical tool used to evaluate the collapse probability of a hospital building

POTS

- **Materially Alter** –Changes in construction work that do not materially alter the approved documents to proceed without requiring a plan review.
- **Field-directed Changes** – established a policy that requires field staff to go through an internal resolution process if there is a disagreement between field staff and plan review staff regarding the approved plans.
- **Technical Leader Program** – instituted a program consisting of a technical leader for each discipline. The technical leader is responsible for technical training, QA/QC, and consistency of code interpretation/application.
- **Back Check Reduction Program** – mandatory meetings with the designers and hospital owner representatives if back check exceed the average number.
- **Reminder Checklists on Website** - these provide a manner for designers to perform QA/QC based on the code requirements that OSHPD will be looking for in the documents.
- **CANs, PINs, FAQs** – developed formal code interpretations (CANs), implementation of policy (PINs) and frequently asked questions (FAQs) to assist the designers.
- **HAZUS 2010 and NPC 2010** - adopted emergency regulations to allow the HAZUS program to continue and to provide for extensions and/or exemptions for non-structural work. Revised score for HAZUS reclassification of SPC-1 buildings to SPC-2.
- **Voluntary Seismic Improvements** – adopted regulations that allow hospitals to mitigate only those structural deficiencies that contribute to the buildings collapse potential instead of requiring a complete structural retrofit of the building.
- **Modernize Codes and Regulations** – instituted a policy to adopt national model codes to the greatest extent possible with amendments where required because of state law and geological and geographical conditions unique to California.
- **Quality of Service Survey** – developed and placed a survey on OSHPD's website to solicit feedback from clients regarding the quality of service they received.
- **CPR** – developed and instituted an informal second opinion/ dispute resolution program for clients who disagree with OSHPD's staff.
- **Ombudsman** – instituted an ombudsman program that allows clients to discuss concerns and issues with a third party arbitrator.
- **Project Management for Large, Complex Projects** – developed the project manager approach for large projects, similar to what typically occurs in the private sector. This provides a single point of contact and a resource for keeping projects on-track.
- **Internet-based Plan Review Status Tracking** – this program allows clients access to their project status in real time on an on-going basis.
- **Educational Seminars/Training for Stakeholders** – training opportunities for designers, Inspector of Record, hospital owners, contractors, etc. regarding hospital design and construction requirements.
- **Ongoing Quarterly Meetings with Stakeholders** – regularly scheduled meetings with the California Department of Public Health, California Hospital Association, major healthcare providers, such as Kaiser, UHS, Prividence, etc. to discuss concerns and issues.
- **Establishing ad-hoc committees** thru the Hospital Building Safety Board to advise OSHPD regarding proposed regulation, code and process changes, etc.
- **Processes for pre-approval** of special seismic certification of equipment used in hospitals.
- **"Best Practices Manual"** - Worked with the California Healthcare Foundation to develop a Manual for hospital construction projects.
- **Electronic submittal** of applications by clients

Based on extensive research by the POTS Research Institute (PRI), OSHPD has more POTS than any other Building Department in the world. (49 POTS listed)

PANS

- Expand electronic services
  - Electronic Plan/Document Review
  - eSP – Client access
  - eSP – Mobile Office
  - Virtual OTCs
  - Virtual Plan Review
  - Project Report Card
- Small and Rural Hospital Relief Program
- ISU Realignment
- Integrated Review IR– Policy Intent Notice No. 50
- OPPCS Program
- Guides and Advisories
- White Papers
- Industry Training/Seminars
  - Guide for Working on Projects Under OSHPD Jurisdiction – Tips From the Experts
  - 2022 CBSC
  - . . .
- . . .

OSHPD's Gateway to Electronic Services

e Services Portal

- ❑ e client access
- ❑ e document processing
- ❑ e permitting
- ❑ e project tracking
- ❑ e inspection services
- ❑ e codes

The Electronic Client Access Program (eCA)

- The eCA is:
  - An online system
  - Permits facility users and licensed professionals to submit the OSHPD construction project applications
  - Enabling users to:
    - Register for accounts,
    - Manage their accounts,
    - Create project applications,
    - Submit project applications,
    - Pay application fees; and,
    - Track their application
  - Accessible to all public users via the internet a: https://esp.oshpd.ca.gov/CitizenAccess/Default.aspx

The Electronic Client Access Program (eCA)

- Users may access the system anonymously.
  - For expanded applications, users must apply for and obtain a user account
- Construction project info available to the public immediately after project application is submitted

e-Client Access (eCA)

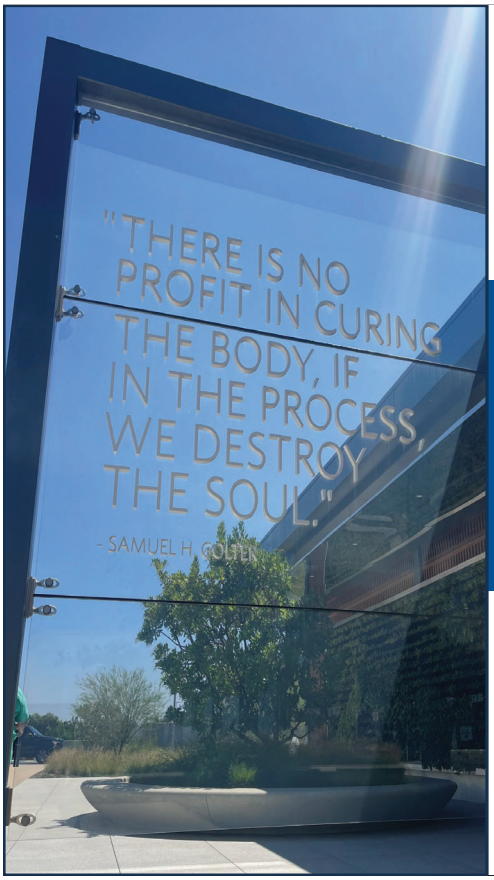
- Accessible to all public users
- Where can I find it? https://esp.oshpd.ca.gov/CitizenAccess/Default.aspx
- The information regarding a construction project is available to the public
- Can anybody access the info in eCA?
  - All public information may be accessed anonymously.
  - However: For expanded functionality, users must apply for and obtain a user account

What Can I Do in eCA?

- Permits access to the following online services:
  - Search easily for Facility Information
  - Determine OSHPD Field Staff assigned to your project
  - Search for Project Information by project or by facility
  - Search for Project Information by Licensee
  - View Project Details and Related Records
  - View a project's current workflow status and comments
  - View the anticipated due date for each discipline's review
  - View all Application Details for a project
  - Create and Submit Construction Projects Applications
  - Create and Submit Preapproval Applications
  - Create and Submit Small and Rural Hospital Relief Applications


ANY
QUESTIONS
?


Break
time



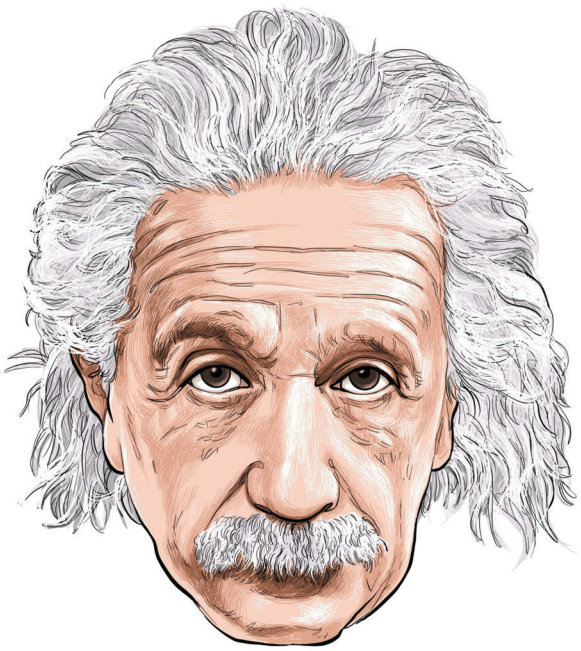
Session 2: Tips from the Owners

Health Care Access and Information | Hospital Building Safety Board

October 2023

Albert Einstein famously said, “If I had one hour to save the world, I would spend 55 minutes defining the problem and five minutes finding the solution.”

In trying to define the problems associated with unsuccessful construction projects, we recognize that many owners have limited knowledge of major capital projects because of their infrequency of building.



But that situation can change. Owners can make it clear that vendors that don't adapt will lose customers and market share; owners can make it clear that new work will go to those vendors who embrace techniques shown to be far more effective in meeting schedules, user needs, and budgets.

We know that owners are busy managing hospitals and will attempt to hand off a construction project to people or firms under them. That's the problem.

Hospital Building Safety Board

119

Good Decision Making

- Acknowledge the need to understand the design and construction issues and be involved in their outcome.
- Gain an inside understanding of the nuances of the planning-design-construction industry.
- Develop an organizational structure that will be successful for a capital development project, not just healthcare delivery.
- Create the proper lines of communication for a capital development project.
- Break down silos, both internally and externally, both cultural as well as process issues.

120

Session 2: Working with OSHPD – The Owner's Perspective

Presenters

Bert Hurlbut

VICE PRESIDENT

STANFORD HOSPITAL & CLINICS
Stanford University Medical Center

Kelly Martinez

CO-FOUNDER

HALLSTA

Gary Dunger

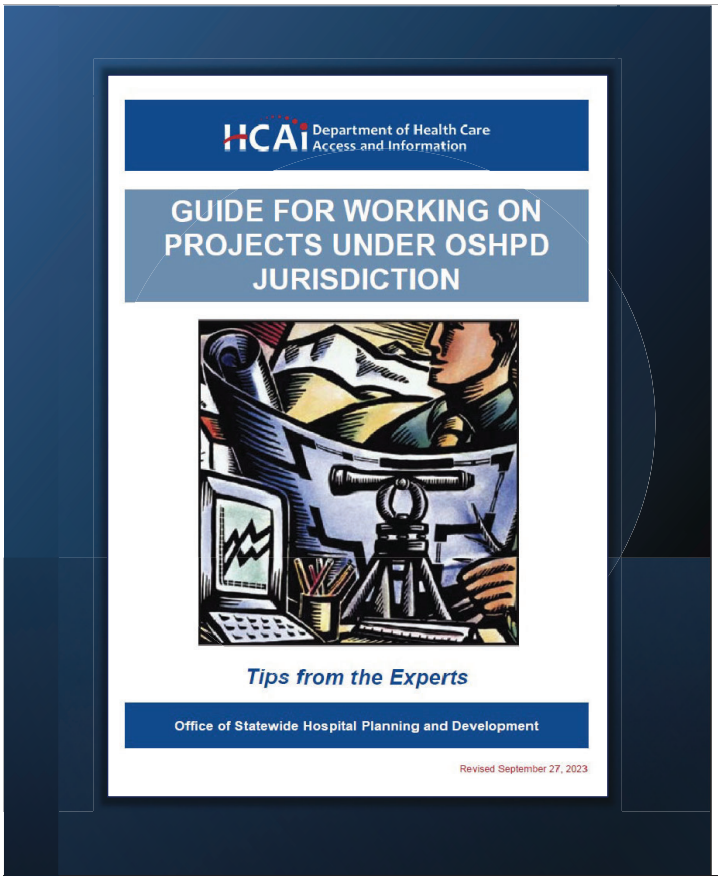
EXECUTIVE DIRECTOR

Cedars Sinai

12
1

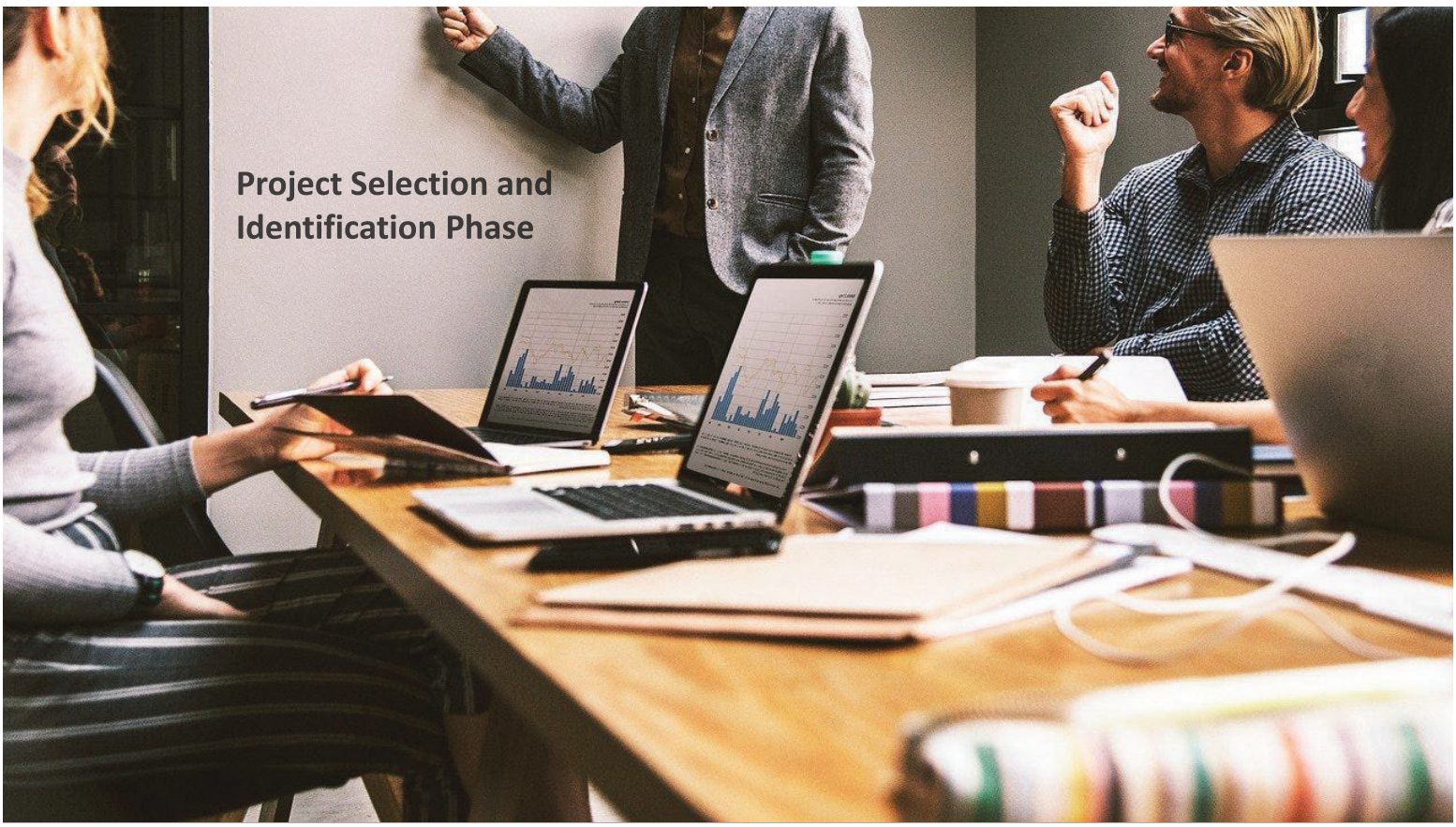
Hospital owners can adopt practices in their project planning and construction delivery methods that anticipate causes of budget, schedule, and scope impact to prepare to resolve them proactively.

These strategies are used most effective when applied to the appropriate phase of the overall project.



Organizing the work by phase:

1. Project Selection and Identification Phase
2. Project Planning Phase
3. Design Phase
4. Permit Phase
5. Construction Phase
6. Close-Out Phase
7. Owner Considerations



1. Project Selection and Identification Phase

- **Develop an overall Master Facilities Plan and Program**
  - A Master Facilities Plan both plans and tracks construction. This can assist in:
    - Aligning capital funding cycles with seismic compliance mandates and other regulatory requirements
    - Predicting when a new project may trigger upgrades of mechanical, electrical, plumbing, and structural systems
    - Determine when and where additional power sources are required

The Master Facilities Plan should include all service lines provided by the facility, including outpatient services.

125

1. Project Selection and Identification Phase

- **Clinic and Outpatient Facilities**
  - Code Application Notice (CAN 1-7-2100) can assist in determining which agency has jurisdiction for a clinic project and the various code requirements that must be complied with.

Understand and communicate clearly what you want to accomplish.

126

1. Project Selection and Identification Phase

- **Long-Term Building Planning**
  - Seismic compliance laws provide for three compliance options; nonconforming buildings may be:
    - Retrofitted
    - Closed, demolished, or replaced
    - Have acute care services removed and be converted to non-acute-care use
  - Refer to CAN 1-6-1.4.5.1 when considering converting from General Acute Care (OSHPD 1) to other uses, based on the issue of, which clarifies the CBSC for the removal of acute care services from a hospital building.

1. Project Selection and Identification Phase

- **Be prepared to invest the necessary time and resources**
  - Determine whether an integrated project team is needed
  - Project time and cost considerations:
    - Building and equipment needs
    - Inflation
    - Project design fees
    - Plan review schedule
    - Construction time
    - Licensing and Activation time
  - Develop and validate current project concept budgets, with contingencies, that align with defined scope.

Be realistic about the preliminary budget and length of time needed to achieve your goal. Assign project management duties to qualified people who can handle the expected workload.

2. Project Planning Phase

If a hospital owner is unsure whether a construction permit is needed, a hospital representative should check with the OSHPD Compliance Officer (CO).

Be transparent with OSHPD and bring them to the table as a partner and team member to instill familiarity and confidence in the project.

EXPERT TIP

Contact a Compliance Officer to determine whether a permit is needed for a remodeling project. Refer to the FREER Manual "Excluded Projects" for guidance which projects require a permit.

130

2. Project Planning Phase

- **Unauthorized Construction**
  - Work without a permit is considered unauthorized construction which can result in:
    - Noncompliance with licensing requirements
    - Validation survey citations
    - Noncompliance with Medicare Conditions of Participation
    - Ineligibility for Federal Emergency Management Agency (FEMA) assistance and reimbursement

2. Project Planning Phase

Functional program

The development of a comprehensive functional program is a critical document that aligns and communicates the project intent and purpose to the various regulating agencies and ensures the project meets the applicable regulatory requirements for design and construction.

Purpose
Outlines the purpose of the project

Requirements
Confirms the project meets all regulatory requirements

Operational Requirements
Explanation of how the department functions

Environment
Provides information about the environment of the building

Standards
Ensures patient care and supervision standards are met

Accommodations
Patient, Staff, & Visitor Workflows

Refer to California Administrative Code, Section 7-119 for further details on the requirements of the functional program

2. Project Planning Phase

- **Project Management**
  - Some projects can benefit from the expertise of a Project Manager (PM) to the team. Knowing when to use a Project Manager and how to select one is an important part of a successful project.
  - Good outcomes require active management. The design team, equipment vendors, and contractors have different interests and motivations than the owner. Management control is essential to minimize problems as work progresses through the construction process.

EXPERT TIP

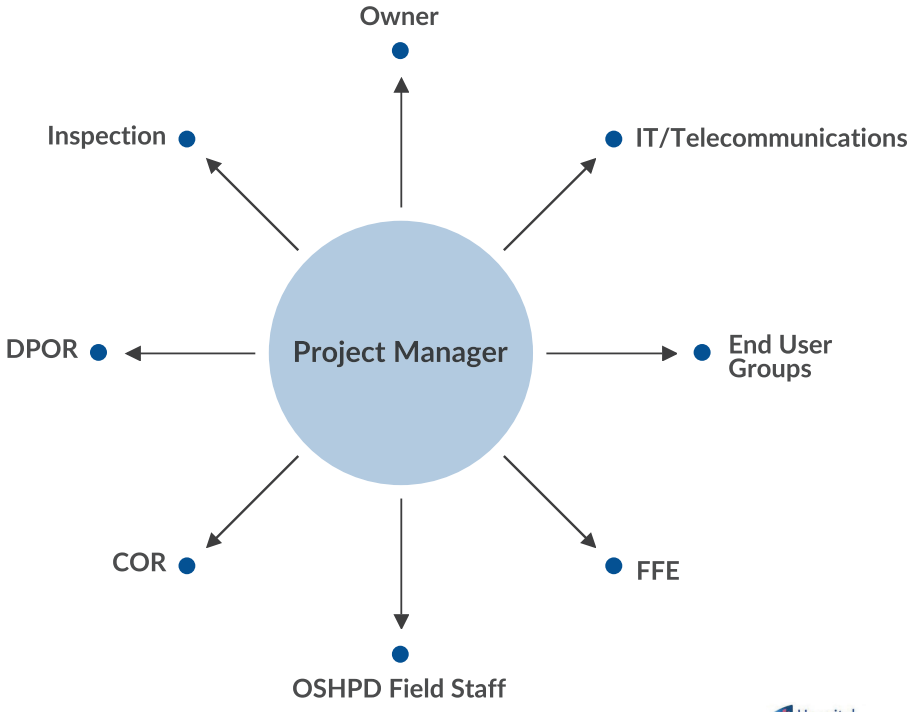
Assign project management duties to qualified people who can handle the expected workload.

133

California Experienced

Project Managers

are responsible for the overall coordination required to ensure a successful project, ensuring all players know their roles.



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134

2. Project Planning Phase

- **Design Team**
  - Project delays invariably occur when architects and engineers do not understand California Codes, the OSHPD process or Licensing requirements.
  - Architects and engineers assigned to projects should be interviewed to confirm they have a demonstrated knowledge of California hospital design and can work constructively in the OSHPD environment.
  - Obtain references for architects and engineers and review past projects to confirm they have the appropriate experience.
  - This also applies to the selection of equipment vendors and technology systems providers.

Use contracts that contain a provision for code-compliant drawings to ensure there are no extra charges for backchecks. Extra charges should be for owner requested changes only.

135

2. Project Planning Phase

OSHPD has jurisdiction over all construction in healthcare facilities but is not usually the *only* public agency involved.

- **Regulatory Environment**

  OSHPD has jurisdiction over the construction of your healthcare facility, but they are usually not to be the only public agency involved. Refer to CAN 2-0 for OSHPD Jurisdiction.

- **Planning**

  Determine the entire regulatory oversight with the design and legal consultants before undertaking your project. Incorporate the time required for all the reviews, approvals, and permits when settling your project schedule.

- **Regulatory Examples:**
  - Land Use Approvals and CEQA
  - Other Permitting Entities
  - California Department of Public Health (CDPH)
  - School District Fee (refer to OSHPD PIN 48)
  - California Board of Pharmacy
  - AQMD
  - CERs
  - Utilities Companies
  - Accrediting Bodies (TCJ, DNV, etc.)

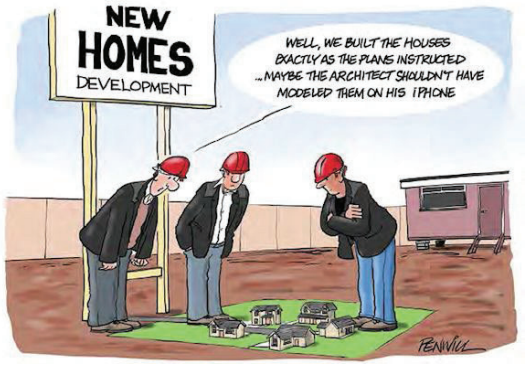
Hospital Building Safety Board

Develop a full understanding of the regulatory environment that affects your project

136

2. Project Planning Phase

- **Project Feasibility**
  - There are limits to the built environment that can make a project infeasible:
    - Existing conditions of the target location adjacent spaces
    - Code-mandated upgrades that either increase cost
    - Unreliable as-built drawings
    - Lack of adequate evaluation of existing conditions



137

2. Project Planning Phase

- **Project Feasibility**
  - Make certain that the total project budget and the scope of the project match. Inaccurate or unrealistic budgets are the most common drivers of change throughout the project duration.
  - Distinguish between the budget and construction costs.
  - Make sure adequate contingencies are defined to accommodate unforeseen hospital impacts.

138

2. Project Planning Phase

- **Project Delivery Models**
  - Construction delivery methods matter. They are the means by which a construction project gets from idea to completion. It's a system for organizing and financing the design, construction, operations and maintenance services for the project. It's a legal agreement between different parties involved in the construction project.

139

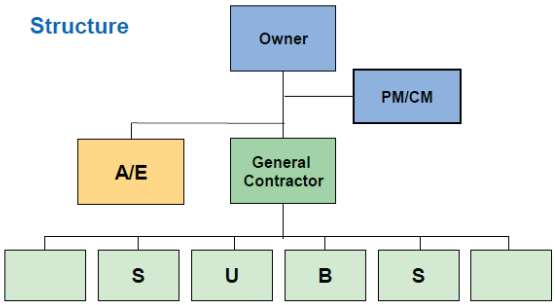
2. Project Planning Phase

- **Project Delivery Models**
  - There are many factors to consider when deciding on the construction delivery method that's best for the project. To make the right choice, you need to know the various construction delivery methods and what the most common construction delivery methods are and what they mean.
    - Design-Bid-Build (DBB)
    - Design-Build (DB)
    - Construction Manager at Risk (CMAR)
    - Construction Manager Multi-Prime Guaranteed Maximum Price
    - Integrated Project Delivery (IPD)

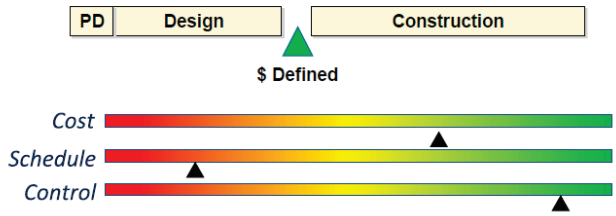
140

Traditional: Design-Bid-Build Lump Sum

Structure



Progression



Characteristics

- Two separate contracts with Owner (design, construction)
- Prime players (Owner, PM/CM, designer, contractor)
- Three linear phases

Benefits

- Design Control: Prescriptive Plans & Specifications define Design Intent & A/E is contracted directly to Owner
- Standard scopes of work for all parties
- Well established and clearly defined roles for the parties involved
- Provides Owner with reliable initial price information for the project before construction starts

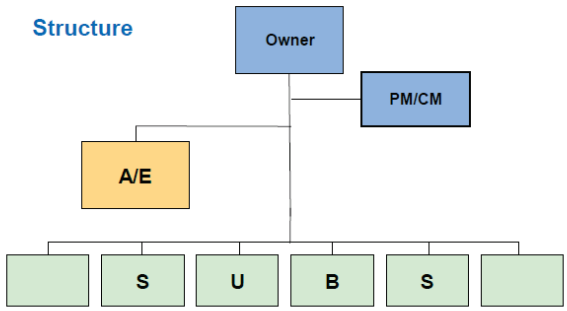
Risks/Issues Dependencies

- Process may have a longer duration compared to other delivery methods
- Project Cost not defined until Construction documents are complete
- Risk of gaps between design documentation and construction requirements for completed project
- Owner generally faces exposure to likely change orders to cover gaps between design documentation and requirements discovered during construction
- Cost and Schedule are difficult to control.
- Absence of Contractor input into design may impact constructability of the design
- Contractor has no responsibility for design and no financial incentive to find solutions that benefit the Owner.

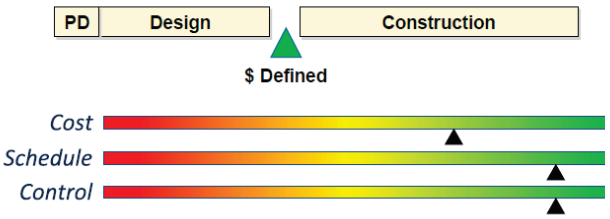
141

CM Multi-Prime Guaranteed Maximum Price

Structure



Progression



Characteristics

- A variation to Design-Bid-Build, where Owner holds separate contract with contractors
- PM/CM partner directly manages trade contractors

Benefits

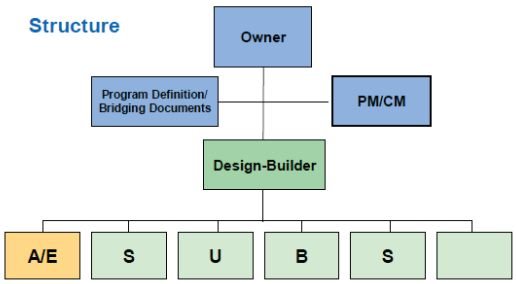
- High level of Owner control
- Potential cost savings
- Ability to fast-track early components prior to full completion of design

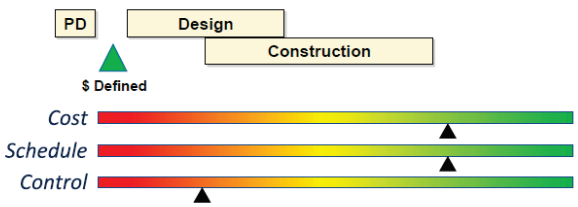
Risks/Issues Dependencies

- Increased number of Owner contracts
- Greater risk for Owner
- No central point of contractor coordination (mitigated with a PM/CM)
- Potential for claims between the contractors

142

Design-Build (D-B) Lump Sum





Characteristics

- Integrated process – overlapped design & construction; usually fast-tracked
- A/E typically under D-B prime
- Flexibility on extent of program definition and design before hiring D-B (trade off design control vs. early cost definition)

Benefits

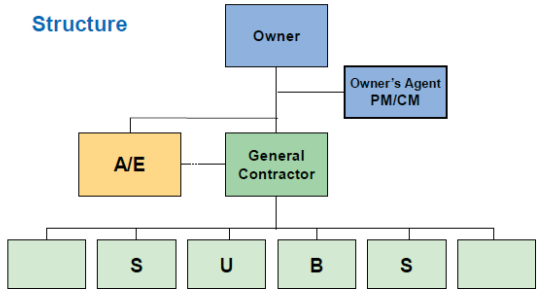
- Early cost guarantees
- Design/Builder is A/E of Record – disputes between design & build teams are internal to the D-B
- Change orders are limited to Owner requests
- Significant portion of delivery risk is transferred to D-B
- D-B can fast track construction for projects with low complexity
- As D-B Team works together from outset, provide greater opportunity to improve schedule and cost
- D-B can produce a project more quickly than traditional D-B-B

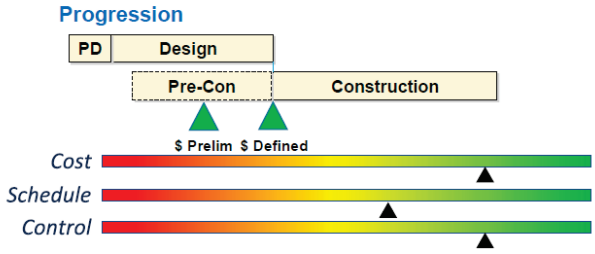
Risks/Issues Dependencies

- Owner has less control of design – D-B contractor has discretion to satisfy Program Definition and quality standards
- Owner changes have significant cost & schedule consequences
- Owner needs to recognize level of completeness for initial scope/ preliminary design, which forms the basis of the DB contract

143

CM-at-Risk (GC Design Assist) Guaranteed Maximum Price





Characteristics

- Owner's Agent PM/CM
- GC starts early, working with A/E
- GC provides advisory assistance prior to construction offering schedule, budget and constructability during planning and design phases

Benefits

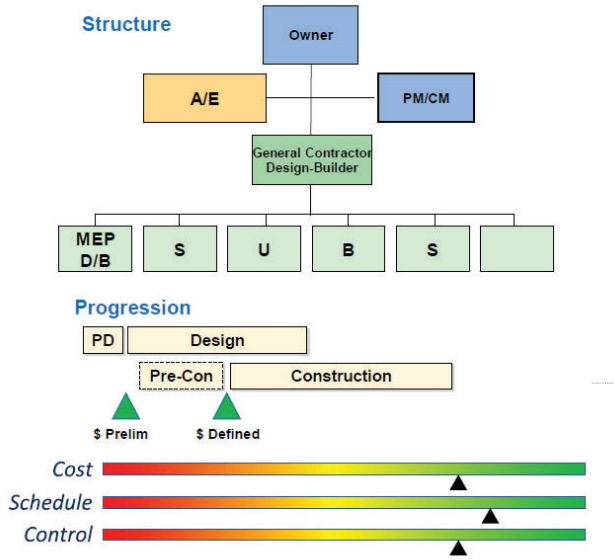
- Early cost definition (not guaranteed)
- GC provides pre-construction services which adds value to design phase (i.e. incorporate contractor's perspective and input to planning and design decisions)
- Participation during design & "buy-in" to design
- GC assistance with constructability and value engineering
- Potential to enhanced schedule
- Decrease anticipated change orders
- Opportunity to begin construction prior to completion of design

Risks/Issues Dependencies

- No GMP until CDs (similar to traditional)
- Risk of Rebid (similar Traditional)
- Requires good working relationship between Owner, designer, and builder
- Expect some E&O change orders – the CM is NOT the A/E of Record during construction and cannot transfer design risk to the CM

144

Progressive Design-Build (PDB)
Guaranteed Maximum Price



Characteristics

- PDB facilitates early involvement of D-B team during earliest stages of Owner's project development
- Ensures PDB is part of the project team developing design solutions
- Promotes increased collaboration between 3 key players: Owner-Designer-Contractor

Benefits

- More cost-efficient project in a shorter time to the Owner
- Early cost definition with PDB engaged early in design
- PDB team works collaboratively with Owner
- Risks identified and mitigated earlier in the design phase
- PDB as a single contractual entity performing the design and construction provides better integration and comunication

Risks/Issues Dependencies

- D-B is procured generally when design is +35% complete, PDB delivery method adds the PDB even earlier in the design phase
- Procurement typically two-step process: qualifications followed by price
- PDB generally contracted under GMP, reflecting the actual cost to construct, may be too late for Owner

145

2. Project Planning Phase

- **OSHPD Approaches to Review and Permitting**
  - There are several different approaches for project review and permitting. Projects that do not specify a particular approach will be reviewed as a standard project:
    - Projects that alter the existing structural frame ("H" projects)
    - Projects that do not alter the existing structural frame ("S" projects)
  - OSHPD employs a sophisticated program for turnaround targets for these types of projects (Anticipated Plan Approval Date)
  - OSHPD offers a "preliminary" review process for these projects to look at major code issues prior to completion of construction documents

146

2. Project Planning Phase

- **OSHPD Approaches to Review and Permitting**
  - Additional automatic and optional plan review programs include:
    - **Annual permit** – covers up to $50,000 on an annual basis.
    - **AB 2632 project** – for maintenance and repair work in single story buildings.
    - **SB 1838 project** – under $50,000 excluding the cost of fixed equipment. Projects are not plan reviewed and must comply with PIN 36.
    - **Incremental Projects** – new buildings projects that are separated into two or more permit sets ("I" projects). Each increment represents one or more complete building systems.
    - **Integrated Review** – early review in the project design that continues through conceptualization, criteria design, detailed design, implementation documents, office review, and final plan approval.

147

3. Design Phase

EXPERT TIP

- Require that your design team of architects and engineers design to the current California Building Code Standards.

3. Design Phase

Design problems that impact the satisfactory completion of the OSHPD process include:

- **Designing to incorrect code**

  Designing to a code other than the appropriate provisions of the CBSC leads to noncompliance.

- **Using outdated codes**

  Designing to out-of-date codes results in designs that do not meet current standards.

- **Inconsistent nomenclature**

  Using room designations or other nomenclature on plans that are inconsistent with the CBSC causes confusion.

- **Not utilizing OSHPD resources**

  Failure to make the best use of PINs, CANs, FAQs, and reminder lists published by OSHPD results in avoidable errors.

- **Not following OSHPD guidelines**

  Failure to follow the OSHPD Remodel CAN, which provides flow diagrams for use in planning the scope and boundaries of remodel projects, leads to improper project scoping.

- **Inaccurate as-built assessment**

  Failure to accurately identify the existing building as-built condition and implement necessary corrections into plan development results in improper design adaptations.

- **Not incorporating manufacturer requirements**

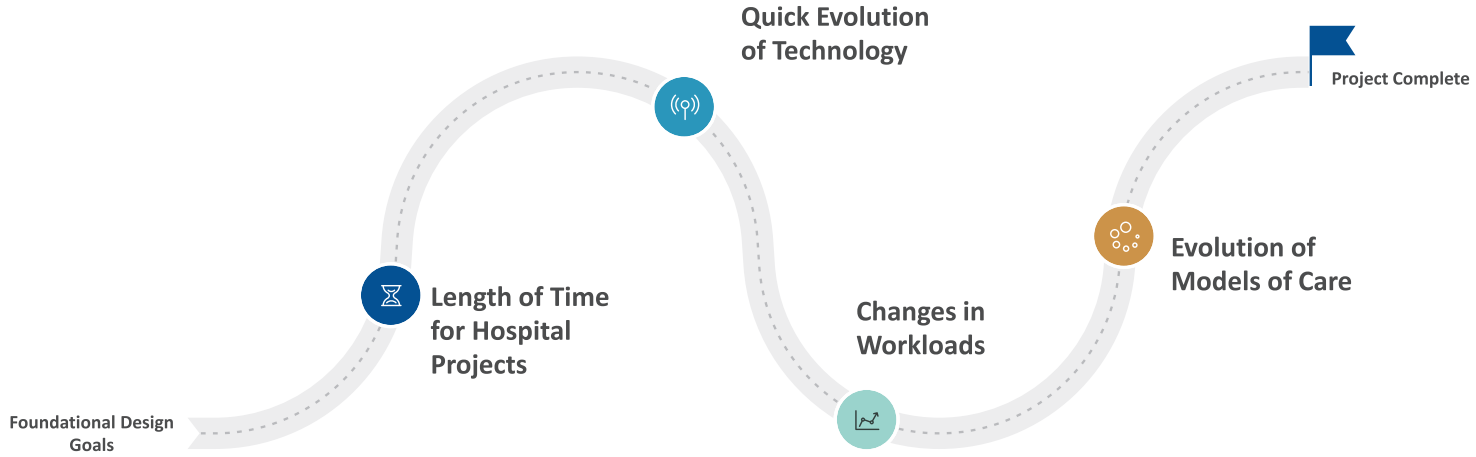
  Failure to incorporate the manufacturer's installation requirements into your permitted plan leads to improper implementation.

150

3. Design Phase

Flexibility for Change

A foundational design goal of any hospital project should be to provide flexibility to change.



"The trouble with not having a goal is that you can spend your life running up and down the field and never score." ~*Bill Copeland*

3. Design Phase

Designing Flexibility into Hospitals

Build in flexibility through shell space

Include unassigned or shell space that can be adapted to new uses as needed

Use a universal structural grid

Standardized column spacing allows interior walls to be moved easily

Standardize room sizes

Use consistent room dimensions to allow repurposing

"Is it too late to add four floors?"

EXPERT TIP

Develop a shelling strategy, which could be implemented either as an alternate approved design or as an amended construction document.

Building in flexibility through shelling, universal grids, strategic layouts, and standardization enables cost-effective adaptations over time

3. Design Phase

Flexibility for Change

- Sustainable design and disaster planning need to be considered in designing flexibility in a hospital.
  - Design must comply with the 2030 Energy Challenge
  - Planning for various threats as part of the infrastructure strategy
    - Earthquakes
    - Wildfires
    - Chemical, radiological, biological attacks
    - Pandemic/Flu surge
    - Horizontal exits
    - ED/inpatient bed surge capacity
    - Mechanically isolating areas of the building
    - Creating major outdoor triage/decontamination spaces
    - Accommodating additional staff

153

3. Design Phase

Geotechnical Reports

- Approval for Geotechnical reports take a long time. Owners should plan for this and submit the report at least **six months** ahead of preliminary submittal.

Submit a geotechnical report, when needed, in a timely manner. Use experienced firms and submit reports early in the process.

154

3. Design Phase

Design Team

- OSHPD expects the licensed design professional to know and follow the code in the preparation of the construction documents.
- Design teams should clarify which aspects of their design may not adhere to the prescriptive aspects of the code. These issues include:
  - Alternate methods of compliance for architectural, electrical, mechanical, and structural conditions;
  - Alternate methods of protection for fire & life safety issues; and
  - Program flexibility where the relationship between architecture codes and the specific needs of different care delivery models conflict.

155

3. Design Phase

Preliminary Review

- Plans can be submitted for a preliminary review by OSHPD to validate the proposed architectural and fire & life safety elements of the design.
- Preliminary review establishes the applicable codes for the project.
- A preliminary review can mitigate potentially gross errors in the documents submitted for permitting.
- Plans should be completed to the 50% Design Development stage before submitting for Preliminary Review.

Determine during the design process whether you want to have early permits for portions of the work. Begin production of the construction documents only upon receipt of design development sign-offs.

156

3. Design Phase

Incremental Submittals

- OSHPD allows larger new construction projects to have complete phases of construction broken into incremental submittals for permitting.
- Typical incremental submittals may be the foundation and structure in one package, core and shell in a second package and interior build-out in a third package.
- Incremental submittals may reduce time frames, allow construction to commence sooner, but they may also add cost and complexity.

157

3. Design Phase

Construction Documents

- Once construction documents are completed, adding, deleting, or changing programs and services will add cost and result in delays because OSHPD will need to re-review the program.
- Obtain all design development sign-offs before proceeding with the construction documents design.
- Upon completion of documents, an independent plan reviewer should be retained to ensure the design meets code and to minimize the number of OSHPD backchecks.

158

3. Design Phase

Deferred Submittals

- Plan review deferrals are sometimes requested by the design team, and it is up to OSHPD to determine whether they will be granted.
- Review of deferred approval applications can take as long as the review for the initial application and construction cannot commence.
- Deferred submittals may be used for large or technologically-sensitive pieces of clinical equipment when there will be long periods of time between design and installation.
- Some deferred submittals are common unless a subcontractor or manufacturer has been selected early enough to incorporate the necessary details and calculations into the OSHPD submittal documents.

Avoid deferred submittals.

3. Design Phase

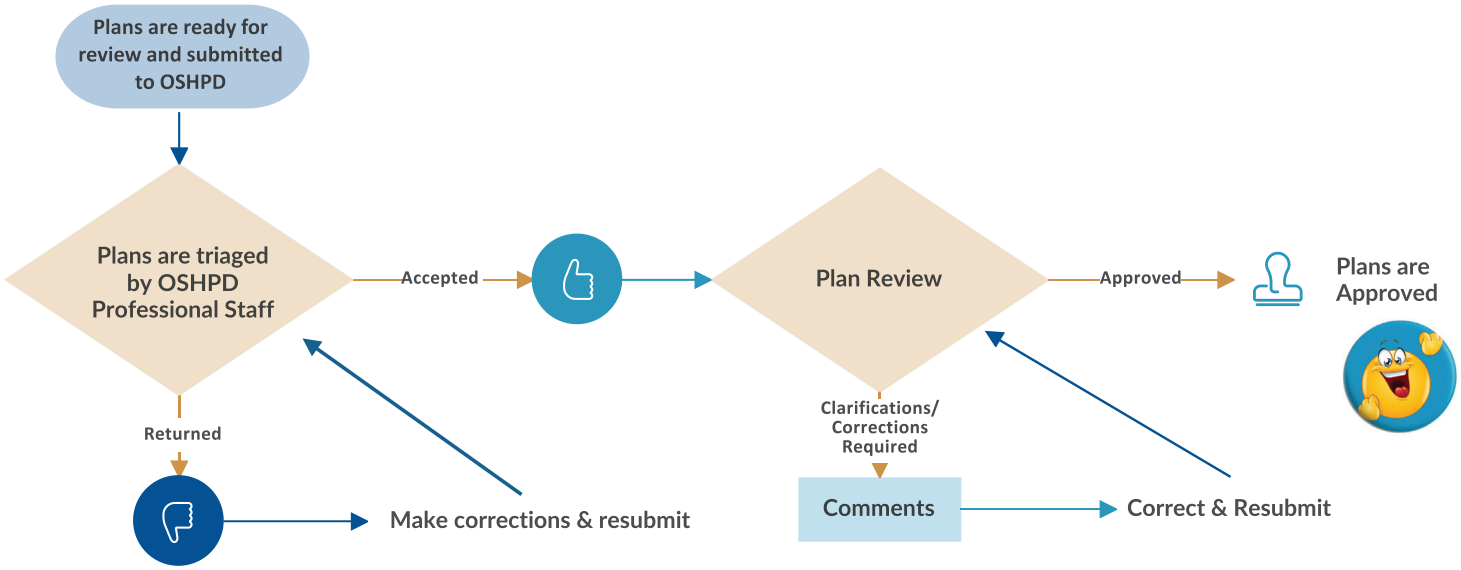
Applications

- Design professionals are customarily responsible for preparing the OSHPD plan review application. The hospital representative should review the application to ensure that:
  - The proper forms or electronic application processes are used, are completed correctly, and are signed by the appropriate parties.
  - A hospital official familiar with the OSHPD process is listed as the Primary Contact to receive important project correspondence. This individual is considered the project **Applicant** and is ultimately responsible for entering the Facility PIN and submitting completed applications.

4. Permit Phase

Plan Review

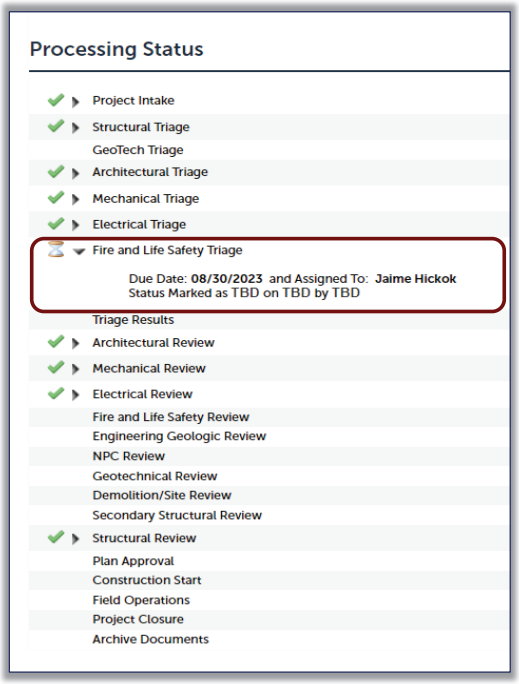
Plan review follows a predictable course through the OSHPD process:



162

4. Permit Phase

Plan Review



Hospital leadership should closely monitor the progress of the plan review process.

- **Monitor progress of plan review**

  Require explanation from design team if drawings are returned during triage

- **Track review cycles**

  Use eService portal to determine status. Monitor durations between reviews

- **Monitor number of reviews**

  Three cycles are common: first review and two backchecks

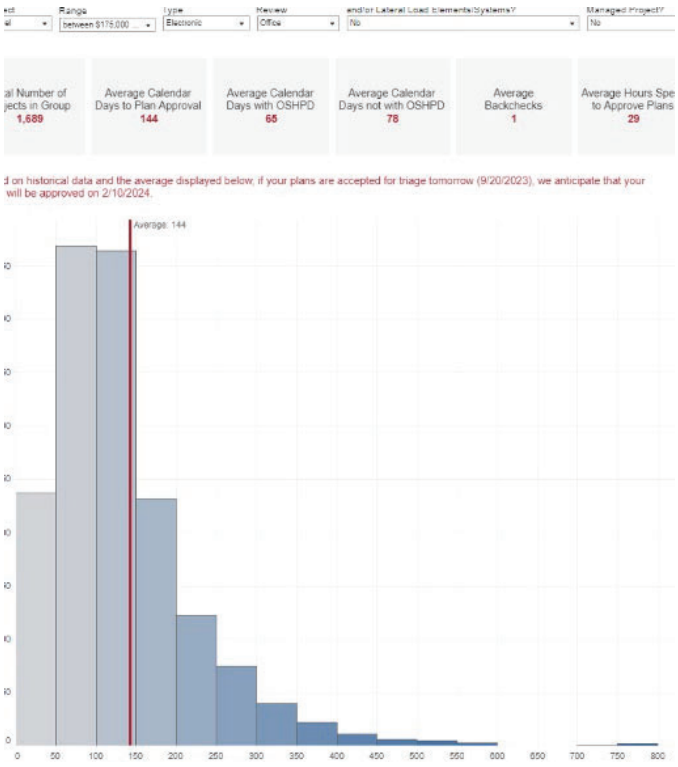
- **Secure committed timeline**

  Require complete schedules with response times and a list of critical issues and due dates requiring hospital input so that the data can be completely integrated into the construction documents

4. Permit Phase

Plan Review

Use the “Plan Approval Date Estimator” on the OSHPD website to help build your project schedule. More than two backchecks indicate that there are problems with the project and hospital owners would want to schedule a meeting quickly.



164

4. Permit Phase

Main Resons for project delays:

Defects in plans

Errors or omissions in architectural plans can lead to delays in project schedule.

Delayed plan reviews

Not promptly responding to plan review comments introduces delays.

Project changes during review

Frequent design changes during plan review process affects the review timeline.

Project changes during construction

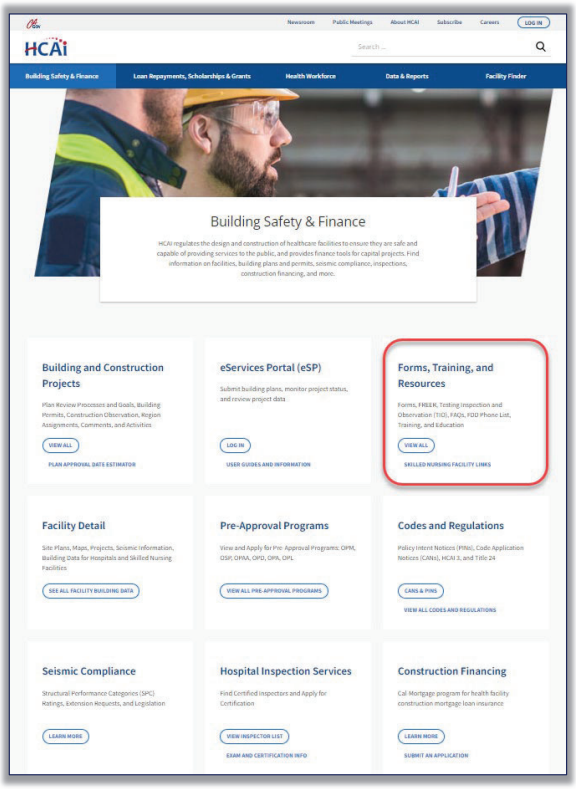
Design changes during construction leads to rework and delays.

Careful planning, minimizing changes during reviews and construction, and active management of review process is key to prevent project delays.

4. Permit Phase

OSHPD Forms

OSHPD forms change from time to time. To make sure you are using the most current form, obtain them from the OSHPD website. Using outdated forms will cause delays.



EXPERT TIP

Obtain all needed OSHPD *forms off the* OSHPD *website to ensure they are current.*

To obtain a building permit:

- Once plans are approved by OSHPD, submit an Application for Building Permit using the OSHPD eServices Portal.
- The following documents must be uploaded before submitting the application:
  - Application for Inspector of Record Form HCAI-OSH-124.
  - Current IOR workload for each IOR application.
  - The licensed contractor's or the or owner-builder's workers compensation certificate or self-insured declaration.
  - The reviewed Testing, Inspection and Observation (TIO) form that was reviewed and stamped during the OSHPD plan review.

4. Permit Phase

4. Permit Phase

- Inspector of Record

All hospital construction must be observed by an OSHPD-certified Inspector of Record, hired by the hospital owner.

The IOR is required to provide for competent, adequate and continuous inspection. He or she must be satisfactory to the architect or structural engineer or both.

OSHPD approval of proposed IORs is required prior to commencement of any construction in accordance with Title 24, Part 1, Section 7-135.

The proposed inspector(s) must be appropriately certified by HCAI in one of three classifications of inspection:

- **Class A** IORs may inspect all phases of construction.
- **Class B** IORs may inspect only the following phases of construction: architectural, mechanical, electrical, fire and life safety, and anchorage of nonstructural elements.
- **Class C** IORs may inspect only specific disciplines of construction defined in regulations.

Prior to selecting an IOR, references should be checked with hospitals and architects who have experience working on prior projects with the IOR. The prospective IOR should also have experience with similar projects.

EXPERT TIP

Hire an IOR appropriate for the project. Discuss your phased occupancy plans with OSHPD *field staff before construction begins.*

4. Permit Phase

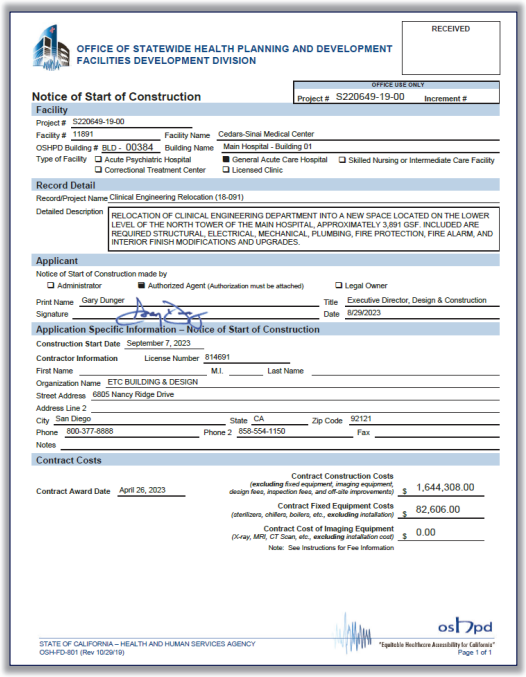
- Inspector of Record

4. Permit Phase

Notice of Start of Construction

The California Administrative Code, Section 7-137, requires owners to submit a Notice of start of construction as soon as a contract has been awarded on a form provided by the Office. It must include:

1. Name and address of the contractor
2. Contract price
3. Date on which contract was awarded
4. Date of construction start



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

RECEIVED

Notice of Start of Construction

OFFICE USE ONLY
Project # S220649-19-00 Increment #

Facility

Project # S220649-19-00
Facility # 11891 Facility Name Cedars-Sinai Medical Center
OSHPD Building # BLD - 00384 Building Name Main Hospital - Building 01
Type of Facility ❑ Acute Psychiatric Hospital ■ General Acute Care Hospital ❑ Skilled Nursing or Intermediate Care Facility ❑ Correctional Treatment Center ❑ Licensed Clinic

Record Detail

Record/Project Name Clinical Engineering Relocation (18-091)
Detailed Description RELOCATION OF CLINICAL ENGINEERING DEPARTMENT INTO A NEW SPACE LOCATED ON THE LOWER LEVEL OF THE NORTH TOWER OF THE MAIN HOSPITAL, APPROXIMATELY 3,891 GSF. INCLUDED ARE REQUIRED STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM, AND INTERIOR FINISH MODIFICATIONS AND UPGRADES.

Applicant

Notice of Start of Construction made by
❑ Administrator ■ Authorized Agent (Authorization must be attached) ❑ Legal Owner
Print Name Gary Dunger Title Executive Director, Design & Construction
Signature Date 8/29/2023

Application Specific Information – Notice of Start of Construction

Construction Start Date September 7, 2023
Contractor Information License Number 814691
First Name M.I. Last Name
Organization Name ETC BUILDING & DESIGN
Street Address 6805 Nancy Ridge Drive
Address Line 2
City San Diego State CA Zip Code 92121
Phone 800-377-8888 Phone 2 858-554-1150 Fax
Notes

Contract Costs

Contract Award Date April 26, 2023

Contract Construction Costs (excluding fixed equipment, imaging equipment, design fees, inspection fees, and off-site improvements) $ 1,644,308.00
Contract Fixed Equipment Costs (sterilizers, chillers, boilers, etc., excluding installation) $ 82,606.00
Contract Cost of Imaging Equipment (X-ray, MRI, CT Scan, etc., excluding installation cost) $ 0.00
Note: See Instructions for Fee Information

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-801 (Rev 10/29/19)

oshpd
"Equitable Healthcare Accessibility for California"
Page 1 of 1

START OF CONSTRUCTION *is the date the actual physical work, demolition, construction, repair, reconstruction, rehabilitation, addition, placement, preparation of the site for the first placement of permanent construction of a building such as the trenching for foundations or utilities, or other improvements or offsite component preparation as shown on the approved construction documents begins.*

171

4. Permit Phase

Permit Lapse

Construction must commence within one year of plan approval. Failure to do so will cause the permit to expire, and with it, the approval of the plans.

Prior to your permit lapsing, an extension can be requested.

EXPERT TIP

Never let your permit lapse. Request extensions, in writing, well in advance to the time limitations.

172

COMMENT & PROCESS REVIEW

CAC SECTION 7-161

Comment and Process Review

CAC Section 7-161

The Comment and Process Review (CPR) is a procedure clients should use to promptly resolve issues concerning:

- Plan review and construction observation comments.
- Processes such as emergency, over-the-counter, and expedited reviews.

174

Comment and Process Review

CAC Section 7-161

Clients initiate CPR by discussing the issue with the staff member shown at the first level (level 1) of the appropriate CPR Path.

- If the issue is not resolved at level 1, clients have the option of proceeding to level 2.
- If the issue is not resolved at level 2, clients have the option to proceed to level 3.
- After level 3, clients may appeal to the Hospital Building Safety Board.

175

CPR Path Level Contacts

Level 1
- Plan Review Staff Member
- Field Staff Member

Level 2
- Regional Supervisor
- Regional Compliance Officer

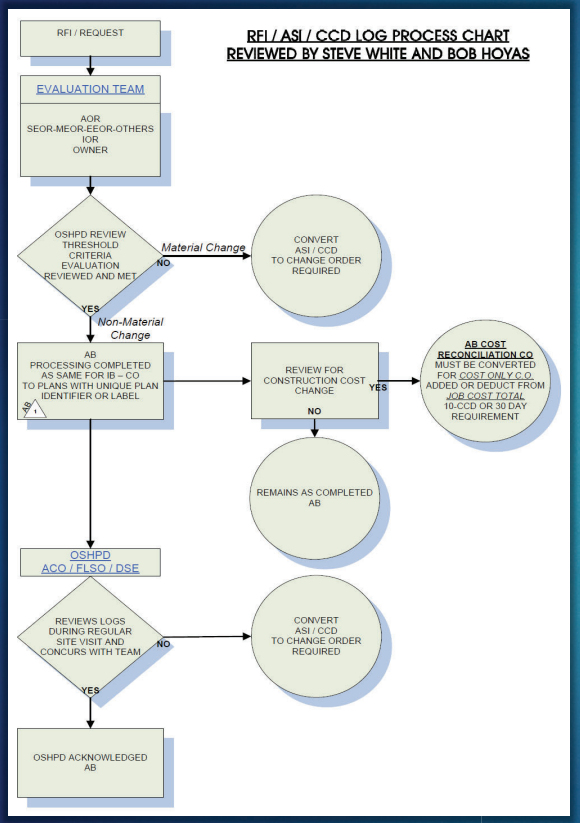
Level 3
- Deputy Division Chief

Level 4
- Deputy Director

Hospital Building Safety Board

176

Construction Phase

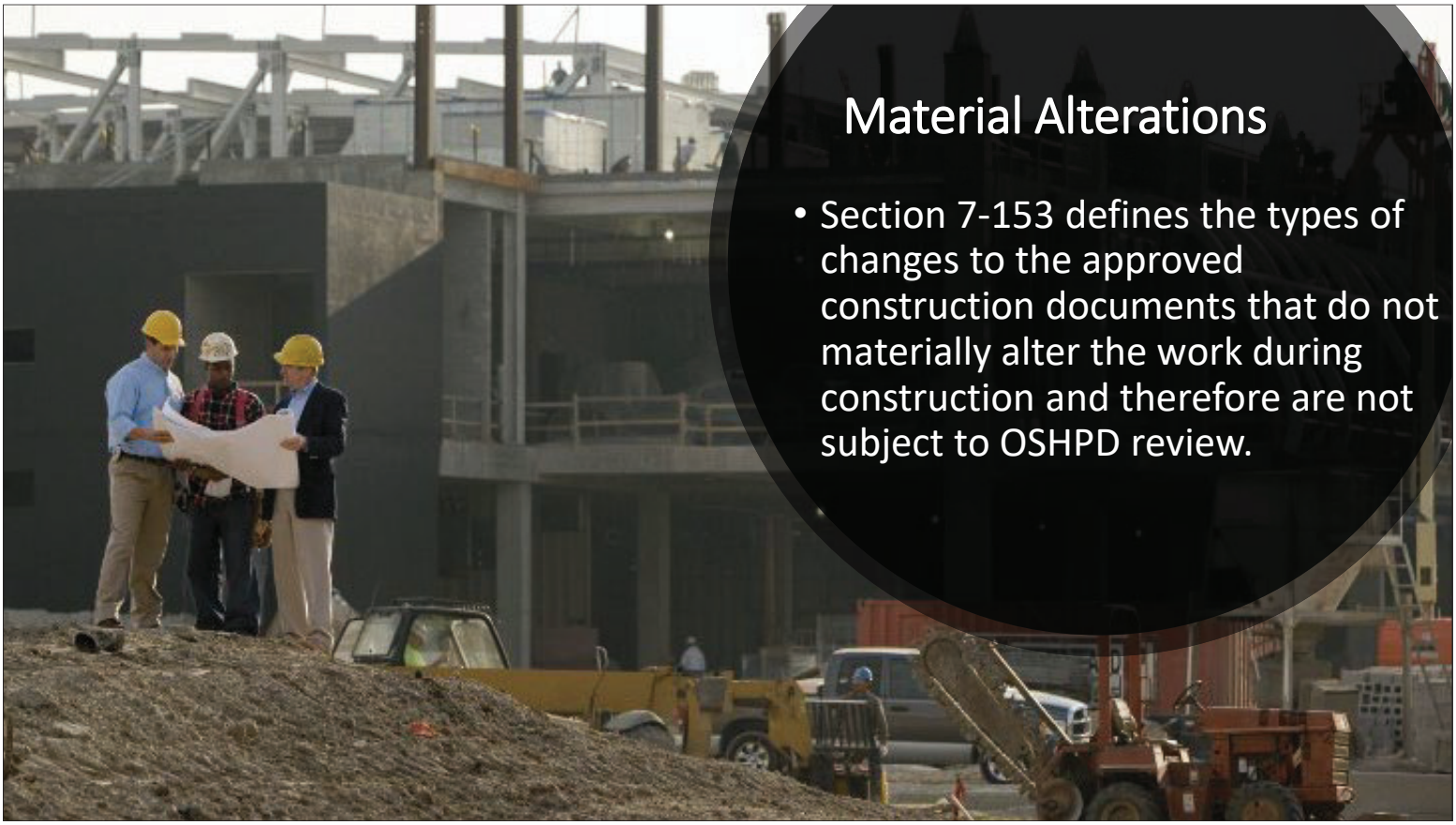


- A predefined process for handling and approving RFIs, ASIs and ACDs should be developed prior to the pre-construction meeting and presented to all parties for review and comment. Once approved, the process should be adhered to by the construction team.
- OSHPD should be an integral part of the approval process.

MATERIAL ALTERATIONS

- The California Administrative Code, Chapter 7, defines "Materially Alter" (as applied to construction projects or approved construction documents) as any change, alteration or modification, as determined by OSHPD, that alters the scope of a project, causes the project to be in noncompliance with the California Building Standards Code, or causes an unreasonable risk to the health and safety of patients, staff or the public.

Only changes that materially alter the work shall be submitted to OSHPD as an Amended Construction Document for review and approval.



Material Alterations

- Section 7-153 defines the types of changes to the approved construction documents that do not materially alter the work during construction and therefore are not subject to OSHPD review.

Contractor

- Sometimes changes are made in the field because the construction details on the plans cannot be constructed due to field conditions or insufficient clearances. **Any changes to plans and specifications that materially alter the work require OSHPD approval prior to the execution of the work.**
- If unapproved changes are found during construction by the IOR or OSHPD field staff work will be halted until appropriate approvals have been obtained.

Changes to the Approved Construction Documents

Design Team

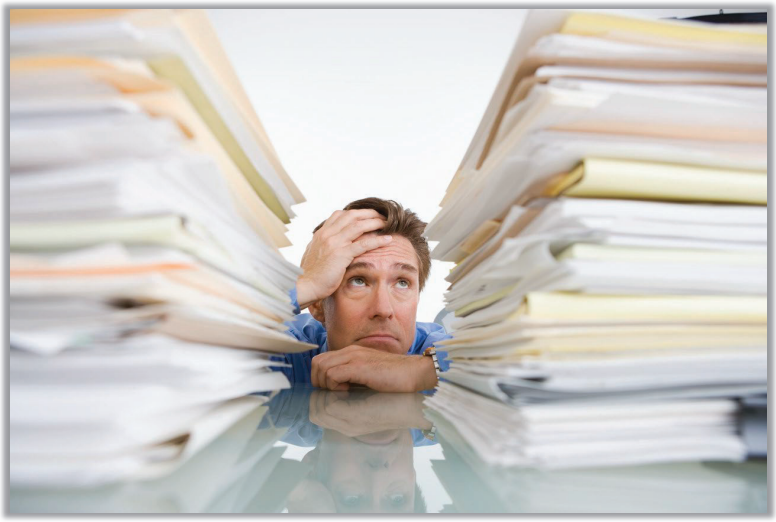
Changes to approved construction documents must be approved by OSHPD staff and are documented using the OSHPD *Application for Amended Construction Documents*.

183

Changes to the Approved Construction Documents

Design Team

The approval process for ACDs can range from one day for field approval to several months for OSHPD office review and approval depending on size and scope.



184

Changes to the Approved Construction Documents

Design Team

Construction cannot proceed until OSHPD approves the ACD.

If unapproved changes are found during construction by the IOR or OSHPD field staff, work will be halted until appropriate approvals have been obtained.

185

Changes to the Approved Construction Documents

Design Team

The following practice is recommended for the design team:

- Do not approve changes for convenience. The project manager should communicate this with the contractor(s) during the preconstruction meeting. Rarely do contractor-recommended changes actually save money for the project in light of the ensuing delay for the required development and approval of the construction documents by the Design Team and OSHPD.

EXPERT TIP

186

Owner

- Examine requests for changes by stakeholders carefully.
  - Changes create project delay and increase costs. Evaluate whether any change is really needed or simply reflects a preference. Often new staff or new technology can stimulate the "need" for change by owners, but these should not be the sole motivation.

5. Construction Phase

187

Owner

- Examine requests for changes by stakeholders carefully
  - Determine whether the changes can be made later – after the project is complete. Often the cost of making changes during construction will be significantly greater than if the changes are made as a separate follow-up project.

5. Construction Phase

188

Critical Path Expedite Review

Code Name

"CPER"

Keeper

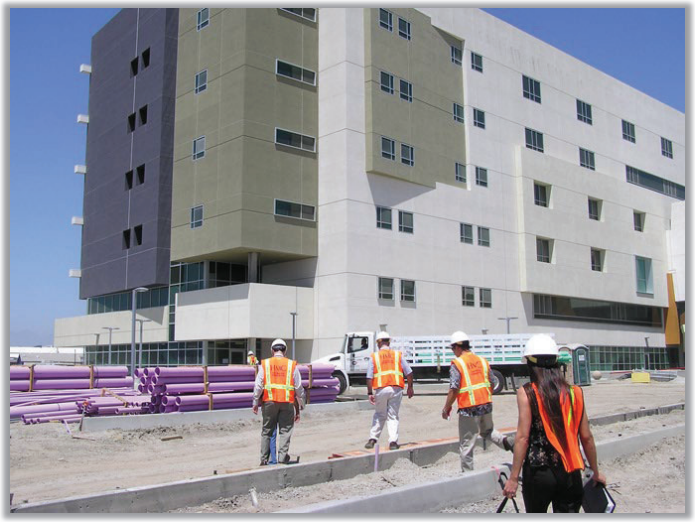
"It must have a catch name…. Or else it doesn't take hold in the Marketplace".

Throckmorten Finneus Gildersleeve……. circa 1805

Critical Path Expedite Review

- An ACD that would cause a confirmed undue delay to the construction schedule may be reviewed following the Critical Path Expedite Review (CPER) process.
- The ACD must be submitted to the HCAI Field Staff who will confirm the ACD impacts the schedule and will qualify the ACD for a CPER.
- The ACD will then be submitted to the office for expedited review.

Field Staff Availability



OSHPD field staff is responsible for ensuring that hospital buildings are constructed in accordance with the approved construction documents and applicable statutes and regulations.

OSHPD shall make such observations that, in its judgment, are necessary or proper for the enforcement of the regulations and all applicable parts of the California Building Standards Code.

191

Field Staff Availability

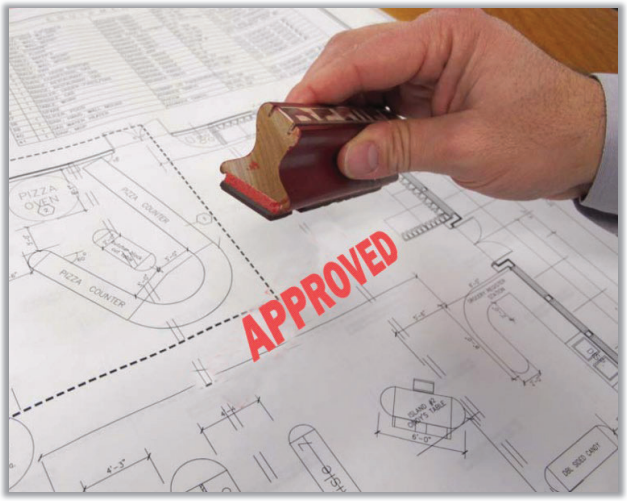
OSHPD field staff make scheduled *and* unscheduled visits to the project to observe the execution of the construction by conducting a construction site review and audit of the Testing Inspection and Observation (TIO) Program and project construction documentation.

192

Field Staff Availability

Critical elements must be managed carefully to ensure that:

- Changes are only made when they are absolutely required.
- All construction is approved by OSHPD.

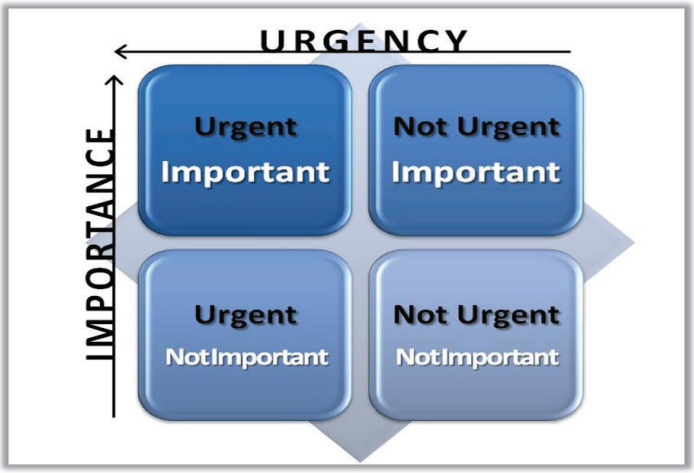


193

Field Staff Availability

Schedule OSHPD field staff time efficiently.

- OSHPD Field Staff's time at the project site is limited. The owner, through the IORs, should ensure that priorities are established and that all parties are prepared so that their time is efficiently utilized.



EXPERT TIP

Coordinate construction schedule with the IOR to confirm sufficient time allocated for inspections

194

Field Staff Availability

OSHPD representatives can be a valuable resource for the project team since they have a wealth of first-hand information regarding hospital construction practices.

- OSHPD representatives encounter many problems as they visit various projects and can assist in preventing errors during construction and advising the team about inspection practices.

Field Staff Availability

Unrealistic expectations can cause difficulties and delays. OSHPD field staff can only perform their duties within the code requirements as stipulated in the CBSC . . .

- It is incumbent upon owners and owner representatives, contractors, and designers to become knowledgeable with OSHPD procedures and processes and to manage the construction project process to maximize the effectiveness of OSHPD policies and procedures.

EXPERT TIP

6. Close-Out Phase

6. Close-Out Phase

- OSHPD field staff must approve the work before issuing a Certificate of Occupancy or a Certificate of Substantial Compliance.

EXPERT TIP

Be prepared for the final OSHPD review. Do not attempt to use any room, building or equipment or provide any services before the building is approved by OSHPD for substantial compliance, occupancy or construction final . Ensure the project is closed in compliance.

6. Close-Out Phase

- Project close-out should be considered at the beginning of the project and should be a continuing effort throughout the life of the project.
- Verified compliance reports need to be obtained from professionals, inspectors and contractors prior to leaving the project and need to follow the Testing, Inspection, and Observation program schedule precisely.

6. Close-Out Phase

- The final approval of the construction shall be issued by OSHPD when:
  - All work has been completed in accordance with the approved plans and specifications
  - The required verified compliance reports and test and inspection reports have been filed with OSHPD
  - All remaining fees have been paid to OSHPD
- Final approval is confirmed by a letter sent to CDPH with a copy to the applicant. The letter will state that the work has been constructed in accordance with CBSC, Title 24, California Code of Regulations.

EXPERT TIP

For projects under review by CDPH, a construction final should be obtained until after licensing is completed. If CDPH finds any deficiencies, the issue can be resolved via ACD rather than having to submit a new project.

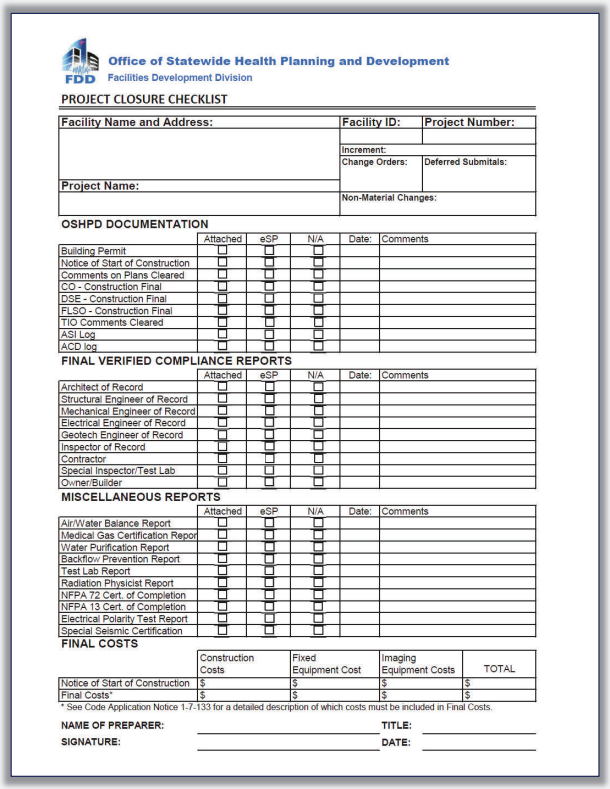
6. Close-Out Phase

- Types of Project Closure
  - Project Closure in Code Compliance
  - Project Cancellation or Withdrawal
  - Project Closure Due To Inactivity
  - Project Closure – Administrative
  - Project Closure in Non-California Administrative Code Compliance
  - Project Closure in Non-California Building Standards Code Compliance

6. Close-Out Phase

Project Closure in Code Compliance

- It is the goal of the Office to close every project in compliance; however, we cannot accomplish this goal without the cooperation of the clients involved with the construction of the project, including the facility representatives, design professionals and IORs.



Office of Statewide Health Planning and Development
Facilities Development Division

PROJECT CLOSURE CHECKLIST

Facility Name and Address:	Facility ID:	Project Number:
	Increment:	
	Change Orders:	Deferred Submittals:
Project Name:		
	Non-Material Changes:	

OSHPD DOCUMENTATION

	Attached	eSP	N/A	Date:	Comments
Building Permit	☐	☐	☐		
Notice of Start of Construction	☐	☐	☐		
Comments on Plans Cleared	☐	☐	☐		
CO - Construction Final	☐	☐	☐		
DSE - Construction Final	☐	☐	☐		
FLSO - Construction Final	☐	☐	☐		
TIO Comments Cleared	☐	☐	☐		
ASI Log	☐	☐	☐		
ACD log	☐	☐	☐		

FINAL VERIFIED COMPLIANCE REPORTS

	Attached	eSP	N/A	Date:	Comments
Architect of Record	☐	☐	☐		
Structural Engineer of Record	☐	☐	☐		
Mechanical Engineer of Record	☐	☐	☐		
Electrical Engineer of Record	☐	☐	☐		
Geotech Engineer of Record	☐	☐	☐		
Inspector of Record	☐	☐	☐		
Contractor	☐	☐	☐		
Special Inspector/Test Lab	☐	☐	☐		
Owner/Builder	☐	☐	☐		

MISCELLANEOUS REPORTS

	Attached	eSP	N/A	Date:	Comments
Air/Water Balance Report	☐	☐	☐		
Medical Gas Certification Repor	☐	☐	☐		
Water Purification Report	☐	☐	☐		
Backflow Prevention Report	☐	☐	☐		
Test Lab Report	☐	☐	☐		
Radiation Physicist Report	☐	☐	☐		
NFPA 72 Cert. of Completion	☐	☐	☐		
NFPA 13 Cert. of Completion	☐	☐	☐		
Electrical Polarity Test Report	☐	☐	☐		
Special Seismic Certification	☐	☐	☐		

FINAL COSTS

	Construction Costs	Fixed Equipment Cost	Imaging Equipment Costs	TOTAL
Notice of Start of Construction	$	$	$	$
Final Costs*	$	$	$	$

* See Code Application Notice 1-7-133 for a detailed description of which costs must be included in Final Costs.

NAME OF PREPARER: _____ TITLE: _____

SIGNATURE: _____ DATE: _____

Project Closure Checklist

The project closure checklist is an excellent tool that can be used make sure all documents and test reports have been obtained and to show compliance to OSHPD Field Staff.

6. Close-Out Phase

- It is important for the hospital to have a project closed in compliance for many reasons including, but not limited to the following:
  - Substantiate seismic compliance
  - Receive reimbursement from FEMA after a disaster
  - Meet requirements for disclosure upon the sale or purchase of a building or facility
  - Remove acute care services from a hospital building
  - Place a building under the local jurisdiction
  - Meet Department of Public Health (DPH) licensing and certification requirements
  - Meet requirements of the Alfred E. Alquist Hospital Facilities Seismic Safety Act

205

Request to Reopen a Closed Project

Facilities Development Division
Office of Statewide Health Planning and Development
400 R Street, Suite 200 • Sacramento, CA 95811 • (916) 440-8300
700 N. Alameda Street, Suite 2-500 • Los Angeles, CA 90012 • (213) 897-0166

POLICY INTENT NOTICE (PIN)

SUBJECT

Request for Reopening a Closed Project

PIN: 56

Effective: 2/7/2014
Revised: 2/13/2014

- Projects which can be reopened and closed with administrative paperwork only, such as missing Verified Compliance Report(s) and/or Final Certified Cost(s), may be submitted as a new project. A $250.00 application fee will be charged but no additional fee will be assessed as there is no construction work related with the project.

  Exception: Projects that require the Office to conduct more extensive research involving archival materials, files, documents, plans and/or other instruments of service to determine and verify the reason for "closure without compliance" will be evaluated on a case-by-case basis. The fee for these projects will be based on "time and material".

206

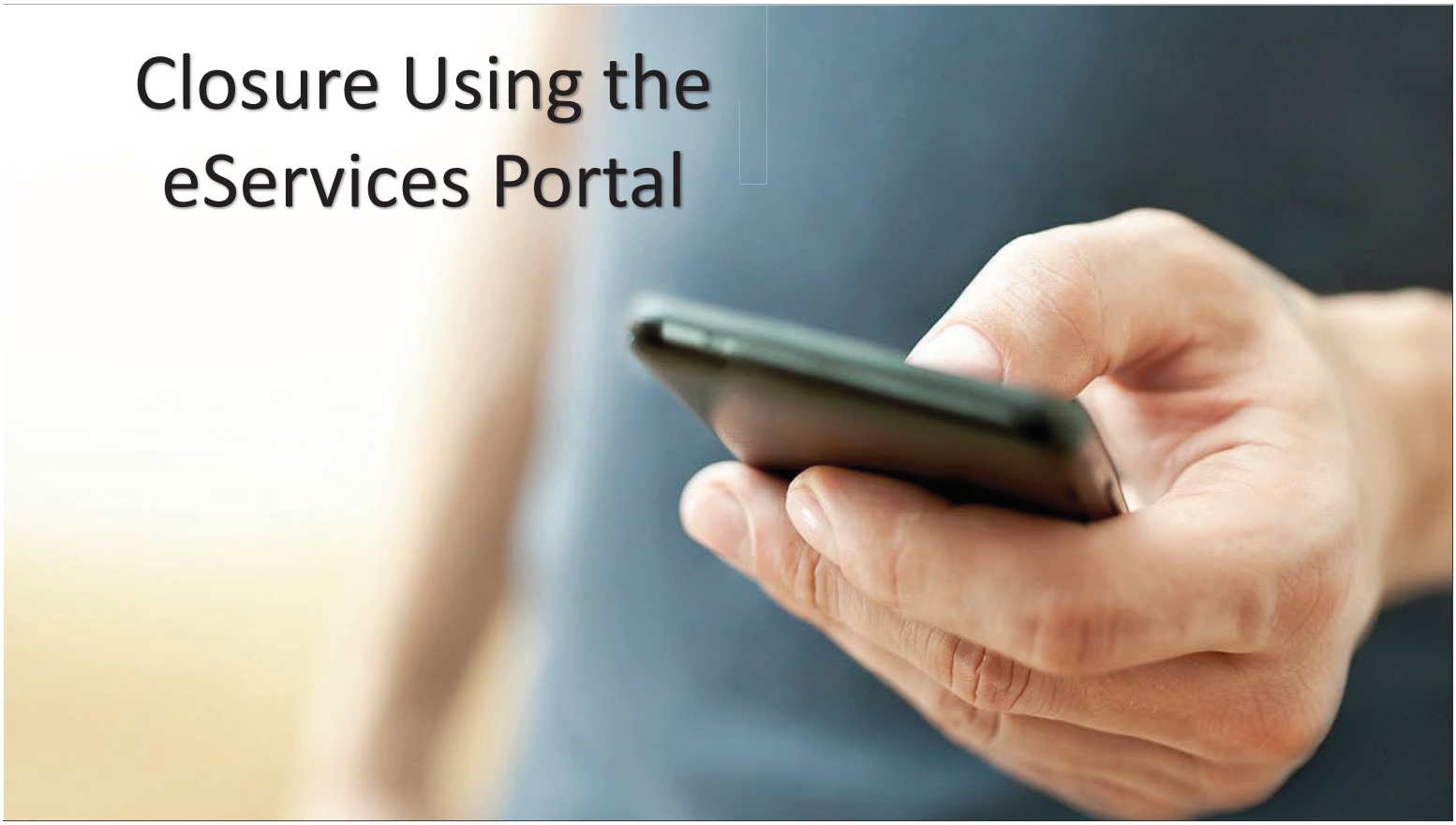
6. Close-Out Phase

Hospitals may request to have a noncompliant closed project "reopened" for the purpose of obtaining compliance and closure by submitting it as a "Re-Open Closed Project" record using the OSHPD eServices Portal.

6. Close-Out Phase

- When the "RCP" project is accepted, the old project will be re-opened, allowing all required documents, construction activities and fees to be completed/paid.
- When the re-opened RCP project is properly completed and closed, that project will be closed in compliance.
- The RCP record is used as the vehicle to track progress and assess the T&M fees.

Closure Using the eServices Portal



Const. Final
- Occurs when Compliance Officer issues CF Report
- Email to Owner and DPOR requesting Final Costs and VCRs

Document Upload
- Occurs when Client uploads documents to eSP
- Email to OSHPD Program Technician

No Response
- Occurs if Costs or VCRs are outstanding after 30 days
- Email to Owner and DPOR requesting Final Costs and VCRs

Project Closure
- Occurs if Costs or VCRs are outstanding after 60 days
- Email to OSHPD RCO advising to Close Project in Non-Comp.

eServices Portal

- **No Response**
  - If any Final VCR or Final Cost is not received and entered by the Program Technician, eSP automatically sends another email to the Responsible Primary Licensed Professional and to the Primary Contact on the project.
    - Closure Summary Report
    - Request for Final Costs
    - Request for Final Verified Compliance Reports

211

eServices Portal

- **Project Closure in Compliance**
  - When all Final Costs and VCRs are entered and approved, the project is Closed In Compliance.
  - An email with the Closed in Compliance letter attached is sent to the Responsible Primary Licensed Professional And the Primary Contact.

212

eServices Portal

- **Project Closure in Non-CAC Compliance**
  - If any Final VCR or Final Cost is not received and entered by the Program Technician, eSP automatically notifies the Regional Compliance Officer to close the project in Non-CAC Compliance

213

7. Owner Considerations

7. Owner Considerations

Infection Control Risk Assessment (ICRA)

7. Owner Considerations

Healthcare Acquired Infections

Understanding the Role of Facility Design in the Acquisition and Prevention of Healthcare-Associated Infections

Kendall K. Hall, MD, MS, and Douglas B. Kamerow, MD, MPH

There is also growing evidence that the built environment plays a significant role in the transmission of pathogens in healthcare settings. Abundant data demonstrate widespread environmental contamination with major nosocomial pathogens (Hota, 2004), well-described outbreaks of HAIs with molecular epidemiologic linkage to an environmental source, and outbreaks that have been interrupted only after interventions to eliminate the environmental source of the pathogen (Weber, Rutala, Miller, Huslage, & Sickbert-Bennett, 2010).

PREFERRED CITATION: Hall, K. K., & Kamerow, D. B. (2013). Understanding the role of facility design in the acquisition and prevention of healthcare-associated infections. *Health Environments Research & Design Journal* 7(Supp), 13–17.

216

Why Care about Infection Control?

...because it matters!

Hospital Patients with a HAI
1 in 25

Complication of Healthcare
#1

HAI per year
722,000

HAI Deaths per year
75,000

Excess Healthcare Costs per year
$30 Billion

217

Source: Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Healthcare Quality Promotion (DHQP)

7. Owner Considerations

Infection Control Risk Assessment (ICRA)

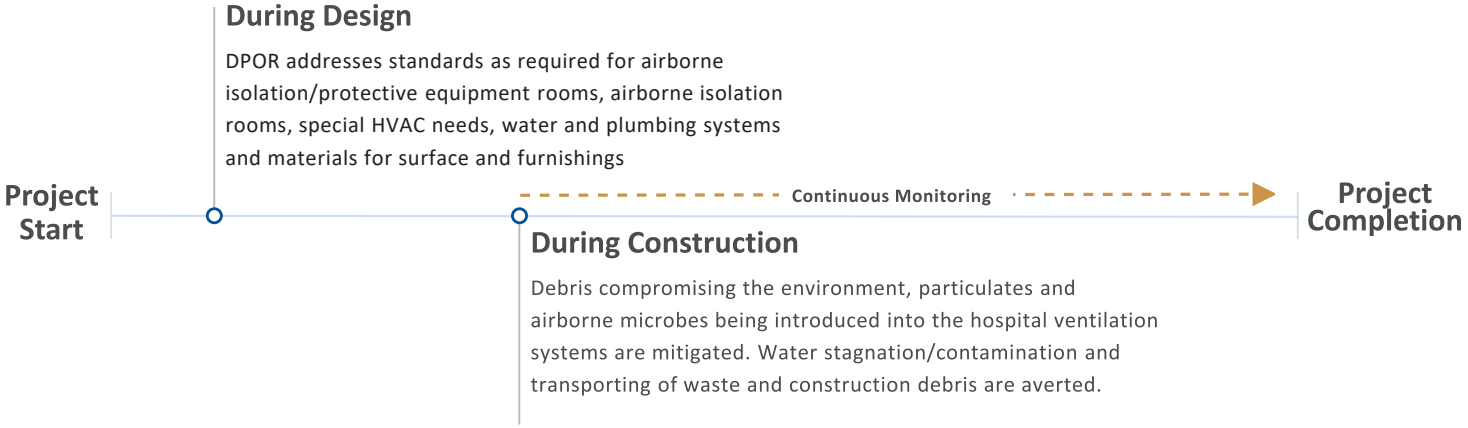
- The ICRA is used to help reduce the infection risk during construction and can help identify potential risk to the healthcare environment.
- Utilize a team of experts from the organization to develop, analyze, and approve the ICRA.
- The outcome of the ICRA risk assessment can then be passed down to the contractor and monitored via the ICRA team for strict adherence to the level of containment needed depending on the risk level within the environment the project is in.

218

7. Owner Considerations

Prior to initiating construction in a Healthcare setting, an ICRA should be completed to determine the environmental risks and mitigation efforts to keep the environment safe due to construction activity.

Infection Control Risk Assessment – Continuous process throughout the project



219

7. Owner Considerations

The ICRA Process

Determine the ty

Question

- Looking specifically for DU
  - Minor cutting/dril
  - New floor
  - Removal c
  - Complete
- Duration
  - Hours? D

- Type B create
- Type C: Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies
  - Sanding of walls for painting or wall covering
- Type D: Major demolition and construction projects
  - Activities that require consecutive work shifts
  - Activities that require heavy demolition or removal of a complete cabling system
  - New construction
- Type A: Inspection and noninvasive activities

mited to one tile
sework
ther
Any activity that cannot be completed within a single work shift

220

7. Owner Considerations

The ICRA Process

Determine which area of the hospital the work will be performed

Low Risk	Medium Risk	High Risk	Highest Risk
▪ Office areas	▪ Cardiology ▪ Echocardiography ▪ Endoscopy ▪ Nuclear Medicine ▪ Physical Therapy ▪ Radiology/MRI ▪ Respiratory Therapy	▪ CCU ▪ Emergency Room ▪ Labor & Delivery ▪ Laboratories (specimen) ▪ Medical Units ▪ Newborn Nursery ▪ Outpatient Surgery ▪ Pediatrics ▪ Pharmacy ▪ Post Anesthesia Care Unit ▪ Surgical Units	▪ Any area caring for immunocompromised patients ▪ Burn Unit ▪ Cardiac Cath Lab ▪ Central Sterile Supply ▪ Intensive Care Units ▪ Negative pressure isolation rooms ▪ Oncology ▪ Operating rooms including C-section rooms

221

7. Owner Considerations

The ICRA Process

IC Matrix: Class of Precaution (Construction Activity by Patient Risk Group)

	Construction Project Type			
Patient Risk Group	**TYPE A**	**TYPE B**	**TYPE C**	**TYPE D**
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	III	IV
HIGH Risk Group	I	II	III/IV	IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that **Class III** or **Class IV** control procedures are necessary.

EXPERT TIP

Meet with facility IC practitioners to determine the level of Infection Control required for the project. Incorporate the ICRA into the design and transmit it to the contractor prior to bidding.

222

7. Owner Considerations

The ICRA Process

The class determines the level of mitigation required for the project

ICRA documentation should be posted at the entrance of the job site

Be sure to follow your hospital-specific ICRA process

Class	Mitigation Activities (Performed Before and During Work Activity)
Class I	1. Perform noninvasive work activity as to not block or interrupt patient care. 2. Perform noninvasive work activities in areas that are not directly occupied with patients. 3. Perform noninvasive work activity in a manner that does not create dust. 4. Immediately replace any displaced ceiling tile before leaving the area and/or at end of noninvasive work activity.
Class II	1. Perform only limited dust work and/or activities designed for basic facilities and engineering work. 2. Perform limited dust and invasive work following standing precautions procedures approved by the organization. 3. This Class of Precautions must never be used for construction or renovation activities.
Class III	1. Provide active means to prevent airborne dust dispersion into the occupied areas. 2. Means for controlling minimal dust dispersion may include hand-held HEPA vacuum devices, polyethylene plastic containment, or isolation of work area by closing room door. 3. Remove or isolate return air diffusers to avoid dust from entering the HVAC system. 4. Remove or isolate the supply air diffusers to avoid positive pressurization of the space, 5. If work area is contained, then it must be neutrally to negatively pressurized at all times. 6. Seal all doors with tape that will not leave residue. 7. Contain all trash and debris in the work area. 8. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained work area. 9. Install a sticky (dust collection) mat at entrance of contained work area based on facility policy. Sticky mats must be changed routinely and when visibly soiled. 10. Maintain clean surroundings when area is not contained by damp mopping or HEPA vacuuming surfaces.
Class IV	1. Construct and complete critical barriers meeting NFPA 241 requirements. Barriers must extend to the ceiling or if ceiling tile is removed, to the deck above. 2. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to ground and ceiling and secure from movement or damage. Apply tape that will not leave a residue to seal gaps between barriers, ceiling or floor. 3. Seal all penetrations in containment barriers, including floors and ceiling, using approved materials (UL schedule firestop if applicable for barrier type). 4. Containment units or environmental containment units (ECUs) approved for Class IV precautions in small areas totally contained by the unit and that has HEPA-filtered exhaust air. 5. Remove or isolate return air diffusers to avoid dust entering the HVAC system. 6. Remove or isolate the supply air diffusers to avoid positive pressurization of the space. 7. Negative airflow pattern must be maintained from the entry point to the anteroom and into the construction area. The airflow must cascade from outside to inside the construction area. The entire construction area must remain negatively pressurized. 8. Maintain negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors. Exhaust discharged directly to the outdoors that is 25 feet or greater from entrances, air intakes and windows does not require HEPA-filtered air. 9. If exhaust is directed indoors, then the system must be HEPA filtered. Prior to start of work, HEPA filtration must be verified by particulate measurement as no less than 99.97% efficiency and must not alter or change airflow/pressure relationships in other areas.

223

Pre-Construction Risk Assessment (PCRA)

- Before any construction starts, a PCRA must be completed to help identify the overall risks and the measures the contractor will need to follow.
- As a rule, the PCRA focuses on both the systems within the hospital and how the construction-related activity may affect patients.

7. Owner Considerations

Pre-Construction Risk Assessment (PCRA)

The assessment should be based on key criteria as identified during the assessment:

- Noise generated from the project
- Vibration
- Emergency procedures
- Fire alarm and security systems
- Utility disruption
- Shutdown notifications
- Hazardous material remediation
- Impact on Fire alarm and Fire suppression systems
- Firewalls or door assemblies compromised
- Impacts to adjacent areas
- Hot work impacts (welding, grinding)

225

INTERIM LIFE SAFETY MEASURES (ILSM)

EXPERT TIP

The ICRA, PCRA, and ILSM should be posted at the job site and saved as part of the project documents. This will ensure the activity can be monitored and inspected for compliance throughout the duration of the project.

ILSM's compensate for hazards caused by Life Safety Code deficiencies caused by construction activities. These measures include clear pathways to egress points, fire protection systems, exit signage, and smoke barriers. As with the ICRA and PCRA, the ILSM should be developed by representatives from hospital safety staff, contractor, maintenance, Infection Control, and Quality.

226

7. Owner Considerations

Activation

Activation is the process of preparing people, FFE, and facilities for move-in and start-up. The key to a successful activation is the Plan and Workflow, which includes the following activities:

- Develop a cross-functional readiness and logistics plan
- Meet with department leaders to customize an activation schedule and comprehensive task list
- Provide customized interdisciplinary and department-specific workflow plans
- Oversee the execution of the Activation Plan
- Provide recommendations for training programs
- Conduct a dress rehearsal plan and scenarios to prepare the department for Day-1 Activation
- Develop move plans
- Provide post-occupancy stabilization

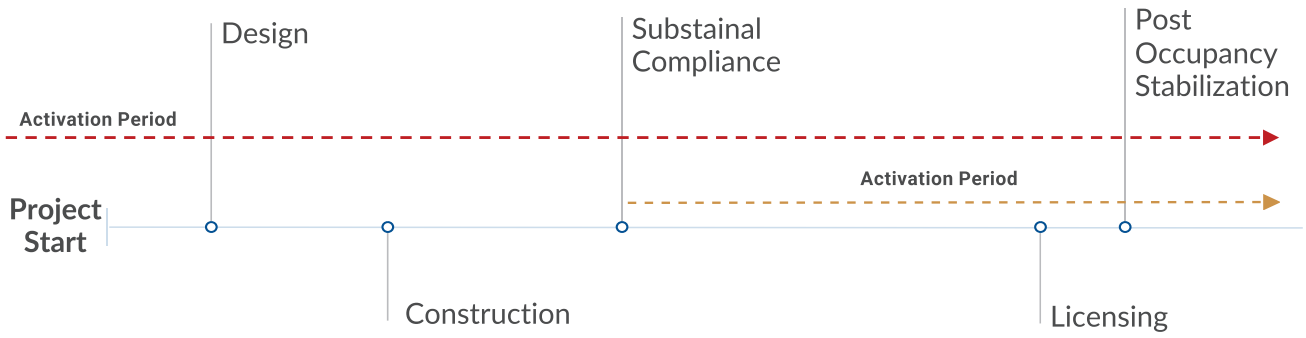
EXPERT TIP

Activation is a cross functional activity and will requires participation from the support and ancillary departments.

227

7. Owner Considerations

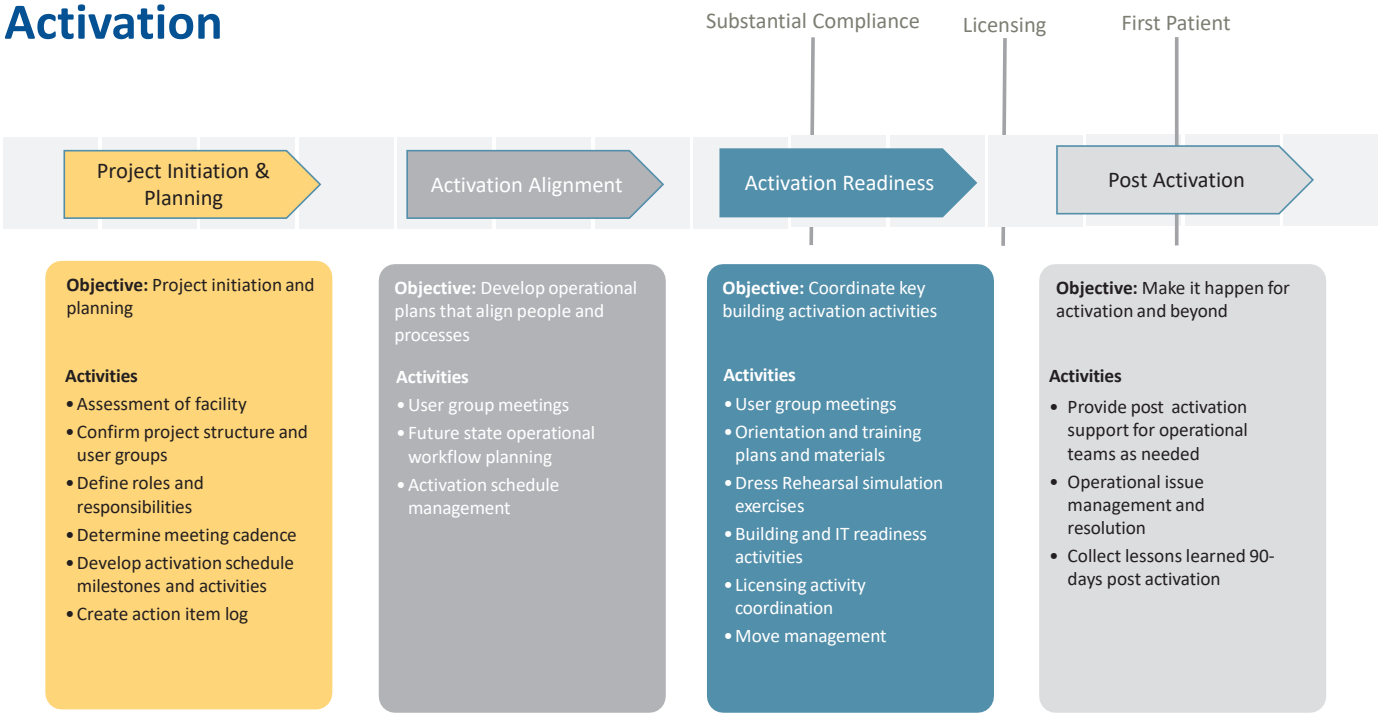
Activation



228

7. Owner Considerations

Activation



229

4. Owner Considerations

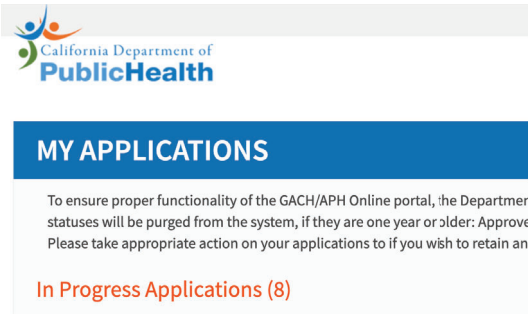
Licensing

Provide sufficient time in the project schedule for required licensure

California Department of Public Health

§70105. Application Required:

(1) Construction of a new or replacement facility or addition to an existing facility.
(2) Increase or decrease of licensed bed capacity.
(3) Added service or change from one service to another.
(4) Change of ownership.
(5) Change of name of hospital.
(6) Change of license category.
(7) Change of location of the hospital.
(8) Change of bed classification.



EXPERT TIP

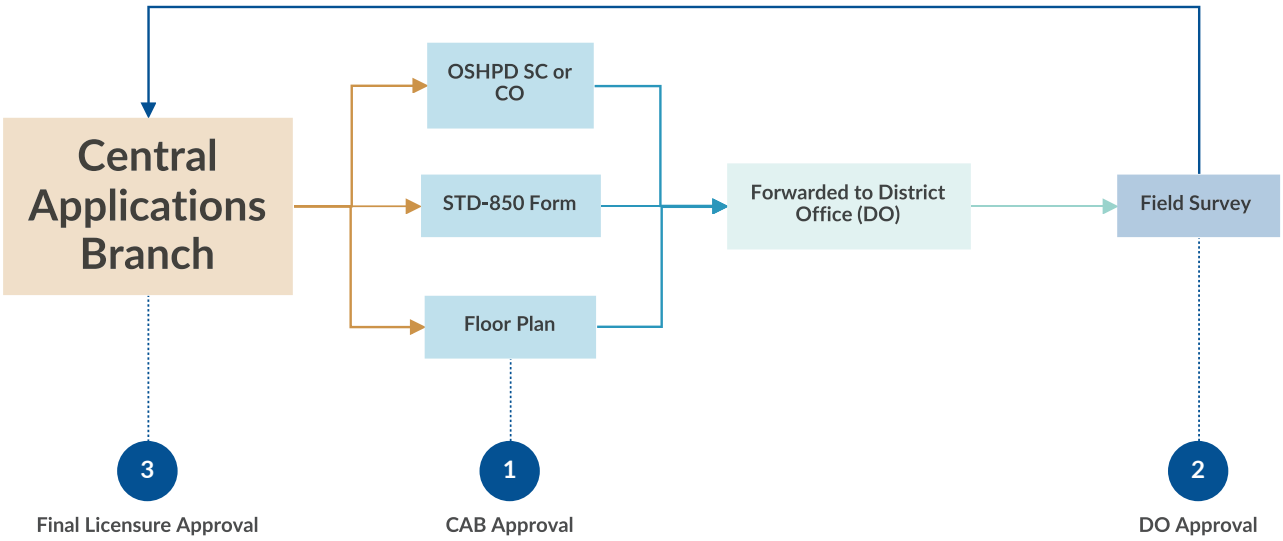
Tip: For projects under review by CDPH, a Construction Final report should be postponed until after licensing is completed. If CDPH finds any deficiencies, the issue can be resolved via ACD rather than having to submit a new project through OSHPD.

230

7. Owner's Considerations

Licensing

Sample Remodel Project

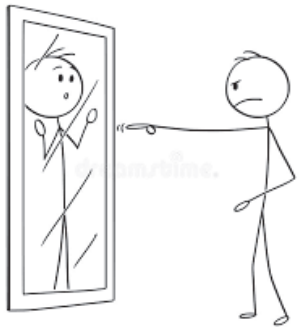


231

wner Considerations

Owner Caused Problems

1. Failing to choose the proper project delivery method.
2. Neglecting consideration to use a program manager (owner's representative).
3. Inadequate project funding source with resulting slow pay.
4. Undefined project budget.
5. Missing steps before project start.
6. Inadequate planning for equipment and technology needs.
7. Inadequate design and construction fees.
8. Using a different architectural and construction management team on each project.

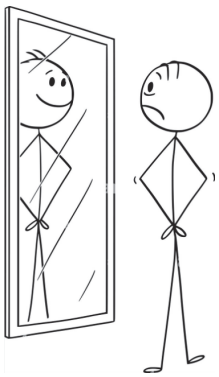


232

wner Considerations

Owner Caused Problems

9. Being unfamiliar with capital development.
10. Allowing design changes and scope creep.
11. Poor internal and external communication.
12. Limiting end user and other OAC team member involvement.
13. Excessive phasing of construction.
14. Inadequate timing of the guaranteed maximum price (GMP).
15. Refusal to use lean principles, BIM processes, IPD delivery.
16. Unrealistic contract terms and adversarial relationships within the OAC.



233

7. Owner Considerations

Key Takeaways

- An aware and involved owner is the major key to a successful project.
- Capital projects are very interconnected efforts and require extraordinary communication and collaboration across the OAC.
- Selection of the proper team through a qualifications-based process and of the right project delivery method requires specialized knowledge and effort but is crucial to project success and certainty.

234

7. Owner Considerations

Key Takeaways

- The lack of productivity and project certainty is the result of multiple causes with multiple origins. In order to address these issues, a major change to the current industry culture must be accomplished.
- Though clearly not the sole source of the problems, an engaged owner – educated about the nuances and issues of the design and construction industry – is the most important partner in the OAC team to lead the cultural changes in the industry.

Case Study

Guerin Children's Hospital

Cedars Sinai
Guerin Children's

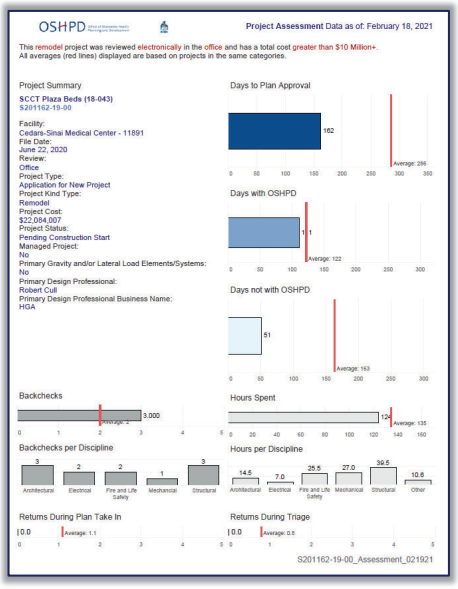
Project Info

- State-of-the-Art 26-Bed, 23,000 sq. ft. Pediatric Facility
- Project Cost: $24,646,664.00
- Architect: HGA Los Angeles
- Pediatric Specialties:
  - Neonatology
  - Maternal-fetal medicine
  - Gastroenterology
  - Cardiac services
  - Orthopedics
  - Neurology
  - Pediatric surgery
  - Kidney transplants

237

Construction

Using the best practices described in this session, this project received plan approval 4 months ahead of schedule.

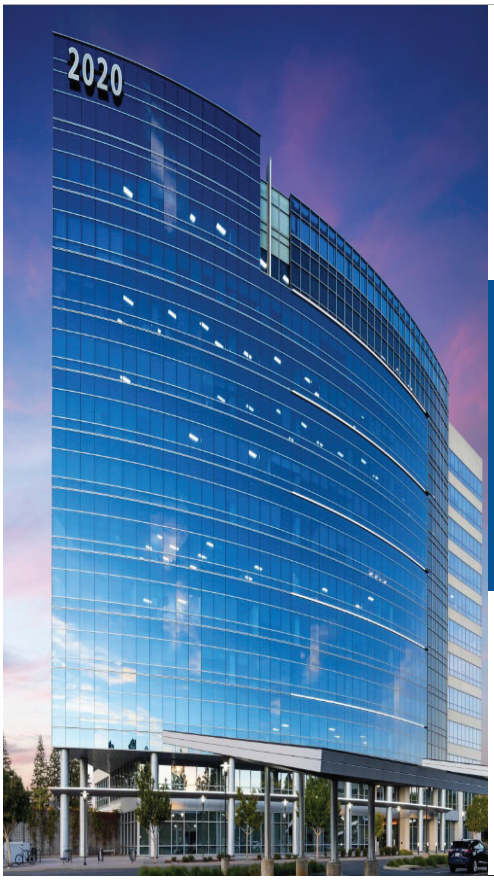


Construction was complete just over 2 years after design commenced.

238


Q&A


TIME
FOR
LUNCH!



Session 3: Submittals, Design and OSHPD Review

Health Care Access and Information | Hospital Building Safety Board

October 2023

HCAI/OSHPD Roles and Jurisdiction

Mia Marvelli, Architect

Supervisor, OSHPD Building Standards Unit

Richard Tannahill, Architect

Deputy Division Chief, OSHPD

Working with OSHPD, CDPH and Local Jurisdictions

- **Approach them as you would team members**
  - ***Communicate issues clearly and honestly***
  - ***Do your homework with codes and come prepared to discuss solutions***
  - ***Facilitate the meeting with an agenda and expectations***

- **Defining the Project Scope and the Anticipated Submittals**
  - ***Is the project Acute-Care only? A SNF? Includes an MOB? Licensed Clinics?***
  - ***Will the Submittal be Incremental or one package? Phased? Deferred Items?***
  - ***For Renovations or Additions, are there code issues with the existing conditions?***

EXPERT TIP

Flag or highlight the areas of concern, do not hide them

OSHPD Roles and Jurisdiction

Simply stated:

- **Development of regulations in the California Building Standards Code and enforcement thereof**

- **California Building Standards Code as amended by the Office of the State Fire Marshal and the Division of the State Architect/Access Compliance Section**

OSHPD Jurisdiction CAN 2-0

OSHPD Jurisdiction

1. *Hospital buildings.*
   Correctional Treatment Centers shall certify to the Office.
2. *Skilled nursing facilities*
3. *Intermediate care facilities*

For development of regulations in the California Building Standards Code.

1. *Clinics are under the jurisdiction of the local building official for enforcement, except as otherwise specified*
   EXCEPTION: When licensed under an acute care hospital and serving more than 25 percent inpatients, the Office shall retain jurisdiction for enforcement.
2. *Correctional Treatment Centers operated by or to be operated by a law enforcement agency of a city, county or a city and county are under the jurisdiction of the local enforcing agency for enforcement.*

Hospital Building Safety Board

Possible OSHPD Jurisdiction

- Free-standing buildings providing out-patient clinical services of a hospital when the hospital requests that OSHPD review and inspect the building [OSHPD 3]
- The building contains elements required for an acute care hospital
- Duplicative basic or supplemental hospital services are provided in the building
- Utilities, services or systems feeding a building under OSHPD jurisdiction pass through or under a non-hospital building
- Parking garages
- OSHPD 1R occupancies

Hospital Building Safety Board

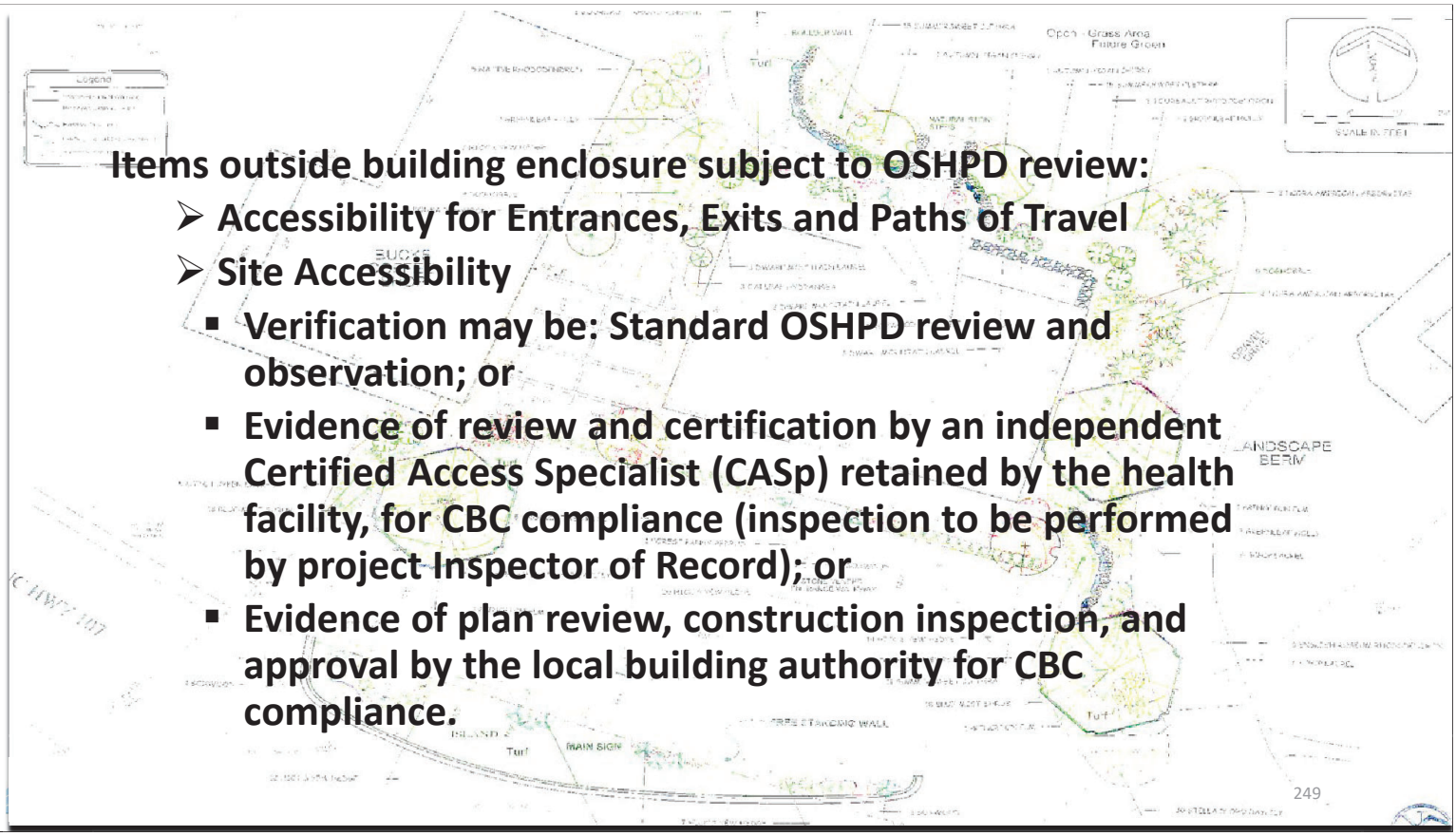
OSHPD only preempts the local building official and recognizes the authority of other local agencies that retain their respective jurisdictions.

- Planning and Zoning Departments
- Local Health Departments
- Public Works Departments
- Fire and Police Departments
- Air Quality Districts
- ALL retain the jurisdictional authority with which they are normally charged

EXPERT TIP

This needs to be addressed before, during, and after hospital construction.

Planning and Zoning Authority Retained by the Local Agency		
California Environmental Quality Act (CEQA) compliance		
Use Permits and Any Conditions of Approval		
Public Hearings	Entitlements	Design Review
Discretionary Approvals	Height Restrictions	General Siting Of Buildings
Light Pollution	Noise Standards	Landscaping
Enforcement Of Setbacks	Site Lighting	Parking
Exterior Signage	Equipment Screening	Coastal Commission
Non-building Structures Such as Cell Towers (Roof-mounted or Free-standing)		



Items outside building enclosure subject to OSHPD review:

- **Accessibility for Entrances, Exits and Paths of Travel**
- **Site Accessibility**
  - **Verification may be: Standard OSHPD review and observation; or**
  - **Evidence of review and certification by an independent Certified Access Specialist (CASp) retained by the health facility, for CBC compliance (inspection to be performed by project Inspector of Record); or**
  - **Evidence of plan review, construction inspection, and approval by the local building authority for CBC compliance.**

249

Fire/Life Safety

- **Fire water piping from the backflow preventer to the building**
- **Proximity of adjacent structures**
- **Fire Apparatus Access Roads**
- **Fire Department Connections**
- **Location of valves, post indicator valves, backflow prevention assemblies and hydrants**
- **Exterior means of egress to public way, including site elements such as slope stabilization, retaining walls, pedestrian bridges and other features that could impact egress, required lighting under emergency power illuminating such egress, etc.**

Hospital Building Safety Board

250 HCAI

Utilities

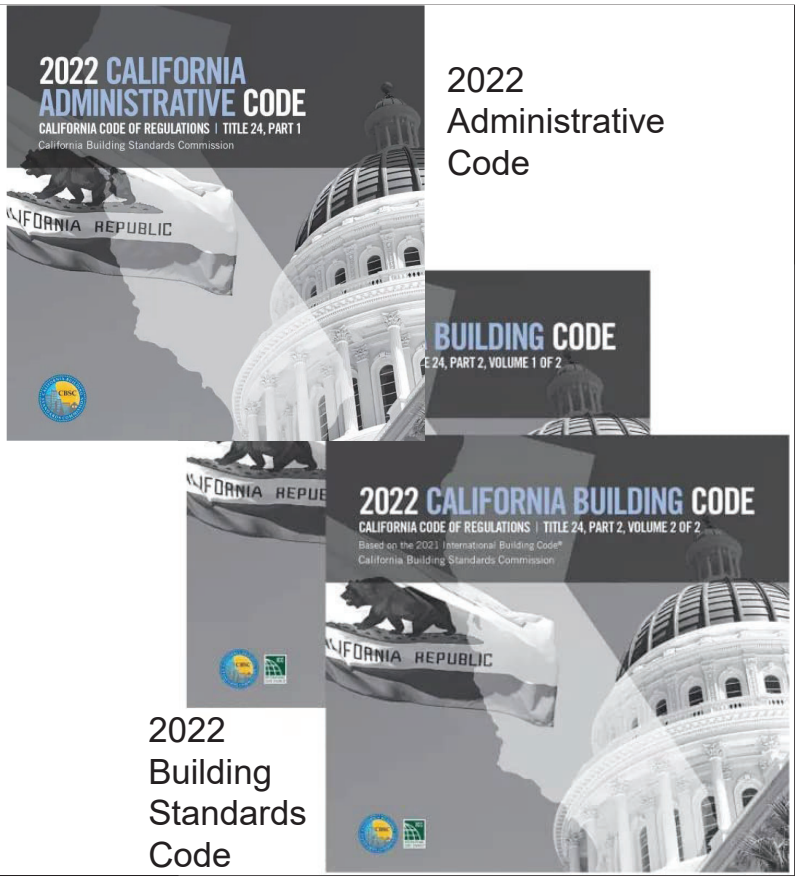
- Electrical service from the service point (utility vault, transformer or meter) to the point it enters a building or structure under OSHPD jurisdiction
- Essential electrical system (emergency power) including required on-site fuel supply
- Water service routing from the service meter to the point it enters a building or structure under OSHPD jurisdiction
- On-site emergency water supply storage
- Wastewater lines from the sewer lateral connection to the point it enters a building or structure under OSHPD jurisdiction

Utilities - continued

- Emergency sanitary drainage on-site holding tank or enclosure
- Utilities from a central plant, or mechanical yard, to any building under OSHPD jurisdiction.
  - Note: Grading associated with site drainage related to such utilities remains under local jurisdiction
- Wastewater lines from the sewer lateral connection to the point it enters a building or structure under OSHPD jurisdiction

Administrative Code versus Building Code

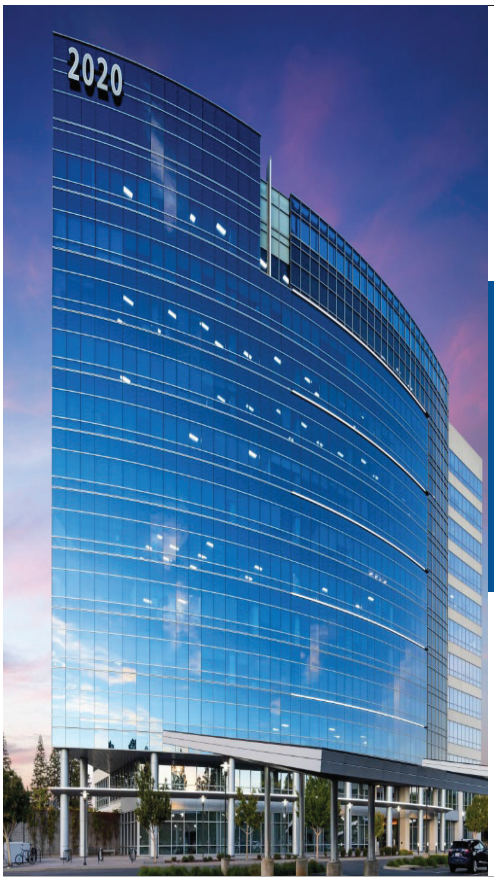
- **Administrative Code is Process – it is not locked into a code cycle.**
- **The Building Standards Code locks into the code cycle the project was submitted under**



2022 Administrative Code

2022 Building Standards Code

Hospital Building Safety Board



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Session 3: Submittals, Design and OSHPD Review

Health Care Access and Information | Hospital Building Safety Board

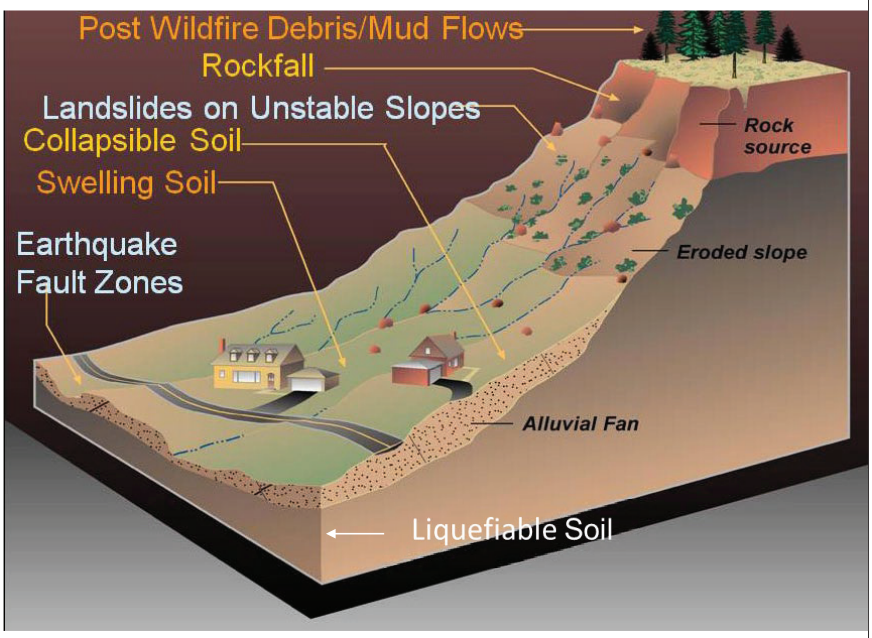
Geologic Hazards

Marshall Lew, Ph.D., P.E., G.E.

Senior Vice President, WSP USA, Los Angeles

Hospital Building Safety Board

GEOLOGIC HAZARDS

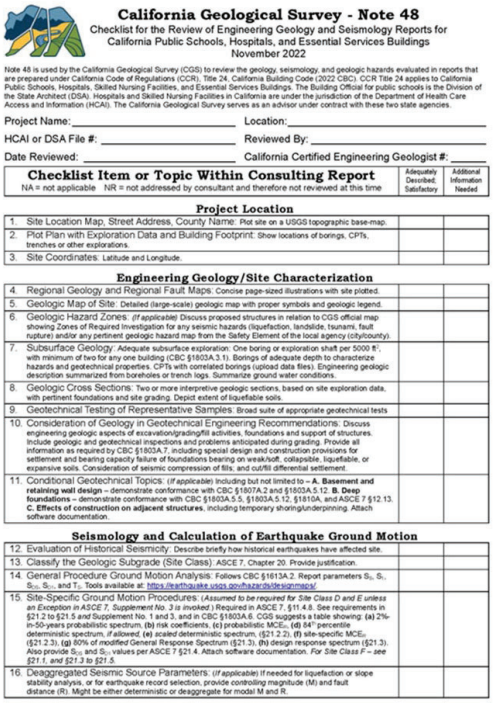


Where to start…

California Geological Survey – Note 48

Note 48 is used by the California Geological Survey (CGS) to review the geology, seismology, and geologic hazards evaluated in reports that are prepared under California Code of Regulations (CCR) Title 24, California Building Code (2022 CBC). CCR Title 24 applies to California Public Schools, Hospitals and Skilled Nursing Facilities in California. Hospitals and Skilled Nursing Facilities are under the jurisdiction of OSHPD. CGS serves as an advisor under contract to OSHPD.

Note 48 serves as a checklist for topics that are to be included in the Consultant's report.



California Geological Survey - Note 48

Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings
November 2022

Note 48 is used by the California Geological Survey (CGS) to review the geology, seismology, and geologic hazards evaluated in reports that are prepared under California Code of Regulations (CCR), Title 24, California Building Code (2022 CBC). CCR Title 24 applies to California Public Schools, Hospitals, Skilled Nursing Facilities, and Essential Services Buildings. The Building Official for public schools is the Division of the State Architect (DSA). Hospitals and Skilled Nursing Facilities in California are under the jurisdiction of the Department of Health Care Access and Information (HCAI). The California Geological Survey serves as an advisor under contract with these two state agencies.

Project Name: _____ Location: _____

HCAI or DSA File #: _____ Reviewed By: _____

Date Reviewed: _____ California Certified Engineering Geologist #: _____

Checklist Item or Topic Within Consulting Report NA = not applicable NR = not addressed by consultant and therefore not reviewed at this time	Adequately Described; Satisfactory	Additional Information Needed
Project Location		
1. Site Location Map, Street Address, County Name: Plot site on a USGS topographic base-map.		
2. Plot Plan with Exploration Data and Building Footprint: Show locations of borings, CPTs, trenches or other explorations.		
3. Site Coordinates: Latitude and Longitude.		
Engineering Geology/Site Characterization		
4. Regional Geology and Regional Fault Maps: Concise page-sized illustrations with site plotted.		
5. Geologic Map of Site: Detailed (large-scale) geologic map with proper symbols and geologic legend.		
6. Geologic Hazard Zones: *(If applicable)* Discuss proposed structures in relation to CGS official map showing Zones of Required Investigation for any seismic hazards (liquefaction, landslide, tsunami, fault rupture) and/or any pertinent geologic hazard map from the Safety Element of the local agency (city/county).		
7. Subsurface Geology: Adequate subsurface exploration: One boring or exploration shaft per 5000 ft², with minimum of two for any one building (CBC §1803A.3.1). Borings of adequate depth to characterize hazards and geotechnical properties. CPTs with correlated borings (upload data files). Engineering geologic description summarized from boreholes or trench logs. Summarize ground water conditions.		
8. Geologic Cross Sections: Two or more interpretive geologic sections, based on site exploration data, with pertinent foundations and site grading. Depict extent of liquefiable soils.		
9. Geotechnical Testing of Representative Samples: Broad suite of appropriate geotechnical tests		
10. Consideration of Geology in Geotechnical Engineering Recommendations: Discuss engineering geologic aspects of excavation/grading/fill activities, foundations and support of structures. Include geologic and geotechnical inspections and problems anticipated during grading. Provide all information as required by CBC §1803A.7, including special design and construction provisions for settlement and bearing capacity failure of foundations bearing on weak/soft, collapsible, liquefiable, or expansive soils. Consideration of seismic compression of fills, and cut/fill differential settlement.		
11. Conditional Geotechnical Topics: *(If applicable)* Including but not limited to – **A. Basement and retaining wall design** – demonstrate conformance with CBC §1807A.2 and §1803A.5.12. **B. Deep foundations** – demonstrate conformance with CBC §1803A.5.5, §1803A.5.12, §1810A, and ASCE 7 §12.13. **C. Effects of construction on adjacent structures**, including temporary shoring/underpinning. Attach software documentation.		
Seismology and Calculation of Earthquake Ground Motion		
12. Evaluation of Historical Seismicity: Describe briefly how historical earthquakes have affected site.		
13. Classify the Geologic Subgrade (Site Class): ASCE 7, Chapter 20. Provide justification.		
14. General Procedure Ground Motion Analysis: Follows CBC §1613A.2. Report parameters S_S, S_1, S_{DS}, S_{D1}, and T_L. Tools available at: https://earthquake.usgs.gov/hazards/designmaps/		
15. Site-Specific Ground Motion Procedures: (*Assumed to be required for Site Class D and E unless an Exception in ASCE 7, Supplement No. 3 is invoked.*) Required in ASCE 7, §11.4.8. See requirements in §21.2 to §21.5 and Supplement No. 1 and 3, and in CBC §1803A.6. CGS suggests a table showing: **(a)** 2%-in-50-years probabilistic spectrum, **(b)** risk coefficients, **(c)** probabilistic MCE_R, **(d)** 84th percentile deterministic spectrum, if allowed, **(e)** scaled deterministic spectrum, (§21.2.2), **(f)** site-specific MCE_R, (§21.2.3), **(g)** 80% of modified General Response Spectrum (§21.3), **(h)** design response spectrum (§21.3). Also provide S_{XS} and S_{X1} values per ASCE 7 §21.4. Attach software documentation. *For Site Class F – see §21.1, and §21.3 to §21.5.*		
16. Deaggregated Seismic Source Parameters: *(If applicable)* If needed for liquefaction or slope stability analysis, or for earthquake record selection, provide *controlling* magnitude (M) and fault distance (R). Might be either deterministic or deaggregate for modal M and R.		

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Tip: Be sure to reference the latest edition of CGS Note 48 (last updated November 2022)

257

Follow the process…

California Geological Survey - Note 48

Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings
November 2022

Note 48 is used by the California Geological Survey (CGS) to review the geology, seismology, and geologic hazards evaluated in reports that are prepared under California Code of Regulations (CCR), Title 24, California Building Code (2022 CBC). CCR Title 24 applies to California Public Schools, Hospitals, Skilled Nursing Facilities, and Essential Services Buildings. The Building Official for public schools is the Division of the State Architect (DSA). Hospitals and Skilled Nursing Facilities in California are under the jurisdiction of the Department of Health Care Access and Information (HCAI). The California Geological Survey serves as an advisor under contract with these two state agencies.

Project Name: _____ Location: _____

HCAI or DSA File #: _____ Reviewed By: _____

Date Reviewed: _____ California Certified Engineering Geologist #: _____

Hospital Building Safety Board

Tip: The GOR and GEOR should have knowledge and experience with Hospitals (and Schools) in California.

258

Complete the checklist – Project Location

Checklist Item or Topic Within Consulting Report NA = not applicable NR = not addressed by consultant and therefore not reviewed at this time	Adequately Described; Satisfactory	Additional Information Needed
Project Location		
1. Site Location Map, Street Address, County Name: Plot site on a USGS topographic base-map.		
2. Plot Plan with Exploration Data and Building Footprint: Show locations of borings, CPTs, trenches or other explorations.		
3. Site Coordinates: Latitude and Longitude.		

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259

Complete the checklist – Geology / Site Characterization

Engineering Geology/Site Characterization		
4. Regional Geology and Regional Fault Maps: Concise page-sized illustrations with site plotted.		
5. Geologic Map of Site: Detailed (large-scale) geologic map with proper symbols and geologic legend.		
6. Geologic Hazard Zones: *(If applicable)* Discuss proposed structures in relation to CGS official map showing Zones of Required Investigation for any seismic hazards (liquefaction, landslide, tsunami, fault rupture) and/or any pertinent geologic hazard map from the Safety Element of the local agency (city/county).		
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11. Conditional Geotechnical Topics: (*If applicable*) Including but not limited to – **A. Basement and retaining wall design** – demonstrate conformance with CBC §1807A.2 and §1803A.5.12. **B. Deep foundations** – demonstrate conformance with CBC §1803A.5.5, §1803A.5.12, §1810A, and ASCE 7 §12.13. **C. Effects of construction on adjacent structures**, including temporary shoring/underpinning. Attach software documentation.		

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260

Complete the checklist – Seismology / Ground Motion

Seismology and Calculation of Earthquake Ground Motion

12. Evaluation of Historical Seismicity: Describe briefly how historical earthquakes have affected site.		
13. Classify the Geologic Subgrade (Site Class): ASCE 7, Chapter 20. Provide justification.		
14. General Procedure Ground Motion Analysis: Follows CBC §1613A.2. Report parameters S_S, S_1, S_{DS}, S_{D1}, and T_S. Tools available at: https://earthquake.usgs.gov/hazards/designmaps/.		
15. Site-Specific Ground Motion Procedures: (*Assumed to be required for Site Class D and E unless an Exception in ASCE 7, Supplement No. 3 is invoked.*) Required in ASCE 7, §11.4.8. See requirements in §21.2 to §21.5 *and* Supplement No. 1 and 3, and in CBC §1803A.6. CGS suggests a table showing: **(a)** 2%-in-50-years probabilistic spectrum, **(b)** risk coefficients, **(c)** probabilistic MCE_R, **(d)** 84th percentile deterministic spectrum, *if allowed,* **(e)** *scaled* deterministic spectrum, (§21.2.2), **(f)** site-specific MCE_R (§21.2.3), **(g)** 80% of *modified* General Response Spectrum (§21.3), **(h)** design response spectrum (§21.3). Also provide S_{DS} and S_{D1} values per ASCE 7 §21.4. Attach software documentation. *For Site Class F – see §21.1, and §21.3 to §21.5.*		
16. Deaggregated Seismic Source Parameters: (*If applicable*) If needed for liquefaction or slope stability analysis, or for earthquake record selection, provide *controlling* magnitude (M) and fault distance (R). Might be either deterministic or deaggregate for modal M and R.		

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261

Continue the checklist – Time Histories / Fault Rupture Evaluation

California Geological Survey – Note 48 (2022) Page 2 of 2

Checklist Item or Topic Within Consulting Report NA = not applicable NR = not addressed by consultant and therefore not reviewed at this time	Adequately Described; Satisfactory	Additional Information Needed
17. Time Histories of Earthquake Ground Motion: (*If applicable*) Develop target spectra (MCE_R or conditional mean). Justify selected earthquake records. Scale or spectral match to meet ASCE 7 §12.9.2 or §16.2 for linear or non-linear response history analysis, respectively. Show initial and scaled time histories and response spectra.		

Fault Rupture Hazard Evaluation

18. Active Faulting and Coseismic Deformation Across Site: Discuss active faults at the site or projecting toward it. Address location of faults and their activity level. See CGS Special Publication 42. Show location of proposed structures in relation to any potential fault rupture hazard; show location of fault investigation trenches, and recommended setbacks from fault trace (minimum 50-feet).		

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Tip: Sites within Earthquake Fault Zones should have fault investigations well in advance of design

262

Continue the checklist – Liquefaction / Settlement Analysis

Liquefaction/Seismic Settlement Analysis

19. Geologic Setting for Occurrence of Liquefaction: Perform *screening* analysis to identify where the following conditions apply: (1) depth of highest historical ground water surface <50 ft, and (2) low-density, non-plastic and low plasticity alluvium, typically with *SPT* $(N_1)_{60}$<30		
20. Seismic Settlement Calculations: (*If applicable*) Evaluate both saturated and unsaturated layers of the entire soil column. Provide calculations (no estimates) and report all input parameters. Evaluate liquefaction triggering using highest historical ground water elevation and PGA_M (CBC §1803A.5.12) and calculate liquefaction settlement for each layer where FS<1.3 (CGS SP117A). *Seismic differential settlement* (ASCE 7-16, §12.13.9) should be determined from multiple borings defining the full liquefiable interval and located to adequately define lateral variability. If fewer deep borings are available, then assume half of total settlement across a horizontal distance of 30 feet. Report results in terms that include horizontal dimension. Attach software documentation.		
21. Other Liquefaction Effects: (*If applicable*) Bearing capacity failure (ASCE 7, §12.13.9.1), surface manifestation (i.e., sand boils), and/or lateral spread (refer to CGS SP117A).		
22. Mitigation Options for Liquefaction/Seismic Settlement: (*If applicable*) Discuss effectiveness of options to mitigate liquefaction effects. Where liquefiable soils are identified, see ASCE 7, §12.13.9, for foundation design. If ground improvement is proposed, discuss performance objectives, provide measurable acceptance criteria, and recommend field verification program.		

Hospital Building Safety Board

263

Continue the checklist – Slope Stability Analysis

Slope Stability Analysis

23. Geologic Setting for Occurrence of Landslides: Characterize the potential for landsliding both on and off-site affecting proposed project.		
24. Determination of Static and Dynamic Strength Parameters: (*If applicable*) Conduct appropriate laboratory tests to determine material strength for both static and dynamic conditions.		
25. Determination of Pseudo-Static Coefficient (K_{eq}): (*If applicable*) Recommended procedure available from CGS Special Publication 117A. Recommend using design-level ground motion based on geometric mean and without risk coefficient (*i.e.*, (PGA_M)/1.5), or discuss with CGS.		
26. Identify Critical Slip Surfaces for Static and Dynamic Analyses: (*If applicable*) Failure surfaces should be modeled to include existing slip surfaces, discontinuities, geologic structure and stratigraphy; include appropriate ground water conditions. Attach software documentation.		
27. Dynamic Site Conditions: (*If applicable*) Site response analysis and topographic effects should be considered, if appropriate.		
28. Mitigation Options for Landsliding/Other Slope Failure: (*If applicable*) Discuss effectiveness of options to mitigate landsliding/slope failure effects. Acceptance criteria for ground-improvement schemes.		

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264

Finish the checklist – Other Hazards / Adverse Site Conditions

Other Geologic Hazards or Adverse Site Conditions

These exceptional geologic hazards do not occur statewide; however, they may be pertinent to a particular site. Where these conditions exist, relevant information should be communicated to the design team.

29. Expansive Soils		
30. Corrosive/Reactive Geochemistry of Geologic Subgrade: soluble sulfates and corrosive soils.		
31. Conditional Geologic Assessment: Including but not limited to - **A. Hazardous materials** methane gas, hydrogen-sulfide gas, tar seeps; **B. Volcanic eruption**; **C. Flooding** Riverine (FEMA FIRMs or local zoning for 100-year flood); see CBC §1612A. Also consider alluvial fan flooding and dam inundation. Is the site elevated or protected from the hazard; **D. Tsunami and seiche inundation**; see ASCE 7, Chapter 6; zone maps at web site ASCE7tsunami.online; **E. Radon-222 gas**; **F. Naturally occurring asbestos** in geologic formations associated with serpentine; refer to CGS SP 124; **G. Hydrocollapse** of alluvial fan soils due to anthropic use of water; **H. Regional subsidence**; **I. Clays and cyclic softening**.		

Tip: Note that the required assessments for hospitals exceed those for commercial projects

265

Finish the checklist – Documentation

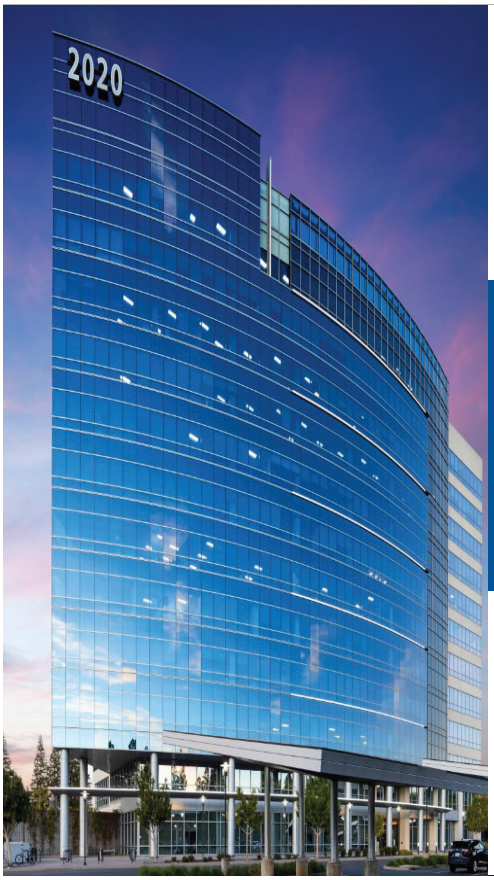
Report Documentation

32. Geology, Seismology, and Geotechnical References		
33. Certified Engineering Geologist: (CBC §1803A)		
34. Registered Geotechnical Engineer: (CBC §1803A)		

Tips:

- **Retain Geotechnical/Geological firms that have experience with similar projects in California reviewed by CGS.**
- **Ensure that both the Geotechnical/Geological Principals involved in the project have the proper required certifications and registrations.**
- **Engineering Geology and Seismological reports should be submitted early in the design process and allow sufficient time for review and backcheck (if required).**
- **If changes in the project details during design or construction require modifications in the findings of the reports, any necessary supplements or addenda should be submitted promptly to avoid unnecessary delays.**

266



Session 3: Submittals, Design and OSHPD Review

Health Care Access and Information | Hospital Building Safety Board

Architect's Roles and Responsibilities

Scott Mackey, AIA, NCARB, LEED AP, APEC
Healthcare Architect

Gary Dunger
Executive Director- Cedars-Sinai

Why is this seminar and document important to an Architect?

HCAI Department of Health Care Access and Information

GUIDE FOR WORKING ON PROJECTS UNDER OSHPD JURISDICTION

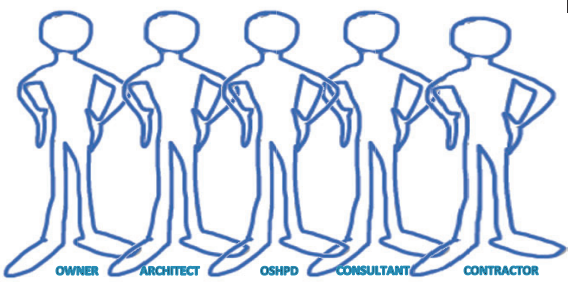
Tips from the Experts

Office of Statewide Hospital Planning and Development

269

Architect's Roles and Responsibilities:

1. One Complete Team
2. Working with OSHPD staff
3. Geologic Hazards
4. Plan Design & Guidelines
5. Working with local Fire Authority
6. ADA Compliance
7. Referencing CANs & PINS
8. Coordinating with partners
9. Connecting TIO and IORs
10. Pick a Form – Any Form
11. Construction Observation
12. Use of Engineering Judgements
13. Close Out & Substantial Completion



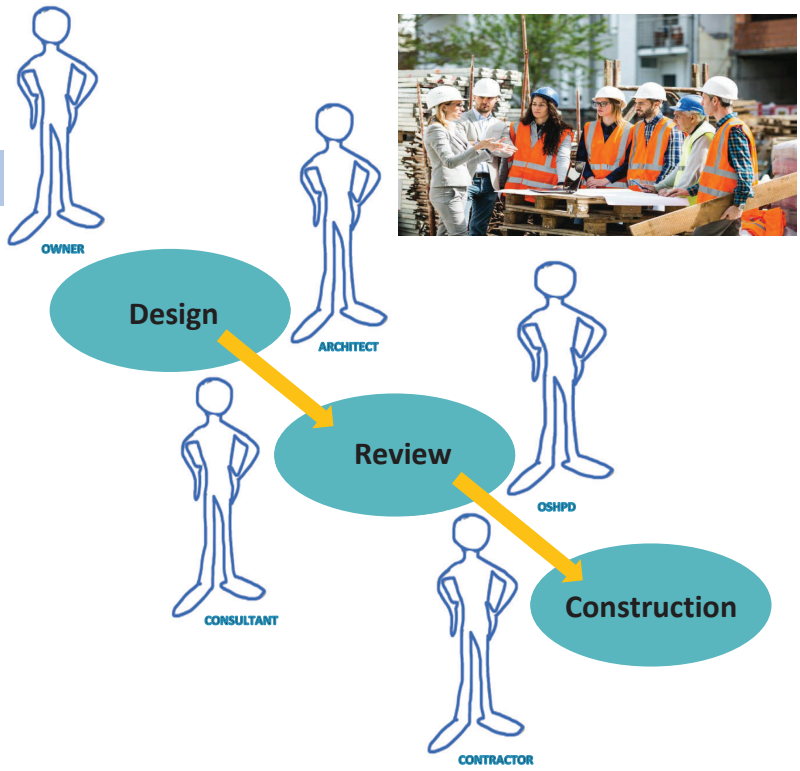
Hospital Building Safety Board

270 HCAI

Architect's Tips:

One Complete Team!

1. A complete team of partners working together for the common goal of the best project outcome.
2. The comprehensive team works together to assure success.
3. Design solutions are well thought through and coordinated.
4. Supporting the ultimate outcome brings team members together.
5. Amazing friendships and trusted partners are established through a focused common goal.



Tip: Healthcare projects are most successful when developed by one complete team.

DESIGN PHASE – Architect's Tips:

Working with OSHPD Staff

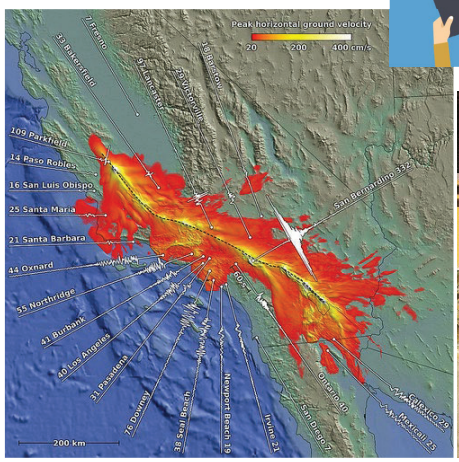
1. Reach out early and often to engage the team at OSHPD.
2. The review team is your advocate and ally in developing the best project outcome.
3. Work closely with the OSHPD team as a close partner early on.
4. Review the project to be sure your plans and specifications comply.
5. Consider alternate review processes with your OSHPD team members.

Tip: The OSHPD team is your best ally and advocate for securing approval of your project.

DESIGN PHASE – Architect's Tips:

Geologic Hazards

1. Starting the geologic and geotechnical analysis of the project site early on is critical.
2. California Geologic Survey (CGS) department should be notified early about the project.
3. Avoid significant delays by making this component of the project a high priority.
4. Be sure submission follows the form defined in Note 48.

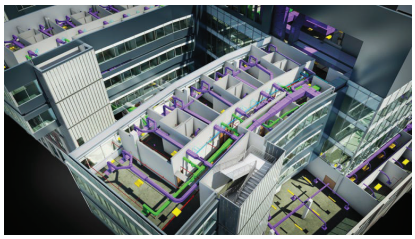


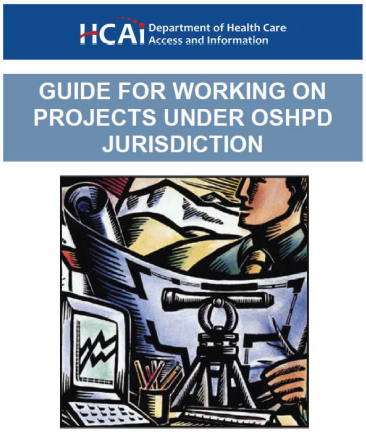
Tip: Make securing and submitting your geologic/geotechnical report a high priority.

DESIGN PHASE – Architect's Tips:

Plan Design & Guidelines

1. Utilize the Tips from the Experts guide to help navigate for the best results.
2. Establish a document standard that addresses the criteria outlined in the guide.
3. Coordinate closely with all members of the project team.
4. Use various coordination and collaboration methods to fully develop plans and specifications.





Tip: Whether submitted via paper or electronic means, be consistent in your package standards.

DESIGN PHASE – Architect's Tips:

Working with Local Fire Authority

1. One of the most important local authorities to coordinate with early in the project.
2. Their access and circulation around a healthcare facility is critical for everyone's safety.
3. Schedule a review meeting as soon as building scale, scope and context are defined.
4. Working closely with the local fire department will result is positive outcomes.

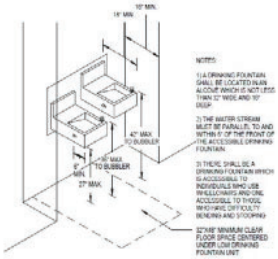
Hospital Building Safety Board

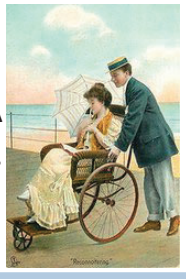
Tip: Work closely with the local fire authority to assure emergency access and circulation on site.

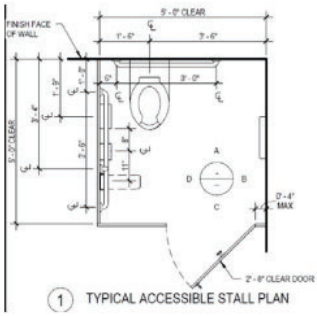
DESIGN PHASE – Architect's Tips:

ADA Compliance

1. The Americans with Disabilities Act is a federal civil rights law.
2. Many patients experience temporary and sometimes permanent disabilities.
3. Design for all types of disabilities.
4. Be sure your plans and specifications comply.
5. Consider performing a separate ADA review effort to confirm compliance.







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Tip: Pay particular attention to the Americans with Disabilities Act.

DESIGN PHASE – Architect's Tips:

Referencing CANs and PINs

1. CANs and PINs were created and written to help everyone.

Department of Health Care Access and Information
Office of Statewide Hospital Planning and Development
2020 West El Camino Avenue, Suite 800 • Sacramento, CA 95833 • (916) [illegible]
355 South Grand Avenue, Suite 1900 • Los Angeles, CA 90071 • (213) 897-0166

POLICY INTENT NOTICE **PIN: 62**

SUBJECT
OSHPD Preapproval of Manufacturer's Certification (OPM)

Effective: 06/02/2016
Revised: 08/22/2023

2. Be sure to use the most current published version directly from the OSHPD website!

Facilities Development Division
Office of Statewide Health Planning and Development
400 R Street, Suite 200 • Sacramento, CA 95811 • (916) 440-8300
700 N. Alameda Street, Suite 2-500 • Los Angeles, CA 90012 • (213)897-0166

CODE APPLICATION NOTICE (CAN)
H&S Code §129851

SUBJECT
Clinics

CAN: 1-7-2100
Effective: 6/19/2008
Revised: 1/23/2017

Tip: Take full advantage of the benefits of the PINs and CANs published by OSHPD.

DESIGN PHASE – Architect's Tips:

Coordinating with your partners

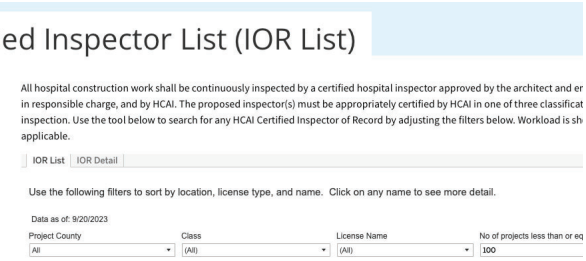
1. Integrated project delivery encourages the project to be well documented, more efficient and with greater coordination.
2. Working together across many disciplines brings the best minds together to a more complete solution.
3. Using LEAN principles results in more effective and efficient outcomes.
4. Working together cohesively as a fully integrated team maximizes opportunities for excellence.

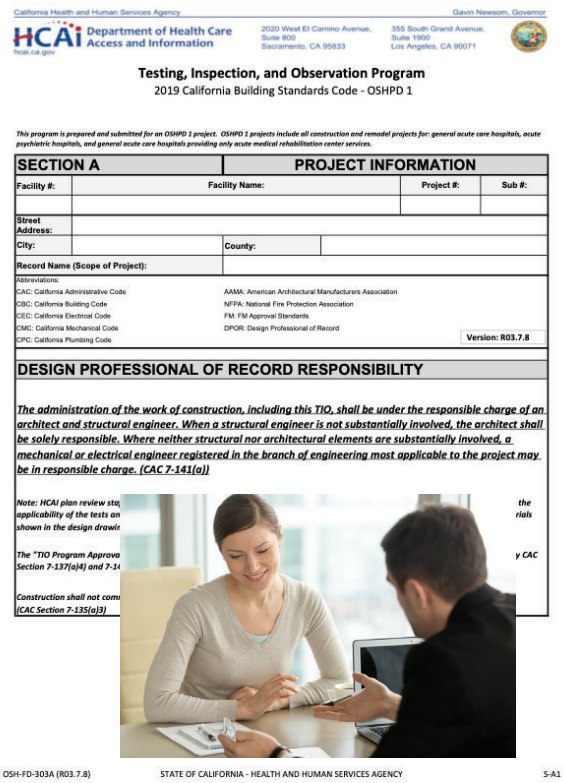
Tip: Everyone on the team is a partner, integrated for success – engage them all!

REVIEW PHASE – Architect's Tips:

Connecting TIO & IORs

1. The TIO and IOR go hand in hand with each other. It is the guide to successful completion.
2. Take the time to go over the TIO with the project's IOR(s) to make sure all aspects are clear and understood.

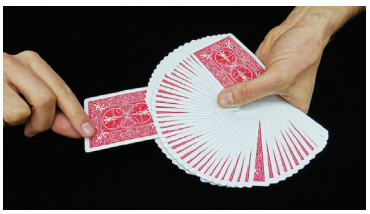




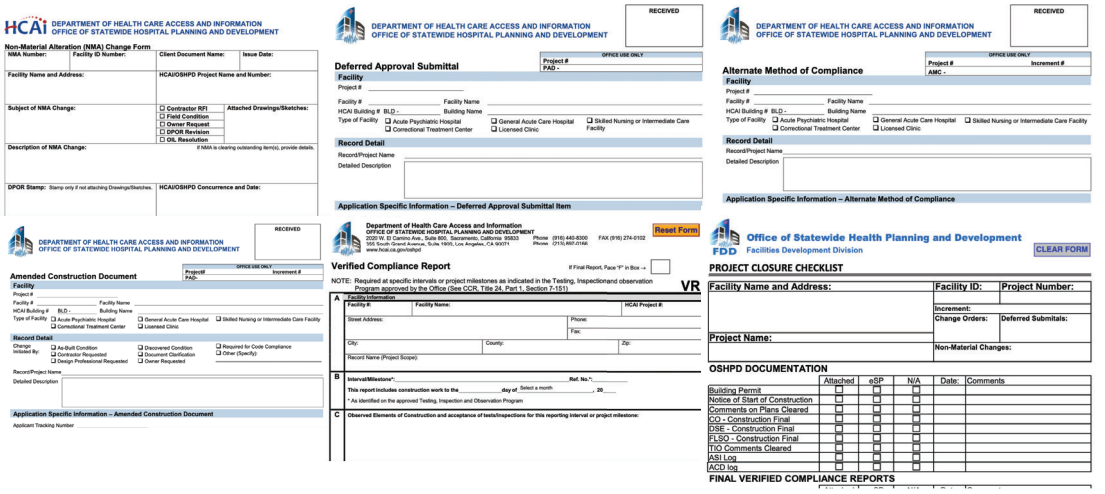
Tip: Personally review the approved TIO form with the IOR.

CONSTRUCTION – Architect's Tips:

Pick a Form – Any Form



1. NMA
2. DA
3. AMC
4. ACD
5. VCR
6. PCC
7. Etc.



Tip: Forms on the OSHPD website are there for your use. Use most current version via website.

CONSTRUCTION– Architect's Tips:

Construction Observation

1. Construction process is the culmination of all your hard work. Be there to follow it through!
2. Be an integrated part of the opportunities and challenges that occur during construction.
3. Your involvement is critical to the continued success of the team and the project.
4. So much is learned during construction that it shouldn't be missed. Ever!

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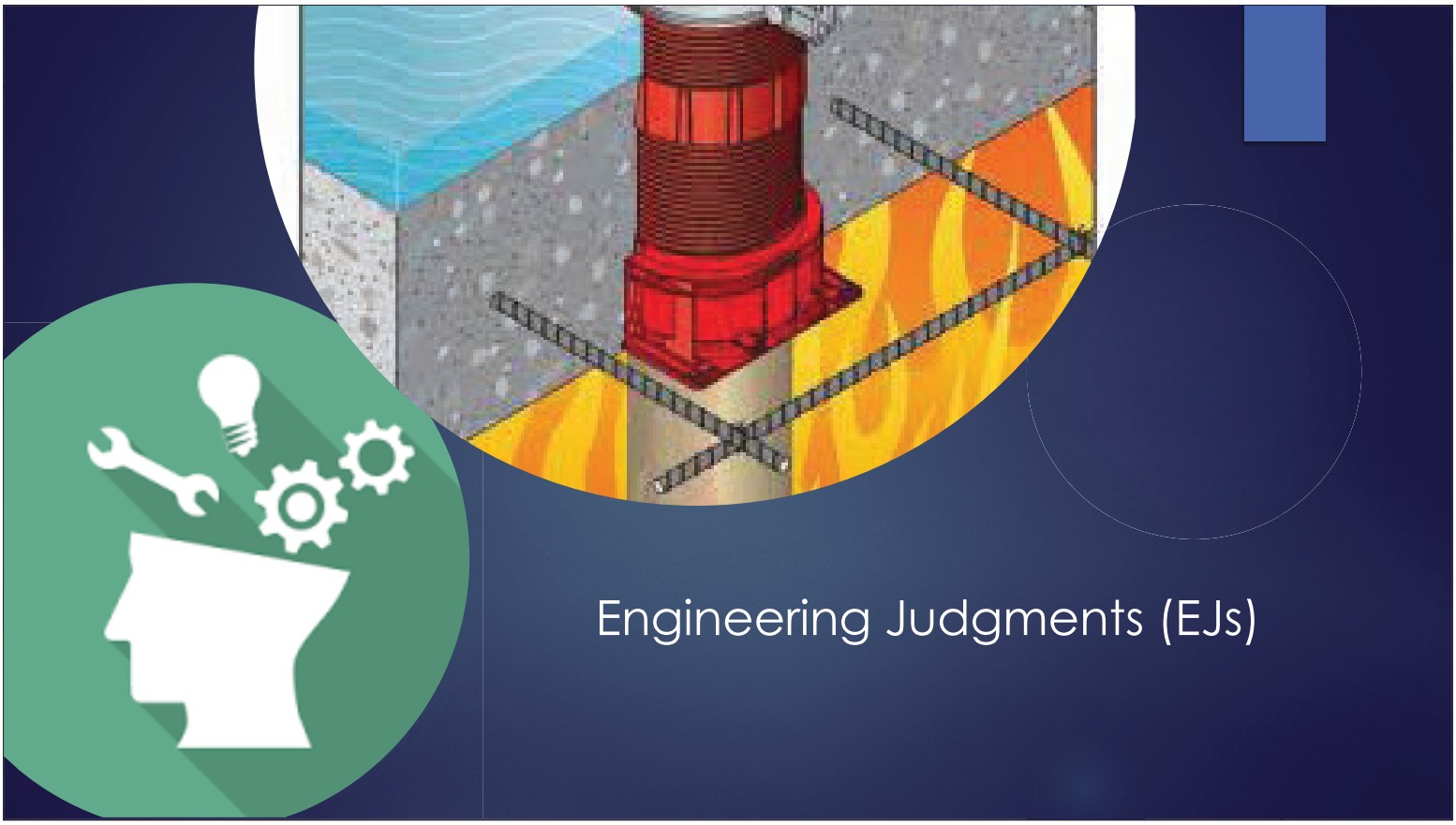
Tip: The Architect of Record is required to observe the work being done at the site. Be there!



703.2 Fire resistance.

The fire-resistance rating of building elements, components or assemblies shall be determined in accordance with Section 703.2.1 or 703.2.2 without the use of automatic sprinklers or any other fire suppression system being incorporated, or in accordance with Section 703.2.3.

703.2.1 Tested assemblies.

A fire-resistance rating of building elements, components or assemblies shall be determined by the test procedures set forth in ASTM E119 or UL 263. The fire-resistance rating of penetrations and fire-resistant joint systems shall be determined in accordance with Sections 714 and 715, respectively.

703.2.2 Analytical methods.

The fire resistance of building elements, components or assemblies established by an analytical method shall be by any of the methods listed in this section, based on the fire exposure and acceptance criteria specified in ASTM E119 or UL 263.

1. Fire-resistance designs documented in approved sources.
2. Prescriptive designs of fire-resistance-rated building elements, components or assemblies as prescribed in Section 721.
3. Calculations in accordance with Section 722.
4. Engineering analysis based on a comparison of building element, component or assemblies designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E119 or UL 263.
5. Fire-resistance designs certified by an approved agency.

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285

703.2.3 Approved alternate method.

The fire resistance of building elements, components or assemblies not complying with Section 703.2.1 or 703.2.2 shall be permitted to be established by an alternative protection method in accordance with Section 104.11.

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286

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A	B
Primary structural frame[d] (see Section 202)	3[a,b]	2[a,b]	1[b]	0	1[b]	0	HT	1[b]	0
Bearing walls Exterior[e,f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	HT	1[b,c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. *1.* Except in Group *A, E,* F-1, H, *I, L,* M, *R-1, R-2, R-2.1* and S-1 occupancies, *high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

b. 2. For Group A, E, I, L, R-1, R-2, and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, fire protection of members other than the primary structural frame shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

b. 3. One-story portions of Group A and E assembly occupancies the roof-framing system of Type II A or Type III A construction may be of unprotected construction when such roof-framing system is open to the assembly area and does not contain concealed spaces.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 602).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

AMC? No

CBC 703.2.2 #4

4. Engineering analysis based on a comparison of building element, component or assemblies designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E119 or UL 263.

287

Non-Building Elements

Joints

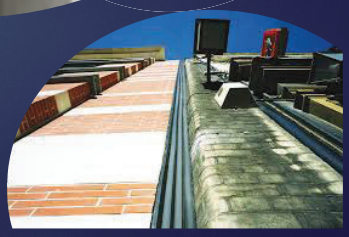
- Curtain Wall
- Head of Wall
- Wall to Wall
- Floor to Floor
- Etc.

These are joints between the assemblies and have their own test criteria.

Test procedures are set forth in ASTM E1966/UL 2079 & UL 2079 for smoke barriers.

If the proposed joint system is installed in a manner which has not been tested in the approved fire-resistance-rated assembly, an EJ and AMC are both required.

AMC?

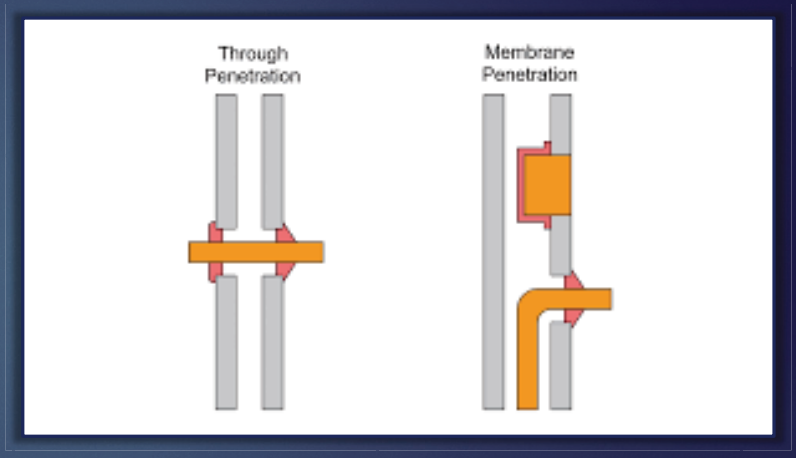


288

Non-Building Elements

Penetrations

- Through Penetrations
  - Test procedures are set forth in ASTM E 814/UL 1479, Smoke UL 1479
- Membrane Penetrations
  - Protected generally same as through penetrations



714.4.1.2 Fire-resistance-rated assemblies.

Through penetrations shall be protected using systems installed as tested in the approved fire-resistance-rated assembly.

If the proposed firestop system is installed in a manner which has not been tested in the approved fire-resistance-rated assembly, an EJ and AMC are both required.

AMC?

289

CBC 703.2.3

Alternative protection methods as allowed by Section 104.11.

EJs based on any other test standard

Section 104.11 can be used to establish fire resistance for elements as an alternative to the fire testing and analytical methods contained in this code. Under Section 104.11, the building official is able to use testing that seems appropriate, which could include sprinklers as part of a test.

AMC?

290

Summary

- AMC? 

- All EJs that are not in compliance with Item 4 of Section 703.2.2 shall be submitted for review and approval in accordance with CAC 7-104 Alternate Method of Compliance.
- EJs submitted for penetrations and/or joint systems that do not have their own tested, listed system require an AMC.
- Other EJs submitted for non-building elements that do not have their own tested, listed system require an AMC.

- AMC? 

- All EJs that comply with Item 4 of Section 703.2.2 (Building Element tested in accordance with ASTM E119/UL 263) do not need an AMC.

291

Documentation

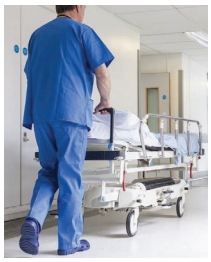
OSHPD REVIEW – Architect's Tips:

Close Out & Substantial Compliance

1. Celebrate the completion of construction, but don't forget there is still more to go!

STEP 6 – AFTER CONSTRUCTION

Once construction is completed, OSHPD issues a certificate of occupancy which allows the owner to then apply to the Department of Health Services for a license to operate the health facility.



2. Commonly referred to as Staff & Stock, it is the process to prepare for final occupancy and licensure.
3. SUCCESS! Final license approval and authorization to accept patients.

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Tip: Substantial Compliance is not the end of the project! There is still more to go before opening.

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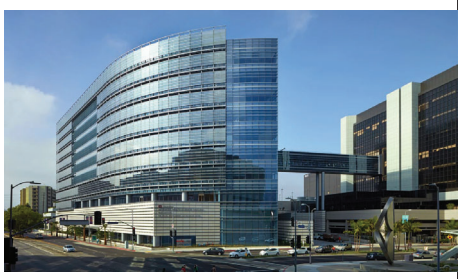
OSHPD REVIEW – Architect's Tips:

Congratulations!!!!!



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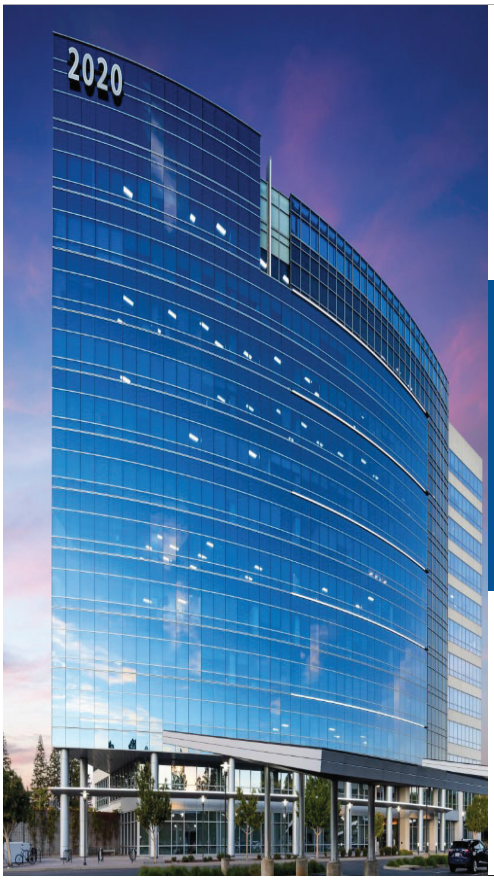
Tip: Celebrate the completion of the project by sharing images of the finished work!

HCAI



Session 3: Submittals, Design and OSHPD Review

Health Care Access and Information | Hospital Building Safety Board

Structural Engineer's Roles and Responsibilities

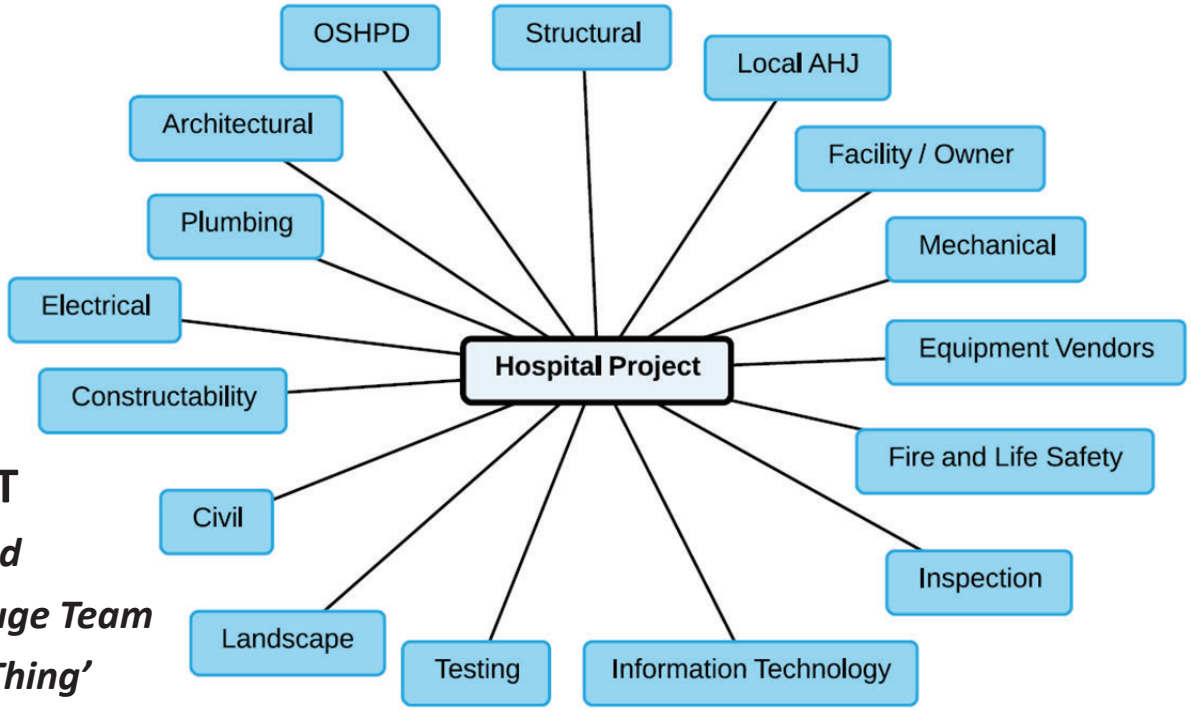
James O. Malley, Structural Engineer
Senior Principal, Degenkolb Engineers

Hospital Building Safety Board

296

THE PROJECT

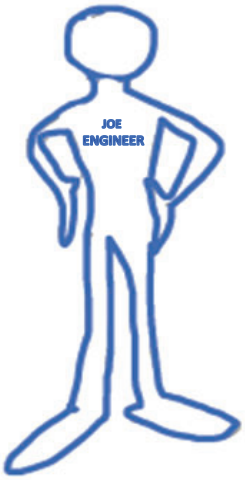
- *Is Complicated*
- *Requires a Huge Team*
- *Is the 'Main Thing'*

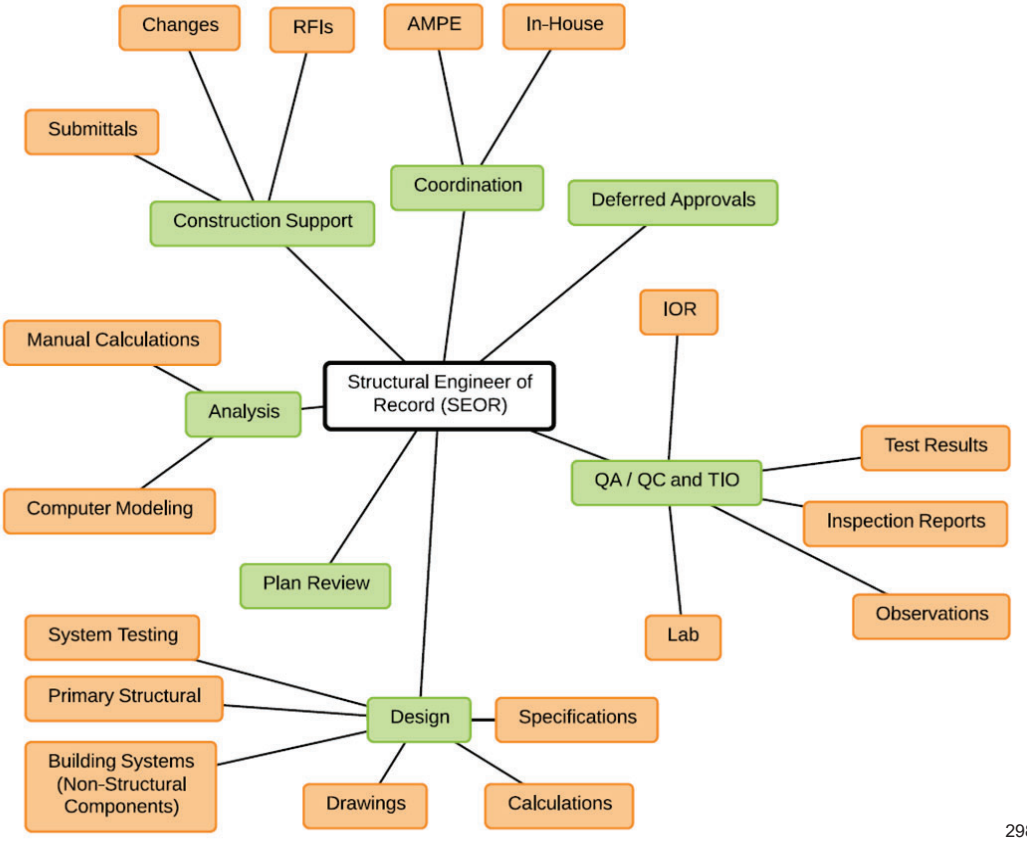


297

SE ROLE

- *Primary Structure*
- *Building Systems*





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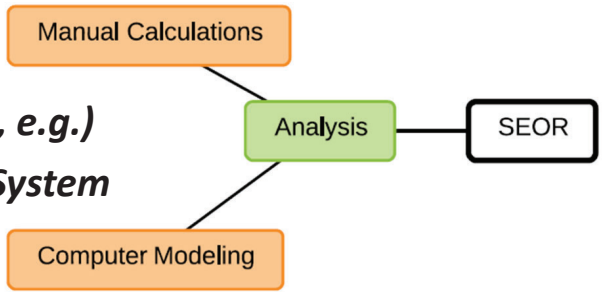
298

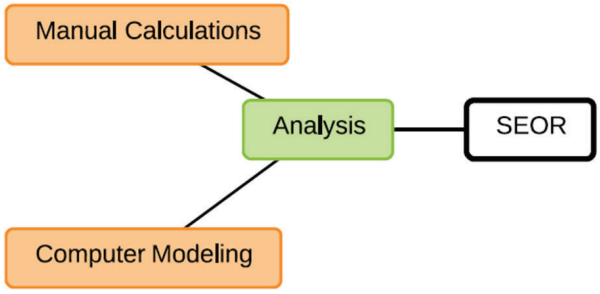
Do The Math



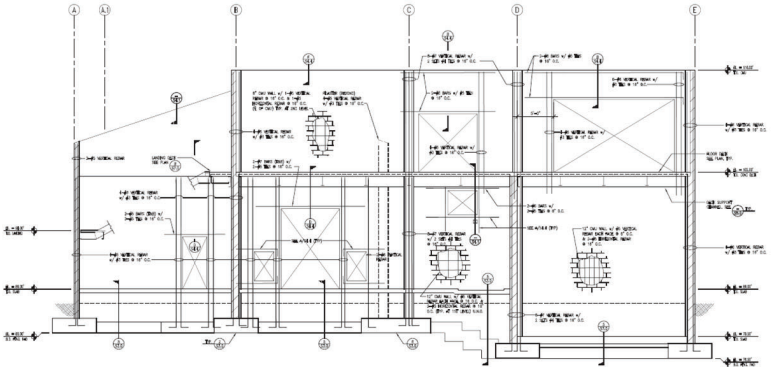
- *Compile Site Specific Conditions Early (Seismic, e.g.)*
- *Establish Elements of the Designated Seismic System*
- *Existing Building Conditions*
- *Field Validation*
- *Site Conditions*
  - Survey of Grades
  - Underground Utilities
  - Adjacent Buildings
  - Geo-hazard & Geotechnical Reports

299

Do The Math



- *Analyze Structural Design Alternatives*
- *Select Optimum Alternative*
- *Validate Computer Results Manually (BY HAND)*
- *Identify Conditions that Require Alternate Design Procedures or Special Testing*
- *Define Design Requirements for Non-Structural Components and Systems*



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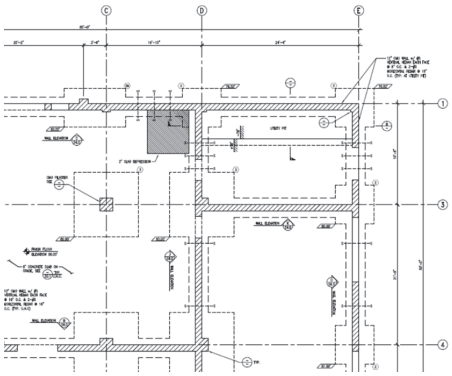
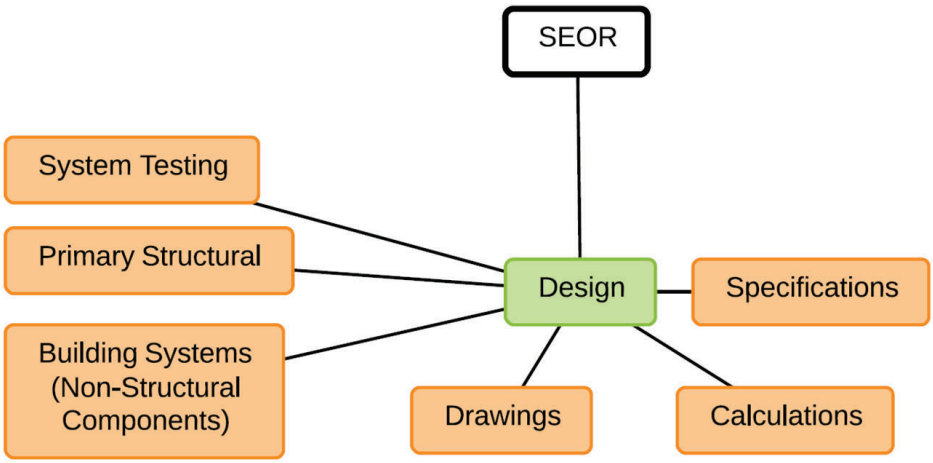




CREATE

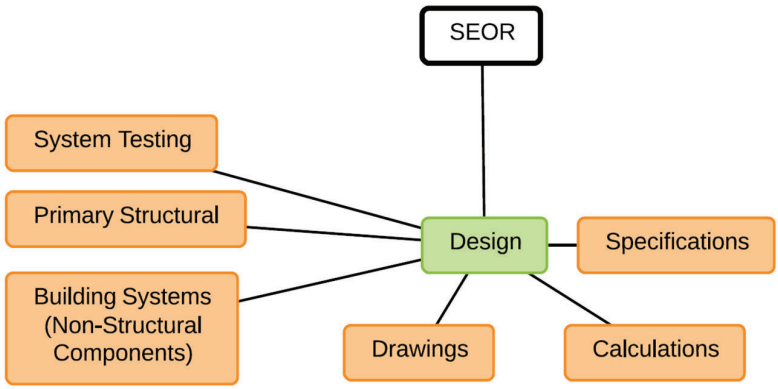
Schematic

- Demonstrate Primary Project Objectives
- Presentation of the Design Criteria
- Primary Structural System Definition

Detail Design / Design Development

- Complete Structural Analyses
- Interconnection of Primary Structure to Complete Load Path

Create



Construction Documents

- Complete Primary Structure Design and Detailing
- Complete Anchorage and Bracing of Non-Structural Components
- Develop TIO Program
- Identify Seismic Certifications & Pre-Approvals

MECHANICAL EQUIPMENT ANCHORAGE SCHEDULE

EQUIPMENT TYPE	EQUIPMENT TAG	EQUIPMENT NAME	LOCATION (ROOM/AREA)	ROOM
CHILLER	CH-1	CHILLER	CHILLER ROOM	
	CH-2	CHILLER	CHILLER ROOM	
	CH-3	CHILLER	CHILLER ROOM	
COOLING TOWER	CT-1	COOLING TOWER	COOLING & ELECTRICAL YARD	
	CT-2	COOLING TOWER	COOLING & ELECTRICAL YARD	
	CT-3	COOLING TOWER	COOLING & ELECTRICAL YARD	
BOILER	B-1	NATURAL GAS HOT WATER BOILER	BOILER ROOM	
	B-2	NATURAL GAS HOT WATER BOILER	BOILER ROOM	
	B-3	NATURAL GAS HOT WATER BOILER	BOILER ROOM	

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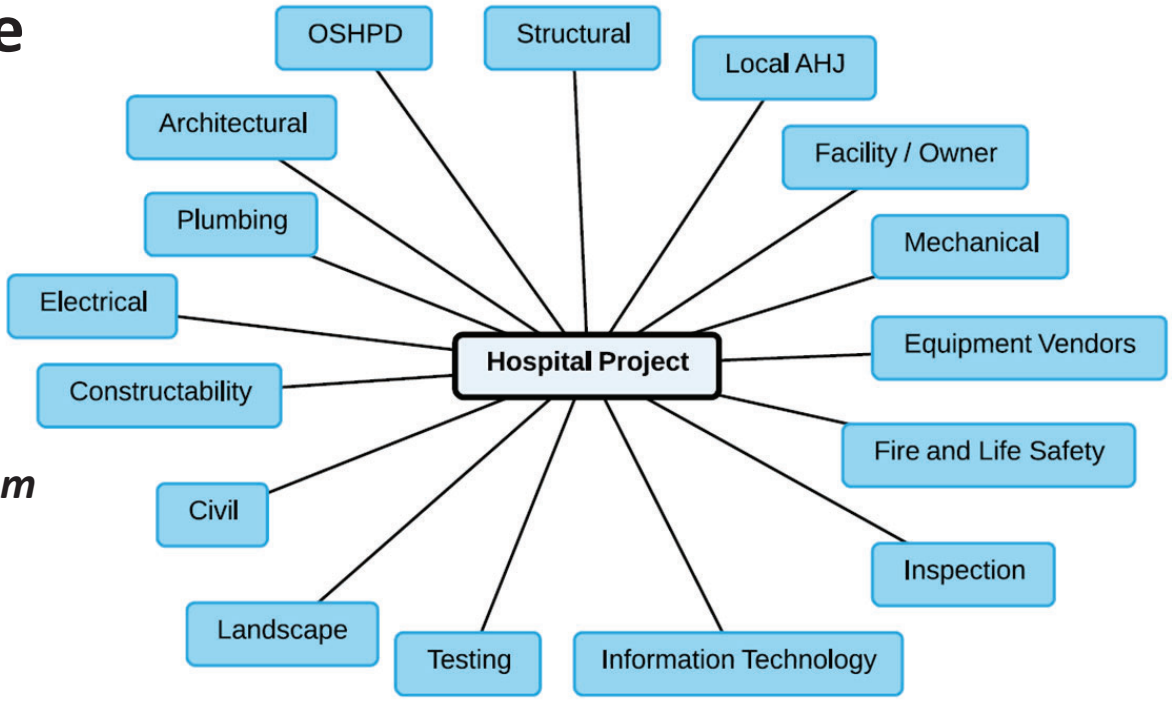
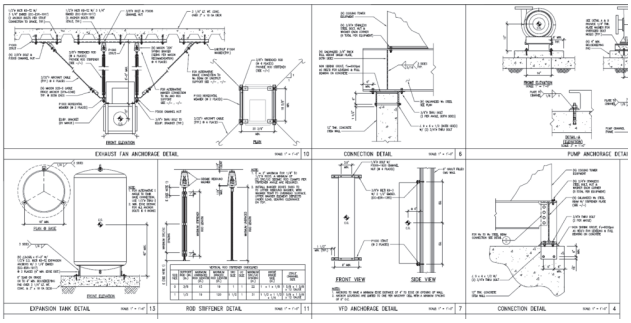
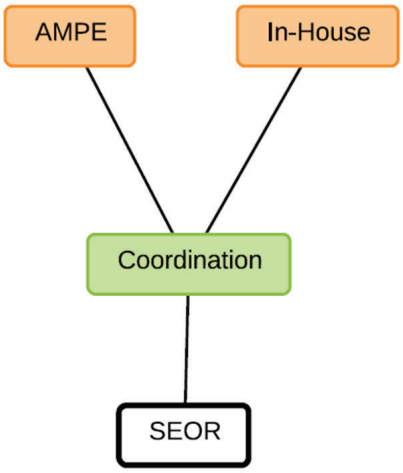
Collaborate



- ***Internal SE Team***
- ***Design Team***
- ***Project Team***

303



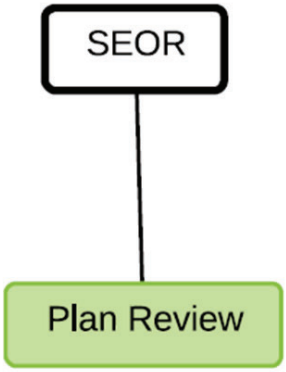


VALIDATE EVERYTHING

- ***Internal***
  - **Synchronize:**
    Analysis – Design – Detailing - BIM/Drawings – Testing - Specifications
- ***External; Other Design Disciplines - BIM Clash Detection***
  - **Structural Member Penetrations**
  - **Structure Depths**
  - **Secondary Support Systems**
  - **Floor Depressions**
  - **Bracing & Anchorage of Components**

304

Treat OSHPD as a Partner



- ***Recognize Their Expertise and Listen to Them***
- ***Respect the OSHPD Staff***
- ***Develop a Rapport with the Plan Review Staff***
- ***Appreciate How Important the Job of Code Enforcement is to Success***
- ***Be Thorough in Your Responses to Plan Review Comments***
- ***Backup Innovations with Technical Support; Special Testing or Other***
- ***Develop a Sound Basis of Design and Validate It with OSHPD Staff SE***

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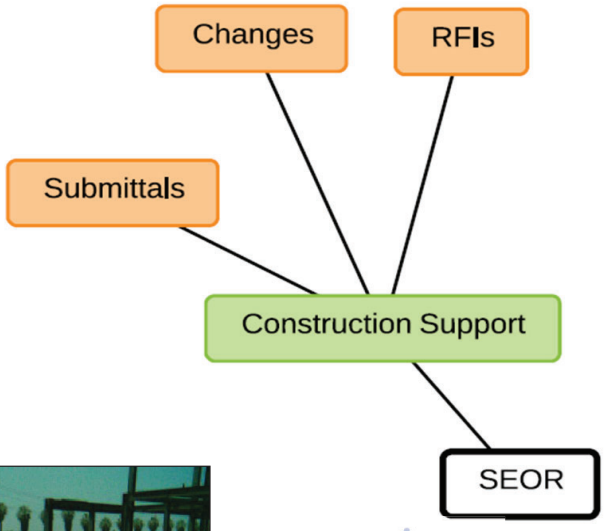
305

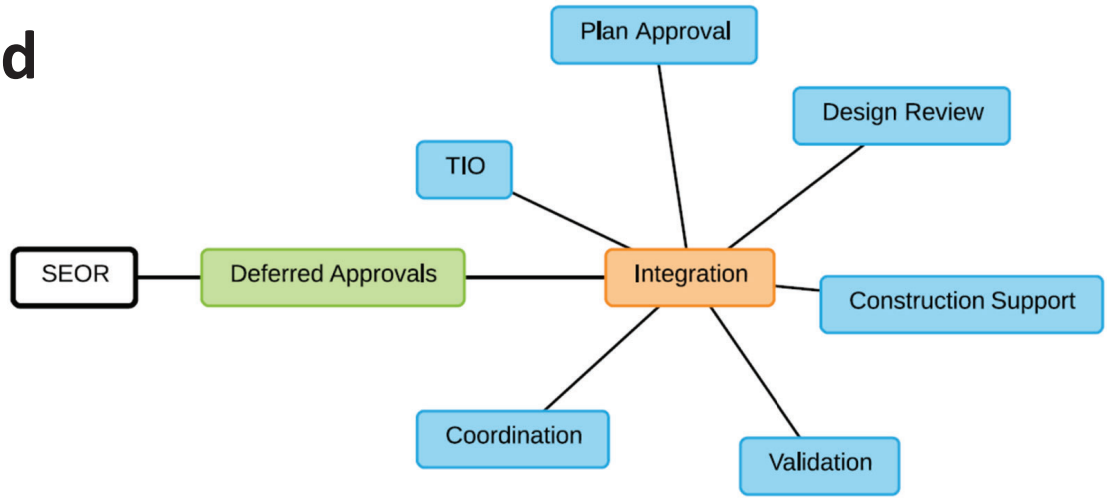
Build It

- ***Promote Responsive and Thorough Behavior Teamwide***
- ***Minimize Response Time***
- ***Avoid Substantive Changes***
- ***Plan and Perform Regular Site Visits***



306

Stay Tuned

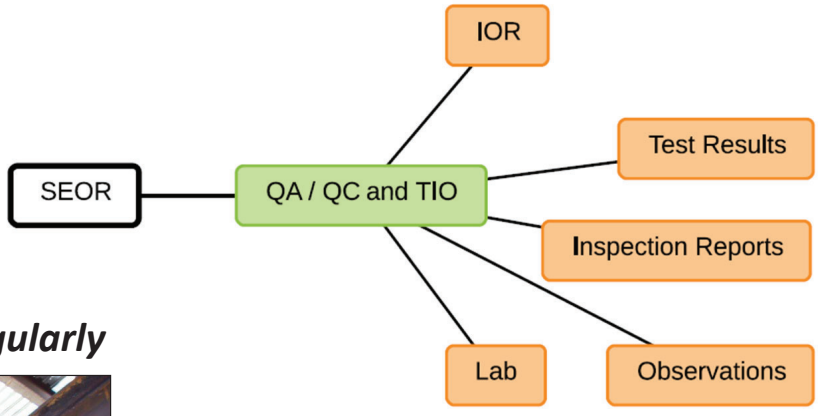


- *Prioritize Deferred Approvals*
- *Allow Time to Process DAs*
- *Take Care to Integrate DAs Properly*
- *SEOR Stamp and Sign ONLY after Thorough Review*

307

Show Up

- *Develop a Sound TIO Program*
- *Work Closely with the IOR*
- *Qualify Special Inspectors*
- *Prepare Observation Reports*
- *Meet with OSHPD Field Staff Regularly*



308

Identify The Enemies

- *Ego, Greed, Fear Can Cripple Any Project*
- *Secondary Treatment of Tools and Processes*
- *Vague Goals and Priorities*
- *Undefined Conditions of Satisfaction*
- *Leaderless Projects*

Courtesy of Chris Tokas
OSHPD Deputy Director

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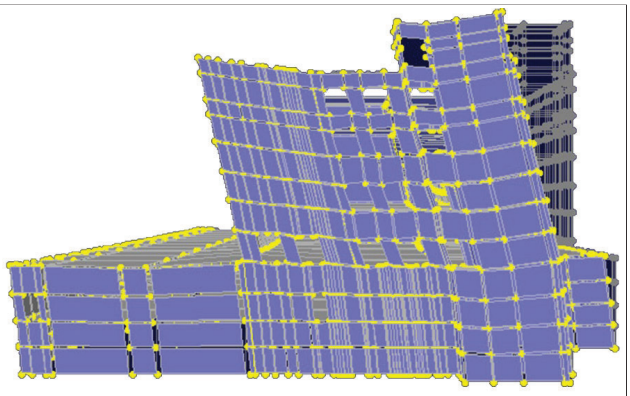
Identify the Enemies

- *Cut and Paste*
- *Following Software Blindly*
- *Insufficient Funds*
- *Wrong Individuals with the Wrong Experience*

Courtesy of Chris Tokas
OSHPD Deputy Director

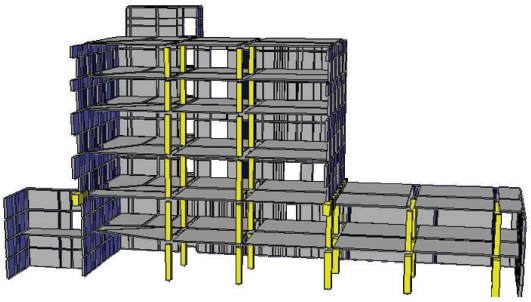
Top Ten
Tip-Top Tips



10. *Embrace Ongoing Involvement Past Primary Structure*
9. *Pay Close Attention to Internal Coordination*
8. *Emphasize Multi-Disciplinary Coordination*
7. *Consider Constructability Responsibly*
6. *Meet Face to Face Regularly with Project Team*
5. *Know What You Don't Know And Ask Those That Do*

311

Top Ten
Tip-Top Tips

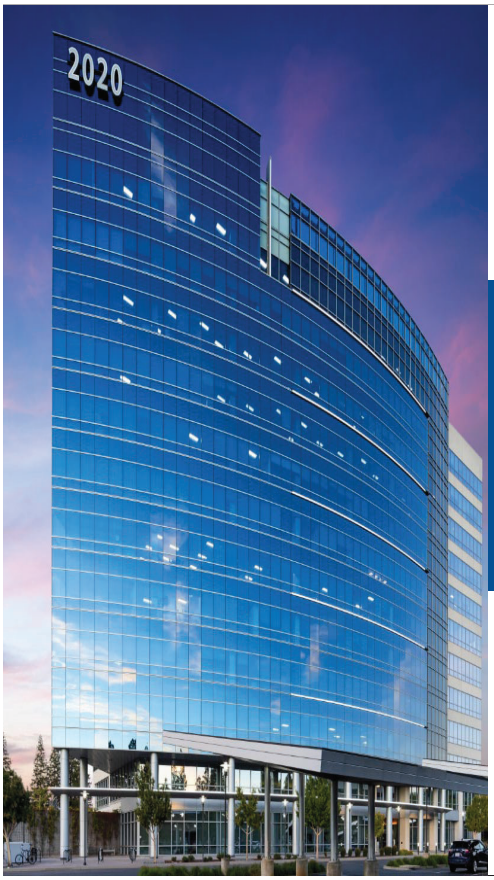


4. *Own Your Own Mistakes*
3. *Respect Role of Each Team Member and Their Authority*
2. *Adopt a 'Holistic Design' Approach:*

   Characterized by comprehension of the parts of something as intimately interconnected and explicable only by reference to the whole.
1. *The 'Main Thing' is to keep the 'Main Thing' the 'Main Thing'*

Remember, the PROJECT is the 'Main Thing'

312



Session 3: Submittals, Design and OSHPD Review

Health Care Access and Information | Hospital Building Safety Board

October 2023

MEP Roles and Responsibilities

Louise Belair, PE, LEED AP, EDAC

Sr. Vice - President, Mechanical Engineer - tk1sc

John Griffiths, PE

Electrical Engineer - CONTECH-CA

Why is this seminar and document important to MEP engineers?

HCAI Department of Health Care Access and Information

GUIDE FOR WORKING ON PROJECTS UNDER OSHPD JURISDICTION

Tips from the Experts

Office of Statewide Hospital Planning and Development

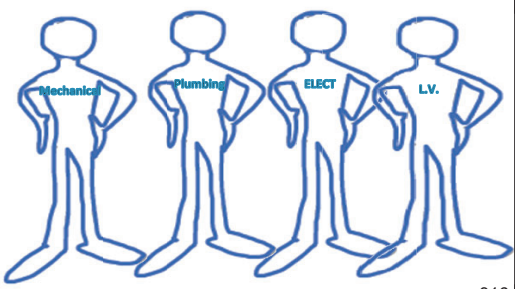
MEP ENGINEERS ROLES AND RESPONSIBILITIES:

Mechanical Engineer of Record (MEOR)

- Mechanical: Heating, Ventilation, Air Conditioning: Building, Central Plant
- Plumbing: Domestic Water, Waste, Medical Gas, Fire Protection

Electrical Engineer of Record (EEOR)

- Electrical: Normal and Emergency Power, Fire Alarm
- Low Voltage: Communications, Networks, Nurse Call



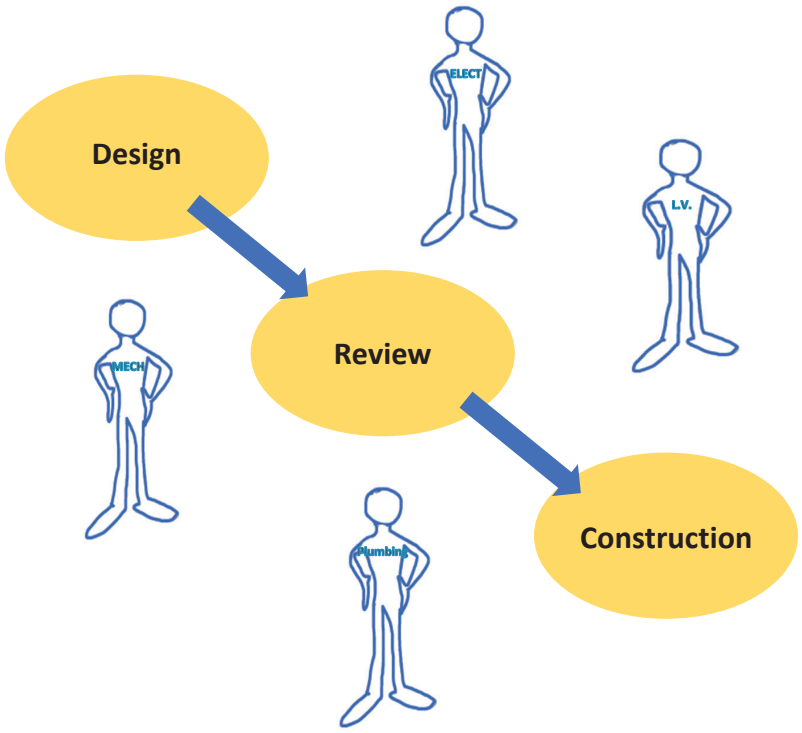
316

MEP TIPS:

DESIGN PHASE

OSHPD REVIEW

CONSTRUCTION



317

DESIGN PHASE – MECHANICAL TIPS:

Ductwork Drawings:

- Show rated walls on mechanical ductwork drawings
- Provide air handling units zoning plan in addition to terminal unit zoning plans

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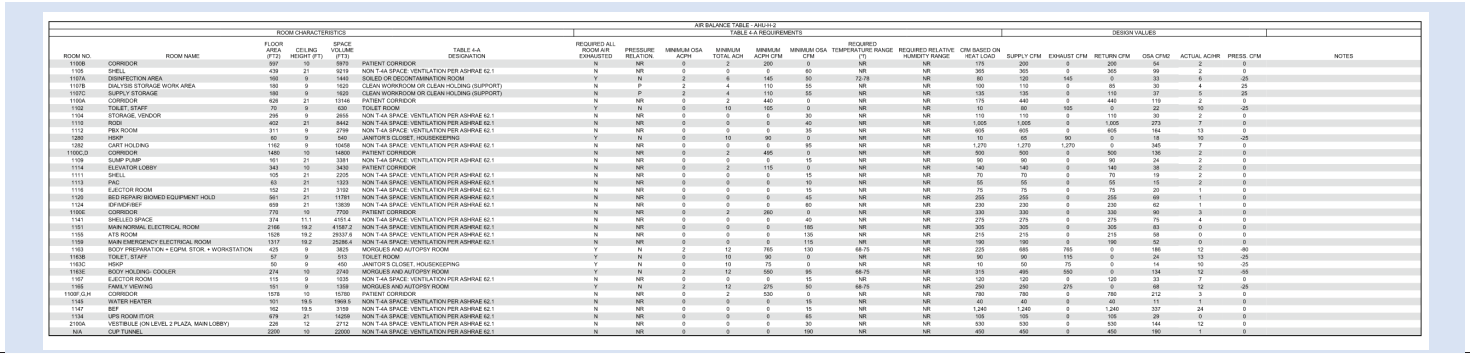
DESIGN PHASE – MECHANICAL TIPS:

Ventilation Tables:

- Use Table 4A nomenclature
- Organize ventilation tables by Air Handling Unit (AHU)
- Match Exhaust Fan to AHU(s)



AIR BALANCE TABLE - AHU-H-2

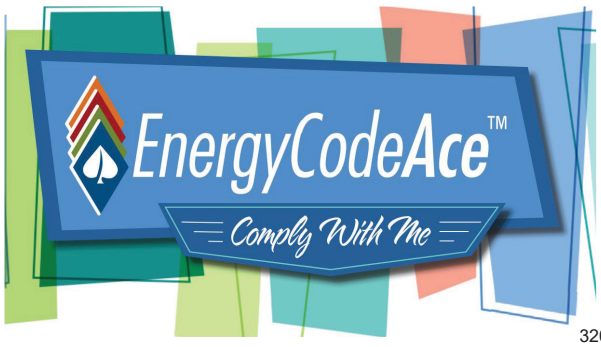
ROOM CHARACTERISTICS					TABLE 4-A REQUIREMENTS									DESIGN VALUES						
ROOM NO.	ROOM NAME	FLOOR AREA (FT2)	CEILING HEIGHT (FT)	SPACE VOLUME (FT3)	TABLE 4-A DESIGNATION	REQUIRED ALL ROOM AIR EXHAUSTED	PRESSURE RELATION	MINIMUM OSA ACPH	MINIMUM TOTAL ACH	MINIMUM ACPH CFM	MINIMUM OSA CFM	REQUIRED TEMPERATURE RANGE (°F)	REQUIRED RELATIVE HUMIDITY RANGE	CFM BASED ON HEAT LOAD	SUPPLY CFM	EXHAUST CFM	RETURN CFM	OSA CFM2	ACTUAL ACHR	PRESS. CFM	NOTES
1100B	CORRIDOR	597	10	5970	PATIENT CORRIDOR	N	NR	0	2	200	0	NR	NR	175	200	0	200	54	2	0	
1105	SHELL	439	21	9219	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	60	NR	NR	365	365	0	365	99	2	0	
1107A	DISINFECTION AREA	160	9	1440	SOILED OR DECONTAMINATION ROOM	Y	N	2	6	145	50	72-78	NR	80	120	145	0	33	6	-25	
1107B	DIALYSIS STORAGE WORK AREA	180	9	1620	CLEAN WORKROOM OR CLEAN HOLDING (SUPPORT)	N	P	2	4	110	55	NR	NR	100	110	0	85	30	4	25	
1107C	SUPPLY STORAGE	180	9	1620	CLEAN WORKROOM OR CLEAN HOLDING (SUPPORT)	N	P	2	4	110	55	NR	NR	135	135	0	110	37	5	25	
1100A	CORRIDOR	628	21	13146	PATIENT CORRIDOR	N	NR	0	2	440	0	NR	NR	175	440	0	440	119	2	0	
1102	TOILET, STAFF	70	9	630	TOILET ROOM	Y	N	0	10	165	0	NR	NR	10	60	505	0	32	90	-25	
1104	STORAGE, VENDOR	299	9	2655	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	30	NR	NR	110	110	0	110	30	2	0	
1110	RODI	402	21	8442	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	40	NR	NR	1,005	1,005	0	1,005	273	7	0	
1112	PBX ROOM	311	9	2799	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	35	NR	NR	605	605	0	605	164	13	0	
1280	HSKP	60	9	540	JANITOR'S CLOSET, HOUSEKEEPING	Y	N	0	10	90	0	NR	NR	10	65	90	0	18	10	-25	
1282	CART HOLDING	1162	9	10458	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	95	NR	NR	1,270	1,270	1,270	0	345	7	0	
1100C,D	CORRIDOR	1480	10	14800	PATIENT CORRIDOR	N	NR	0	2	495	0	NR	NR	500	500	0	500	136	2	0	
1109	SUMP PUMP	161	21	3381	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	90	90	0	90	24	2	0	
1114	ELEVATOR LOBBY	343	10	3430	PATIENT CORRIDOR	N	NR	0	2	115	0	NR	NR	140	140	0	140	38	2	0	
1111	SHELL	105	21	2205	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	70	70	0	70	19	2	0	
1113	PAC	63	21	1323	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	10	NR	NR	55	55	0	55	15	2	0	
1116	EJECTOR ROOM	152	21	3192	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	75	75	0	75	20	1	0	
1126	BIO REPAIR/ BIOMED EQUIPMENT HOLD	561	21	11781	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	45	NR	NR	255	255	0	255	69	1	0	
1124	IDF/MDF/BEF	609	21	13839	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	60	NR	NR	230	230	0	230	62	1	0	
1100E	CORRIDOR	779	10	7795	PATIENT CORRIDOR	N	NR	0	2	260	0	NR	NR	330	330	0	330	90	3	0	
1141	SHELLED SPACE	374	11.1	4151.4	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	40	NR	NR	275	275	0	275	75	4	0	
1151	MAIN NORMAL ELECTRICAL ROOM	2166	19.2	41587.2	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	185	NR	NR	305	305	0	305	83	0	0	
1155	ATS ROOM	1528	19.2	29337.6	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	135	NR	NR	215	215	0	215	58	0	0	
1159	MAIN EMERGENCY ELECTRICAL ROOM	1317	19.2	25286.4	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	115	NR	NR	190	190	0	190	52	0	0	
1163	BODY PREPARATION + EQPM. STOR. + WORKSTATION	428	9	3825	MORGUES AND AUTOPSY ROOM	Y	N	2	12	765	130	68-75	NR	225	685	765	0	186	12	-80	
1163B	TOILET, STAFF	57	9	513	TOILET ROOM	Y	N	0	10	90	0	NR	NR	90	90	115	0	24	13	-25	
1163C	HSKP	50	9	450	JANITOR'S CLOSET, HOUSEKEEPING	Y	N	0	10	75	0	NR	NR	10	50	75	0	14	10	-25	
1163E	BODY HOLDING- COOLER	274	10	2740	MORGUES AND AUTOPSY ROOM	Y	N	2	12	550	95	68-75	NR	315	495	550	0	134	12	-55	
1167	EJECTOR ROOM	115	9	1035	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	120	120	0	120	33	7	0	
1165	FAMILY VIEWING	151	9	1359	MORGUES AND AUTOPSY ROOM	Y	N	2	12	275	50	68-75	NR	250	250	275	0	68	12	-25	
1100F,G,H	CORRIDOR	1578	10	15780	PATIENT CORRIDOR	N	NR	0	2	530	0	NR	NR	780	780	0	780	212	3	0	
1146	WATER HEATER	101	19.5	1969.5	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	40	40	0	40	11	1	0	
1147	BEF	162	19.5	3159	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	15	NR	NR	1,240	1,240	0	1,240	337	24	0	
1134	UPS ROOM IT/DR	679	21	14259	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	65	NR	NR	105	105	0	105	29	0	0	
2100A	VESTIBULE (ON LEVEL 2 PLAZA, MAIN LOBBY)	226	12	2712	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	30	NR	NR	530	530	0	530	144	12	0	
N/A	CUP TUNNEL	2200	10	22000	NON T-4A SPACE: VENTILATION PER ASHRAE 62.1	N	NR	0	0	0	190	NR	NR	450	450	0	450	190	1	0	

319

DESIGN PHASE – MECHANICAL/ELECTRICAL TIPS:

Energy Code Compliance:

- Provide compliance forms as part of the mechanical and electrical drawings sets
- Visit https://EnergyCodeAce.com/content/get-forms to find online fillable compliance forms



320

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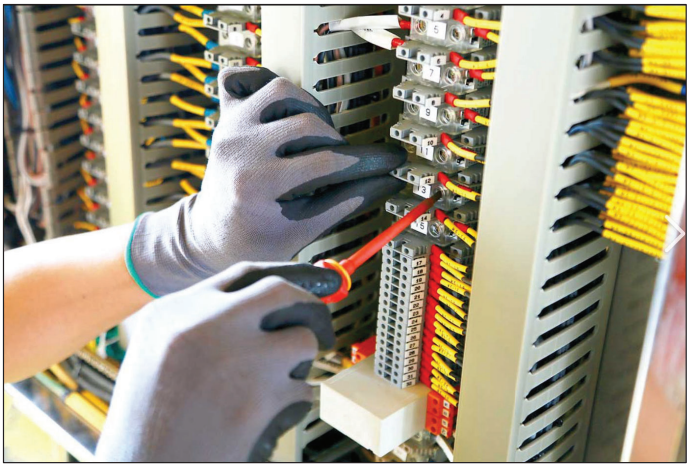
DESIGN PHASE – ELECTRICAL TIPS:

Do you need to design it?

- Requirements for systems less than 50 V
- Dedicated low-voltage project less than 99V



DESIGN PHASE – ELECTRICAL TIP:

Coordination of Essential Systems:

Consult PIN-70 for coordination of essential systems over current protection devices

Facilities Development Division
Office of Statewide Health Planning and Development
2020 West El Camino Avenue, Suite 800 • Sacramento, CA 95833
(916) 440-8300
355 South Grand Avenue, 19th Floor • Los Angeles, CA 90071
(213) 897-0166

POLICY INTENT NOTICE (PIN)

SUBJECT
Electrical Coordination

PIN: 70
Effective: 08/12/2021

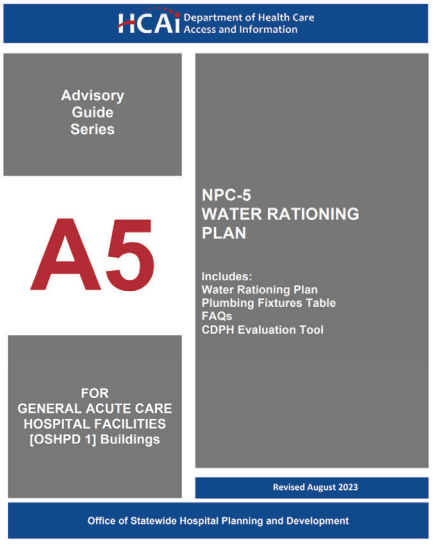
PURPOSE

The purpose of this Policy Intent Notice (PIN) is to clarify the OSHPD enforcement of overcurrent protective devices coordination requirements on new and existing electrical systems.

DESIGN PHASE – PLUMBING TIPS:

NPC-5 Emergency Water and Waste Storage:

- Required for all new buildings greater than 4,000SF
- Water Rationing Plan to be submitted with construction documents
- Consult HCAI - Advisory Guide A5 – Water Rationing Plan for Hospital Facilities

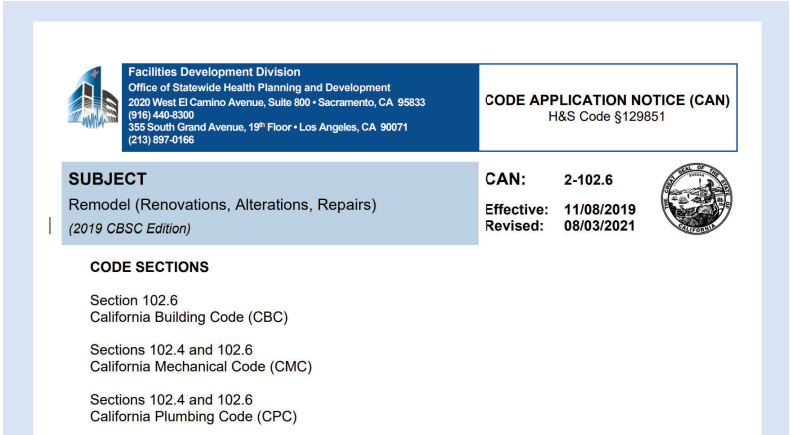


323

DESIGN PHASE – MEP TIPS:

Remodel Projects:

- Follow CAN 2-102.6
- Communicate with HCAI's staff if needed to confirm scope


Facilities Development Division
Office of Statewide Health Planning and Development
2020 West El Camino Avenue, Suite 800 • Sacramento, CA 95833
(916) 440-8300
355 South Grand Avenue, 19th Floor • Los Angeles, CA 90071
(213) 897-0166

CODE APPLICATION NOTICE (CAN)
H&S Code §129851

SUBJECT
Remodel (Renovations, Alterations, Repairs)
(2019 CBSC Edition)

CAN: 2-102.6
Effective: 11/08/2019
Revised: 08/03/2021

CODE SECTIONS

Section 102.6
California Building Code (CBC)

Sections 102.4 and 102.6
California Mechanical Code (CMC)

Sections 102.4 and 102.6
California Plumbing Code (CPC)

324

DESIGN PHASE – MEP TIPS:

Remodel Projects:

- Field work/investigation is a MUST
- Treat As-Built Drawings as just a "guideline"
- Design with Phasing in mind– many projects require existing utilities to stay operational during the construction

325

OSHPD REVIEW – MEP TIPS:

Responding to OSHPD comments/Meeting with OSHPD staff:

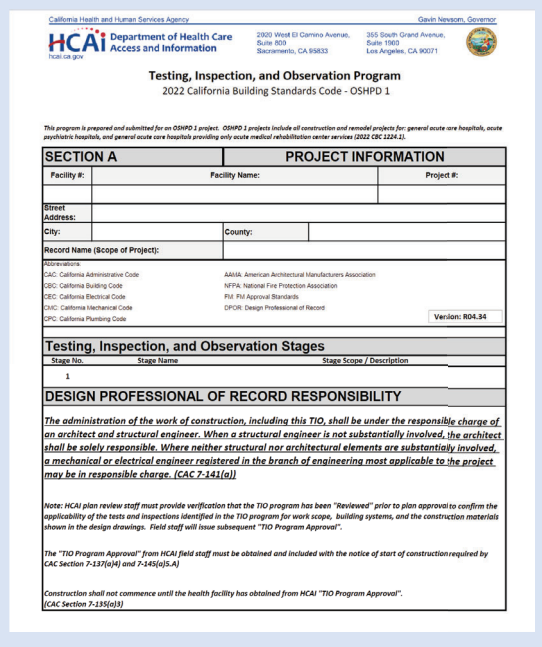
- Reach out to OSHPD's staff to clarify comment if needed
- Be thorough with your responses
- Approach OSHPD's staff as another project team member/recognize their expertise
- Bring issues forward for resolution
- Do your homework with codes and come prepared to discuss solutions

326

CONSTRUCTION – MEP TIPS:

Testing, Inspection and Observation (TIO) Form:

- Needs to be submitted with the construction documents
- TIO is a tool for Quality Control
- Document targeted performance of systems part of the project
- Consider Phasing – may require multiple TIOs



California Health and Human Services Agency — Gavin Newsom, Governor

HCAI Department of Health Care Access and Information — hcai.ca.gov

2020 West El Camino Avenue, Suite 800, Sacramento, CA 95833 | 355 South Grand Avenue, Suite 1900, Los Angeles, CA 90071

Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2022 CBC 1224.1).

SECTION A	PROJECT INFORMATION	
Facility #:	Facility Name:	Project #:
Street Address:		
City:	County:	
Record Name (Scope of Project):		

Abbreviations:

CAC: California Administrative Code — AAMA: American Architectural Manufacturers Association

CBC: California Building Code — NFPA: National Fire Protection Association

CEC: California Electrical Code — FM: FM Approval Standards

CMC: California Mechanical Code — DPOR: Design Professional of Record

CPC: California Plumbing Code — Version: R04.34

Testing, Inspection, and Observation Stages

Stage No.	Stage Name	Stage Scope / Description
1		

DESIGN PROFESSIONAL OF RECORD RESPONSIBILITY

The administration of the work of construction, including this TIO, shall be under the responsible charge of an architect and structural engineer. When a structural engineer is not substantially involved, the architect shall be solely responsible. Where neither structural nor architectural elements are substantially involved, a mechanical or electrical engineer registered in the branch of engineering most applicable to the project may be in responsible charge. (CAC 7-141(a))

Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. Field staff will issue subsequent "TIO Program Approval".

The "TIO Program Approval" from HCAI field staff must be obtained and included with the notice of start of construction required by CAC Section 7-137(a)4) and 7-145(a)5.A)

Construction shall not commence until the health facility has obtained from HCAI "TIO Program Approval". (CAC Section 7-135(a)3)

CONSTRUCTION – MEP TIPS:

Field Visits:

- Visit the job site on a regular basis
- Establish a good rapport with field staff
- Field Verified Report
- The IOR is your ally
- Be a team player

328

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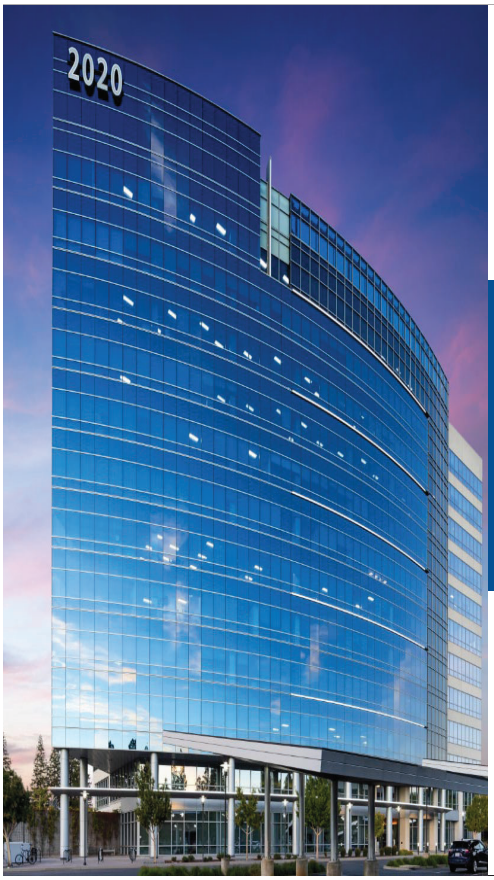
BREAK
TIME !!



Session 4: Working with HCAI in the Field

Health Care Access and Information | Hospital Building Safety Board

October 2023

Joe LaBrie, SE

Supervisor: HCAI Inspection Services Unit

Monica Colosi

Compliance Officer: HCAI Inspection Services Unit

Inspector of Record:

Tip:

Hospital Inspectors of Record should adopt and follow the Code of Ethics to provide high ethical standards to safeguard the public, the profession and the state's physical healthcare infrastructure.

"Ethics"
The principles of behavior governing an individual

Inspector of Record:

DUTY to the PROJECT:

- Inspectors are employed by a hospital governing board or authority, approved by HCAI and work under the direction of the architect or engineer in responsible charge for a project. Inspectors shall avoid activities that compromise, or appear to compromise, professional independence, objectivity or inspection integrity.\
- Inspectors shall act in good faith toward clients, HCAI, contractors and the public generally.

Inspector of Record:

DUTY to the Profession

- Inspectors shall comply with all laws and regulations.
- Inspectors shall be objective, not understating or overstating reported conditions.
- Inspectors shall be impartial and act in good faith.
- The Inspector shall avoid activities that may harm the public or discredit themselves.
- The inspector shall not misrepresent their qualifications.

Hospital Building Safety Board

Tip: The IOR, like all other professionals, must make integrity their highest priority

Inspector of Record:

The IOR should be thoroughly familiar with the following:

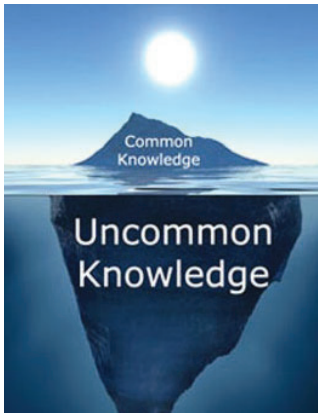
- California Administrative Codes
- Policy Intent Notices (PINs)
- Code Application Notices (CANs)
- Contract Documents
- Project schedules
- Instructions or clarifications issued by the Design Professional of Record
- TIO
- Hospital Procedures
- Emergency Procedures
- Safety Requirements
- Infection Control Procedures

Hospital Building Safety Board

Inspector of Record:

The IOR should be thoroughly familiar with the following:

- All associated design professionals
- Notification Protocols
- The geotechnical services/special testing lab
- The inspection request processes
- Approved program flexes
- Radiology physicist report
- Medical equipment
- Medical Gas systems
- Engineering judgments
- Fire stop systems



Hospital Building Safety Board

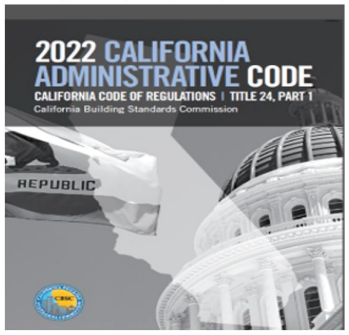
Tip: The IOR must have PERSONAL KNOWLEDGE of all aspects of the construction

Inspector of Record:

Duties:

- The inspector shall have personal knowledge, obtained by continuous inspection, of all parts of the work of construction in all stages of its progress to ensure that the work is in accordance with the approved construction documents.
- Continuous inspection means complete inspection of every part of the work.
- The inspector shall work under the direction of the architect or engineer in responsible charge.

Title 24, Part 1, Chapter 7, Section 7-145



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Inspector of Record:

Duties:

- The inspector shall maintain a file of approved construction documents on the job and readily available to HCAI Field staff at all times including all reports of tests and inspections required by the construction documents …
- The inspector shall also maintain on the job at all times, all codes and regulations referred to in the approved construction documents.

Inspector of Record:

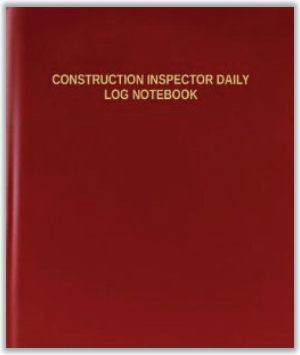
Duties:

The inspector shall notify the Office:

- When the work is started or resumed on the project
- At least 48 hours in advance of the time when foundation trenches will be complete, ready for footing forms
- At least 48 hours in advance of the first placing of concrete
- When work has been suspended for a period of more than two weeks

Inspector of Record:

Duties:



- The inspector(s) of record shall maintain field records of construction progress for each day or any portion of a day that they are present at the project site location. The field record shall state the time of arrival, time of departure, a summary of work in progress and noted deficiencies in the construction or deviations from the approved construction documents. This field record shall document the date, time and method of correction for any noted deficiencies or deviations.

Hospital Building Safety Board

Inspector of Record:

Duties:

- All field records of construction progress shall be retained on the job site until the completion of the work; electronic records may be retained off-site and shall, upon request, be made available to the Office, the architect or engineer in responsible charge and the owner. Upon completion of the project, these original field records shall be submitted to the hospital governing board or authority.

Hospital Building Safety Board

Inspector of Record:

Duties:

- The inspector shall notify the contractor, in writing, of any deviations from the approved construction documents or new construction not in compliance with the California Building Standards Code…
- The IOR shall submit verified compliance reports as stated in the approved TIO Program.
- Inspectors shall base their inspections on HCAI approved construction documents. Shop drawings are not part of the HCAI approved construction documents and shall not be used as a basis for inspection …

Hospital Building Safety Board

Inspector of Record:

Monitoring:

- HCAI Field Staff are required to monitor the work of IOR(s) to ensure continuous, timely, accurate and competent inspection of all phases of work…
- IOR Evaluations are an objective measure of their performance
- Evaluations completed annually, at the end of a project, or when HCAI Field Staff believe it is appropriate

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

2010 CAC Part 1, Title 24 Chapter 7 Safety Standards for Health Care Facilities
Section 7-147 Observation of Inspector of Record (IOR) Performance of Duties

Date: IOR Name: Cert. #:

Project Number(s): Scope of Inspection:

Item No.	Code Section	2010 CAC Title 24, Part 1, Chapter 7, Requirements	Meets	Does not meet	N/A
1	7-145(a)1, 7-145(a)2 & 7-151(c)	The inspector shall have personal knowledge, obtained by continuous inspection of all parts of the work of construction in all stages of its progress to ensure that the work is in accordance with the approved construction documents.			
2	7-145(a)3	All inconsistencies or seeming errors in the approved construction documents shall be reported promptly to the architect or engineer in responsible charge for interpretation and instructions. In no case, however, shall the instructions of the architect or engineer in responsible charge be construed to cause work to be done which is not in conformity with the approved construction documents.			
3	7-145(a)4	The inspector shall maintain a file of approved construction documents on the job at all times including all codes and regulations referred to in the approved construction documents and all reports of tests and inspections.			
4	7-145(a)5	The inspector shall notify the Office as required by CAC 7-145(a)5.			
5	7-145(a)6	The inspector(s) of record shall maintain field records (write daily reports) of construction progress for each day or any portion of a day that they are present at the project site location.			
6	7-145(a)6 & 7-145(a)7	All field records of construction progress (including daily IOR reports, test and special inspection reports, etc.) shall be retained on the job until the completion of the work.			
7	7-145(b)	The inspector shall notify the contractor, in writing, of any deviations from the approved construction documents or new construction not in compliance with the *California Building Standards Code*.			
8	7-151(a)3, 7-151(a)	Verified compliance reports shall be submitted to the Office at the intervals or stages of the work as stated in the approved testing, inspection and observation program and when required by the Office.			

Comments:

FDD Field Staff ☐ CO ☐ DSE ☐ FLSO Date Inspector of Record Date

RCO USE ONLY:

Regional Compliance Officer Date

RCO discussed with IOR? ☐ yes ☐ no Disciplinary action taken per CAC Section 7-215? ☐ yes ☐ no

cc: IOR, RCO, DSA RCO

01/06/2013

Hospital Building Safety Board

Inspector of Record:

Monitoring:

- One copy of the form will be presented to the IOR, one copy will be forwarded to the RCO, and one copy will be sent to the Inspection Services Unit (ISU).
- It is essential that each IOR be evaluated consistently - even if they are performing adequately.
- The RCO will evaluate the severity of any violation(s) and determine the appropriate action.
- Most violations of Code do not warrant formal action by the RCO if the IOR's performance improves promptly and is satisfactory in other areas.
- All corrective actions are reported to ISU.

Inspector of Record:

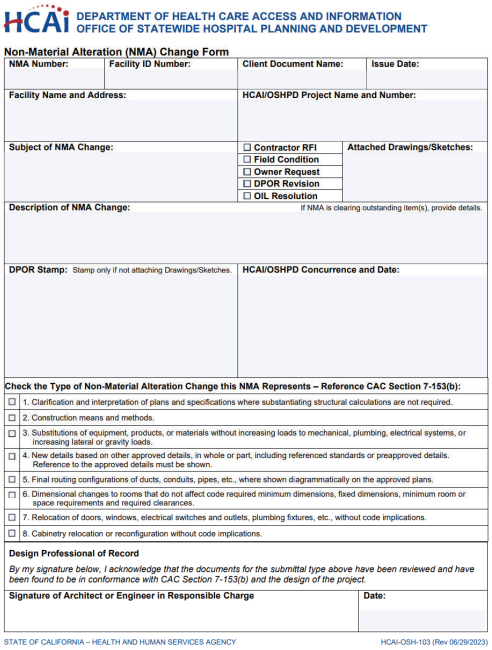
Inspection of Changes:

- The Code, defines "Materially Alter" as any change that alters the scope of a project, …
- Only changes that materially alter the work shall be submitted to HCAI as an Amended Construction Document (ACD) for review and approval.
- Construction of Material Alterations must not occur until after HCAI approval is received.
- IORs are required to inspect changes to the project

Inspector of Record:

Inspection of Changes:

- If the architect or engineer determines that changes to the approved construction documents are necessary that do not materially alter the work, all such changes shall be stamped and signed by the appropriate design professional(s)
- All changes in the work are subject to concurrence of the Office field staff as to whether or not the change materially alters the work.



HCAI DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

Non-Material Alteration (NMA) Change Form

NMA Number:	Facility ID Number:	Client Document Name:	Issue Date:

Facility Name and Address:	HCAI/OSHPD Project Name and Number:

Subject of NMA Change:	☐ Contractor RFI ☐ Field Condition ☐ Owner Request ☐ DPOR Revision ☐ OIL Resolution	Attached Drawings/Sketches:

Description of NMA Change: If NMA is clearing outstanding item(s), provide details.

DPOR Stamp: Stamp only if not attaching Drawings/Sketches.	HCAI/OSHPD Concurrence and Date:

Check the Type of Non-Material Alteration Change this NMA Represents – Reference CAC Section 7-153(b):

☐	1. Clarification and interpretation of plans and specifications where substantiating structural calculations are not required.
☐	2. Construction means and methods.
☐	3. Substitutions of equipment, products, or materials without increasing loads to mechanical, plumbing, electrical systems, or increasing lateral or gravity loads.
☐	4. New details based on other approved details, in whole or part, including referenced standards or preapproved details. Reference to the approved details must be shown.
☐	5. Final routing configurations of ducts, conduits, pipes, etc., where shown diagrammatically on the approved plans.
☐	6. Dimensional changes to rooms that do not affect code required minimum dimensions, fixed dimensions, minimum room or space requirements and required clearances.
☐	7. Relocation of doors, windows, electrical switches and outlets, plumbing fixtures, etc., without code implications.
☐	8. Cabinetry relocation or reconfiguration without code implications.

Design Professional of Record

By my signature below, I acknowledge that the documents for the submittal type above have been reviewed and have been found to be in conformance with CAC Section 7-153(b) and the design of the project.

Signature of Architect or Engineer in Responsible Charge	Date:

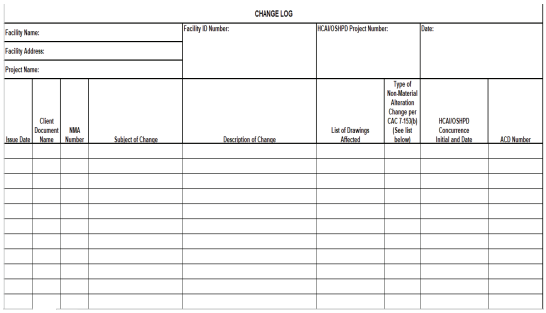
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY HCAI-OSH-103 (Rev 06/29/2023)

Hospital Building Safety Board

347 HCAI

Inspector of Record:

Inspection of Changes:



CHANGE LOG

Facility Name:	Facility ID Number:	HCAI/OSHPD Project Number:	Date:
Facility Address:			
Project Name:			

Issue Date	Client Document Name	NMA Number	Subject of Change	Description of Change	List of Drawings Affected	Type of Non-Material Alteration Change per CAC 7-153(b) (See list below)	HCAI/OSHPD Concurrence Initial and Date	ACD Number

- Code Application Notice CAN 1-7-153: defines the types of changes to the approved construction documents that do not materially alter the work during construction and therefore are not subject to HCAI review.
- Documentation of changes. The architect or engineer in responsible charge shall maintain a log of all changes to the work of construction.

Hospital Building Safety Board

Tip: DPOR is in charge of NMAs/ACDs/Log. IOR needs to keeps all of them on site

348 HCAI

Inspector of Record:

Files, Records, & Reports:

- All inspections performed (on site & off site)
- Inspection requests and logs
- Change Log
- Special inspection reports
- Certifications of all special inspectors
- Test results from materials and certification of materials
- Approved concrete mix designs
- Welding procedures and Welders' qualifications
- All reports and documentation given by other AHJs'
- All noncompliance notices issued
- Digital image or photos taken of the project
- HCAI field staff reports
- DPORs field observation reports
- Verified compliance reports submitted by the special inspector(s) for the work performed
- TIO

Tip: Keep documentation current and available to HCAI Field Staff

Inspector of Record:

Types of Inspections:

- Continuous inspections as outlined earlier
- Inspections completed by Inspection Requests (IR)
- Inspections performed off site
- Required inspections or Tests listed on the approved TIO Program

Inspector of Record:

Types of Inspections:

- Continuous Inspections should be limited to construction that has been properly permitted.
- It is not the IOR's responsibility to interpret code; the IOR verifies the installations meet code requirements and are completed in accordance with the approved construction documents.
- The IOR should note any deficiencies and deviations in a daily report, inspections request, courtesy notice or a notice of non-compliance as appropriate…

Inspector of Record:

Types of Inspections:

- The IOR should never authorize deviations from the Contract Documents nor should an IOR interfere with the work being performed by the contractor ...
- It is not the role of the IOR to issue directions relative to any aspect of construction means, methods, techniques, sequences, or procedures.

Inspector of Record:

Types of Inspections:

- The inspection request program is an important tools for documenting, tracking, organizing, verifying, and maintaining accountability of inspections conducted by the IOR.

Inspection Requests (IR) are helpful for:

- Tests and Inspections listed in the TIO Program
- Work requiring inspections by the contactor
- Utility shutdowns
- Systems Tests
- AHJ requests

Inspector of Record:

Other Duties:

- Attend preconstruction meetings
- Attend various meetings as required
- Communicate effectively with all project stakeholders
- Stay in contact with HCAI to advise them
- Monitor the work being performed to anticipate required inspections
- Do not assume responsibility for any safety procedures; report hazardous conditions to the contractor

Inspector of Record:

Checklists:

- Many books are written on the subject, of project inspection and administration of inspections include checklists.
- The TIO Program is a basic checklist of tests, inspections, and observation requirements specific to the project.
- The most complete checklist of what needs to be verified and inspected would be the approved documents and the information contained therein.
- Numerous checklists are available on the HCAI website.

Inspector of Record:

Coordination:

- Coordinating the work is usually the responsibility of the contractor.
- Successful coordination requires all parties to communicate with each other.
- Although verbal communication is used extensively; written correspondence should be used practically, with proper distribution of copies to all concerned parties

Inspector of Record:

Coordination:

- The IOR needs to have personal knowledge of the construction progress and schedule.
- Though the IOR may not be directly responsible for the execution of notifications and infection control practices, he or she should be aware of them

Hospital Building Safety Board

Tip: IOR communication is the key to any successful project. Communicate and Document

Inspector of Record:

Preconstruction Meetings:

- A preconstruction meeting can be a powerful tool and help prevent much of the conflict that could develop in the field
- This Guide for Working on Projects Under HCAI Jurisdiction gives detailed suggestions on how to prepare for the Preconstruction Meeting.

Hospital Building Safety Board

Tip: PreCon meeting is the most important meeting of the project. It is where performance defined

HCAI

Inspector of Record:

Preconstruction Meetings:

The following individuals should attend the preconstruction meeting:

- Owner's Representative
- Approved Agency Representative
- General contractor
- Sub-Contractors
- Project manager
- Project architect and engineers (DPOR)
- Manufacturers' representatives
- Project IORs
- Hospital staff of affected areas (when appropriate)
- HCAI field personnel
- Special inspector (if needed or required)
- Consultants (when needed)
- Facilities maintenance/engineering representatives
- Facility Infection Control personnel
- Facility Safety Officer

Inspector of Record:

HCAI Interaction:

- The IOR acts under the direction of the DPOR. He or she represents the eyes and ears for various parties including the architect, structural engineer, AHJs, and owners.
- The IOR must prepare documentation representing the various inspections conducted on the project to give evidence of compliance and that inspections are conducted continuously. This allows the CO, DSE, FLSO, and RCO to observe the inspection process and to be assured that adequate and competent inspection is provided.

Inspector of Record:

HCAI Interaction:

- HCAI staff members ensure that inspections are completed adequately and competently and fully documented on the hospital project. It is not the responsibility of HCAI to provide the inspections.
- The IOR should be able to demonstrate to HCAI that the approved construction documents are being maintained, showing approved changes and a true representation of the project.
- The IOR should be able to demonstrate how inspections have been organized, discuss project progress, and describe any problems being faced in the field.

Hospital Building Safety Board

Inspector of Record:

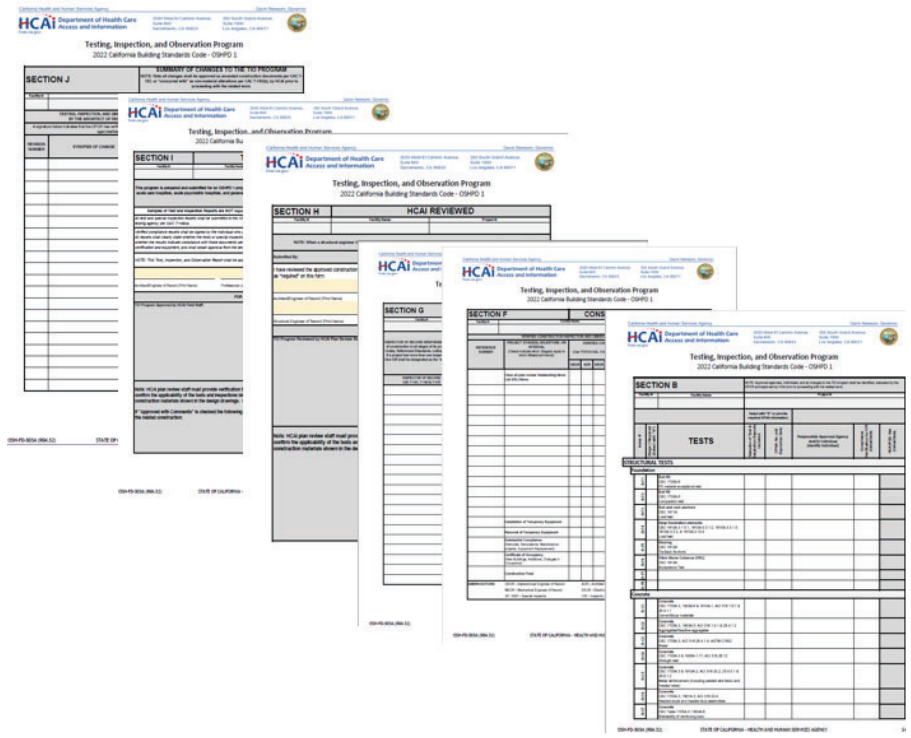
HCAI Interaction:

- HCAI representatives can be a valuable resource for the project inspector since they have a wealth of first-hand information regarding hospital construction practices.
- HCAI representatives encounter many problems as they visit various projects and can assist in preventing errors during construction and advising the IOR about inspection practices. The IOR should use HCAI visits to his or her advantage.

Hospital Building Safety Board

Tip: HCAI Field Staff do not build, design, inspect, or manage. They are there to observe the process and construction

Testing Inspection and Observation (TIO):



Testing Inspection and Observation (TIO):

What is the Testing, Inspection and Observation Program (TIO

- It is a dynamic document constantly changing over the duration of the construction.
- It is your road map for your construction project to ensure appropriate testing, inspection and observation
- It allows the project team and key stakeholders to monitor all aspects of a construction project for quality assurance.
- Early and ongoing engagement and coordination by all responsible parties are pivotal for a successful execution of the project.

Testing Inspection and Observation (TIO):

The TIO is a required:

- Although HCAI has developed and published TIO documents and forms that are available to the public on the HCAI Website, these documents were designed to be used as guides only.
- Regardless of the preferred format, all TIO Programs must be created and managed by the Design Professionals who are thinking critically about the work scope and how to best confirm the design intent and maintain construction quality.

Testing Inspection and Observation (TIO):

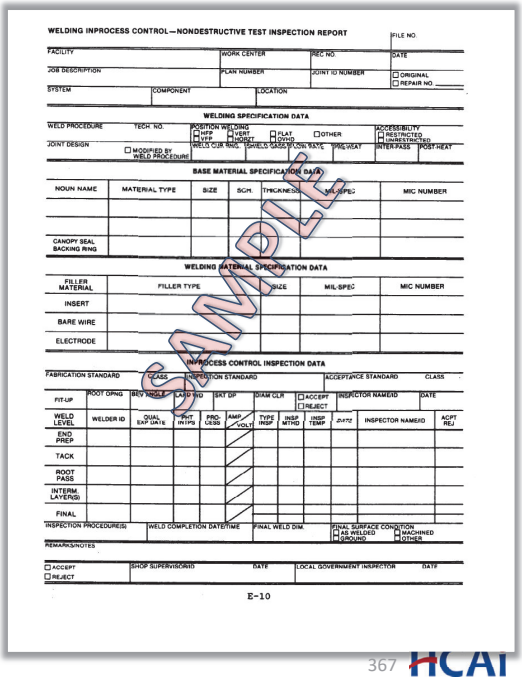
Sample Reports:

- The testing, inspection and observation (TIO) program shall include samples of test and inspections report
- Sample Test Reports shall be submitted prior to start of construction.
- They should include the specified acceptance and tested criteria.
- Note: Sample of test and inspection reports shall not be required when performed by an OPAA.

Testing Inspection and Observation (TIO):

Sample Reports:

- TIO Programs that include samples of tests, inspections, observation reports, certifications, and other related documents can often further clarify the expectations for compliance with the requirements for TIO Programs.



WELDING INPROCESS CONTROL—NONDESTRUCTIVE TEST INSPECTION REPORT

FILE NO.

FACILITY | WORK CENTER | REC NO. | DATE

JOB DESCRIPTION | PLAN NUMBER | JOINT ID NUMBER | ☐ ORIGINAL ☐ REPAIR NO.

SYSTEM | COMPONENT | LOCATION

WELDING SPECIFICATION DATA

WELD PROCEDURE | TECH. NO. | POSITION WELDING ☐ HFP ☐ VERT ☐ FLAT ☐ OTHER ☐ LFP ☐ HORIZ ☐ OVHD | ACCESSIBILITY ☐ RESTRICTED ☐ UNRESTRICTED

JOINT DESIGN | ☐ MODIFIED BY WELD PROCEDURE | WELD CUR./RNG. | SHIELD GAS/FLUX | CON. RATE | PRE-HEAT | INTER-PASS | POST-HEAT

BASE MATERIAL SPECIFICATION DATA

NOUN NAME	MATERIAL TYPE	SIZE	SCH.	THICKNESS	MIL-SPEC	MIC NUMBER
CANOPY SEAL BACKING RING						

WELDING MATERIAL SPECIFICATION DATA

FILLER MATERIAL	FILLER TYPE	SIZE	MIL-SPEC	MIC NUMBER
INSERT				
BARE WIRE				
ELECTRODE				

INPROCESS CONTROL INSPECTION DATA

FABRICATION STANDARD | CLASS | INSPECTION STANDARD | ACCEPTANCE STANDARD | CLASS

FIT-UP	ROOT OPNG	BEV ANGLE	LAND WG	BAT DP	DIAM CLR	☐ ACCEPT ☐ REJECT	INSPECTOR NAME/ID	DATE

WELD LEVEL	WELDER ID	QUAL EXP DATE	PRT IN PS	PRO CESS	AMP / VOLT	TYPE INSP	INSP MTHD	INSP TEMP	DATE	INSPECTOR NAME/ID	ACPT REJ
END PREP											
TACK											
ROOT PASS											
INTERM. LAYER(S)											
FINAL											

INSPECTION PROCEDURE(S) | WELD COMPLETION DATE/TIME | FINAL WELD DIM. | FINAL SURFACE CONDITION ☐ AS WELDED ☐ MACHINED ☐ GROUND ☐ OTHER

REMARKS/NOTES

☐ ACCEPT ☐ REJECT | SHOP SUPERVISOR/ID | DATE | LOCAL GOVERNMENT INSPECTOR | DATE

E-10

SAMPLE

Testing Inspection and Observation (TIO):

TIO Management:

- The IOR should be involved with the activities that keep the TIO Program current in the field, in coordination with the DPOR.
- DPOR should coordinate with IOR to set up document updates, workflow and to keep all logs of the progress current.
- After Building Permit is obtained, schedule a kick-off meeting with the Design Team, HCAi, IOR, Owner, Contractor to discuss and coordinate the TIO process

Testing Inspection and Observation (TIO):

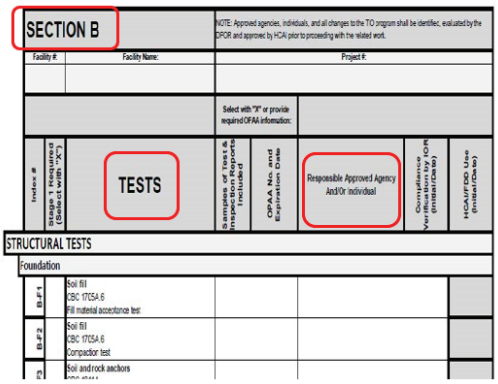
Advantages:

- Plotting the TIO Program on the sheets of the construction drawings is cumbersome to maintain.
- A separate document is more easily transmitted to others on the team and offers a more manageable approach for maintenance.
- Revisions to the approved TIO Program that do not change the intent of the original approved plans, specifications and/or code required tests or inspections do not constitute a 'Material Alteration' and are not subject to HCAI for review and approval but do require concurrence from the appropriate HCAI field staff.

Hospital Building Safety Board

Testing Inspection and Observation (TIO):

Tests (Section B):



- The DPOR shall identify all specific tests required for the project. The Form includes most tests required by the Code (CBSC), Title 24, Parts 2, 3, 4, 5, 6 and 9
- Some documents referenced by the designer (e.g., pre-approvals, manufacturer's instructions, etc.) may require testing not identified by the code. These tests shall also be referenced and included in the TIO.
- The TIO Program should clearly identify the required building elements and systems to be tested for the entire project scope.
- Each test should be properly named and referenced to the pertinent code and / or guideline requiring such test.

Hospital Building Safety Board

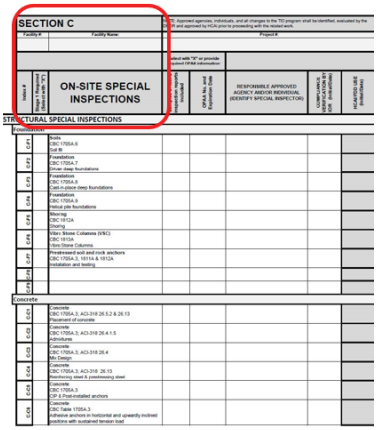
Testing Inspection and Observation (TIO):

Tests (Section B):

- It should present a brief description of the test requirements and the discipline of construction to which it applies.
- The TIO Program should identify the progress status and testing firm or individuals responsible to perform the tests, verification that the tests were conducted in conformance with building code standards, and the acceptability of the tests results.

Testing Inspection and Observation (TIO):

Special Inspections (Section C):


SECTION C

ON-SITE SPECIAL INSPECTIONS

RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)

STRUCTURAL SPECIAL INSPECTIONS

- Identifies all required on-site Special Inspections and is mandatory for all projects. This section is completed by the DPOR (responsible in charge of the project)
- DPOR shall identify and consult with the contractor all specific special inspections required to be performed for the project on-site.

Testing Inspection and Observation (TIO):

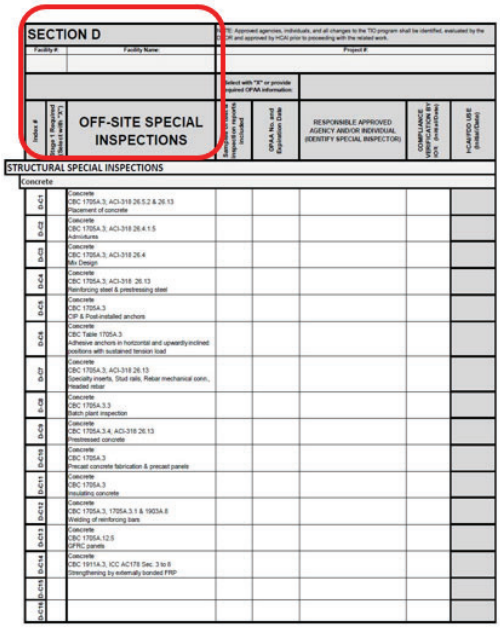
Special Inspections:

- Each inspection should be properly named and referenced to the pertinent code and/or guideline requiring the special inspection.

Testing Inspection and Observation (TIO):

Special Inspections (**Section D**):

- Identifies all required off-site Special Inspections for fabricated parts and is mandatory for all projects for which off-site Special Inspections are required.



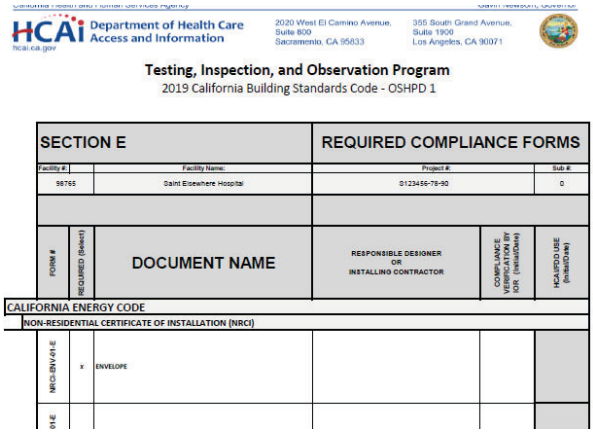
SECTION D

Item #	OFF-SITE SPECIAL INSPECTIONS	RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)
STRUCTURAL SPECIAL INSPECTIONS		
Concrete		
D-01	Concrete CBC 1705A.3; ACI-318 26.5.2 & 26.13 Placement of concrete	
D-02	Concrete CBC 1705A.3; ACI-318 26.4.1.5 Admixtures	
D-03	Concrete CBC 1705A.3; ACI-318 26.4 Mix Design	
D-04	Concrete CBC 1705A.3; ACI-318 26.13 Reinforcing steel & prestressing steel	
D-05	Concrete CBC 1705A.3 CIP & Post-installed anchors	
D-06	Concrete CBC Table 1705A.3 Adhesive anchors in horizontal and upwardly-inclined positions with sustained tension load	
D-07	Concrete CBC 1705A.3; ACI-318 26.13 Specialty inserts, Stud rails, Rebar mechanical conn., Headed rebar	
D-08	Concrete CBC 1705A.3.3 Batch plant inspection	
D-09	Concrete CBC 1705A.3.4; ACI-318 26.13 Prestressed concrete	
D-10	Concrete CBC 1705A.3 Precast concrete fabrication & precast panels	
D-11	Concrete CBC 1705A.3 Insulating concrete	
D-12	Concrete CBC 1705A.3; 1705A.3.1 & 1903A.8 Welding of reinforcing bars	
D-13	Concrete CBC 1705A.12.5 GFRC panels	
D-14	Concrete CBC 1914A.3; ICC AC178 Sec. 3 to 8 Strengthening by externally bonded FRP	
D-15		
D-16		

Testing Inspection and Observation (TIO):

Documents Required (Section E):

- Energy code documents that are required are identified and tracked.
- Although the IOR does not generally perform the tests and fill out the required documents, the IOR is responsible to keep the documents organized on site.



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hcai.ca.gov
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355 South Grand Avenue, Suite 1900, Los Angeles, CA 90071

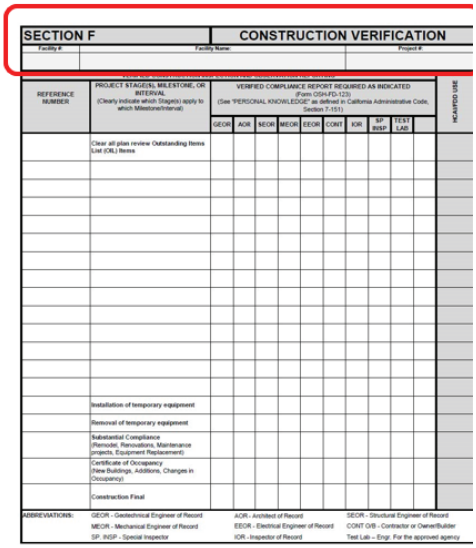
Testing, Inspection, and Observation Program
2019 California Building Standards Code - OSHPD 1

SECTION E			REQUIRED COMPLIANCE FORMS		
Facility #: 99765		Facility Name: Saint Elsewhere Hospital	Project #: 0123456-78-90		Sub #: 0
FORM #	REQUIRED (Select)	DOCUMENT NAME	RESPONSIBLE DESIGNER OR INSTALLING CONTRACTOR	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	HCAI/FSD USE (Initial/Date)
CALIFORNIA ENERGY CODE					
NON-RESIDENTIAL CERTIFICATE OF INSTALLATION (NRCI)					
NRCI-ENV-01-E	X	ENVELOPE			
01-E					

Testing Inspection and Observation (TIO):

Milestones / Intervals (Section F):

- The TIO Program should clearly identify all required progress “Milestones” or “Intervals” throughout the duration of the construction.
- Each should be properly named and numbered.
- Each should include a brief description of the relevant elements of construction that are to be completed within it.
- Milestones should include meaningful increments of progress
- Intervals may be defined by a period of time (weekly, monthly, etc.) and/or by a percentage construction completion.



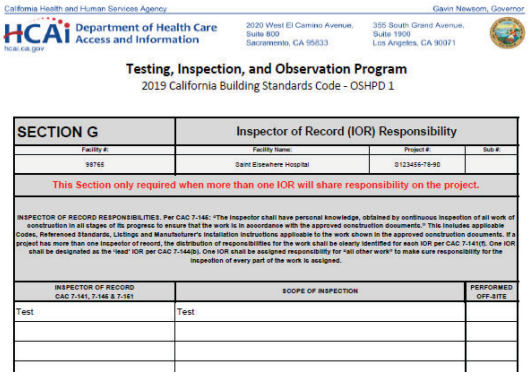
SECTION F		CONSTRUCTION VERIFICATION										
Facility #:		Facility Name:								Project #:		
REFERENCE NUMBER	PROJECT STAGE(S), MILESTONE, OR INTERVAL (Clearly indicate which Stage(s) apply to which Milestone/Interval)	VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED (Form OSHPD-123) (See 'PERSONAL KNOWLEDGE' as defined in California Administrative Code, Section 7-151)										HCAI/FSD USE
		GEOR	AOR	SEOR	MEOR	EEOR	CONT	IOR	SI/ INSP	TEST LAB		
	Clear all plan review Outstanding Items List (OIL) Items											
	Installation of temporary equipment											
	Removal of temporary equipment											
	Substantial Compliance (Remodel, Renovations, Maintenance projects, Equipment Replacement)											
	Certificate of Occupancy (New Buildings, Additions, Changes in Occupancy)											
	Construction Final											

ABBREVIATIONS: GEOR - Geotechnical Engineer of Record; AOR - Architect of Record; SEOR - Structural Engineer of Record; MEOR - Mechanical Engineer of Record; EEOR - Electrical Engineer of Record; CONT O/B - Contractor or Owner/Builder; SI/ INSP - Special Inspector; IOR - Inspector of Record; Test Lab – Engr. For the approved agency

Testing Inspection and Observation (TIO):

IOR Responsibilities (Section G):

- The IOR responsibilities must be identified in this section.
- Only one IOR can be identified as the lead IOR
- All IORs assigned to the project must have inspection responsibilities / scope.
- The Lead IOR is responsible to oversee the organization and activities of other IORs inspecting on the project



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Testing, Inspection, and Observation Program

2019 California Building Standards Code - OSHPD 1

SECTION G	Inspector of Record (IOR) Responsibility		
Facility #:	Facility Name:	Project #:	Sub #:
99765	Saint Elsewhere Hospital	0123456-78-90	

This Section only required when more than one IOR will share responsibility on the project.

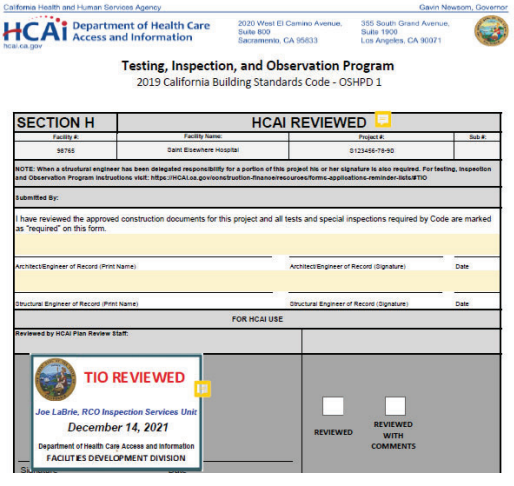
INSPECTOR OF RECORD RESPONSIBILITIES. Per CAC 7-145: "The inspector shall have personal knowledge, obtained by continuous inspection of all work of construction in all stages of its progress to ensure that the work is in accordance with the approved construction documents." This includes applicable Codes, Referenced Standards, Listings and Manufacturer's installation instructions applicable to the work shown in the approved construction documents. If a project has more than one inspector of record, the distribution of responsibilities for the work shall be clearly identified for each IOR per CAC 7-141(f). One IOR shall be designated as the "lead" IOR per CAC 7-144(b). One IOR shall be assigned responsibility for "all other work" to make sure responsibility for the inspection of every part of the work is assigned.

INSPECTOR OF RECORD CAC 7-141, 7-146 & 7-161	SCOPE OF INSPECTION	PERFORMED OFF-SITE
Test	Test	

Testing Inspection and Observation (TIO):

HCAI Plan Reviewed (Section H):

- The TIO must be reviewed by Plan Review staff during plan review
- HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. HCAI Field staff will issue subsequent "TIO Program Approval".



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Testing, Inspection, and Observation Program

2019 California Building Standards Code - OSHPD 1

SECTION H	HCAI REVIEWED		
Facility #:	Facility Name:	Project #:	Sub #:
99765	Saint Elsewhere Hospital	0123456-78-90	

NOTE: When a structural engineer has been delegated responsibility for a portion of this project his or her signature is also required. For testing, inspection and Observation Program instructions visit: https://HCAI.ca.gov/construction-finance/resources/forms-applications-reminder-lists/#TIO

Submitted By:

I have reviewed the approved construction documents for this project and all tests and special inspections required by Code are marked as "required" on this form.

Architect/Engineer of Record (Print Name) | Architect/Engineer of Record (Signature) | Date

Structural Engineer of Record (Print Name) | Structural Engineer of Record (Signature) | Date

FOR HCAI USE

Reviewed by HCAI Plan Review Staff:

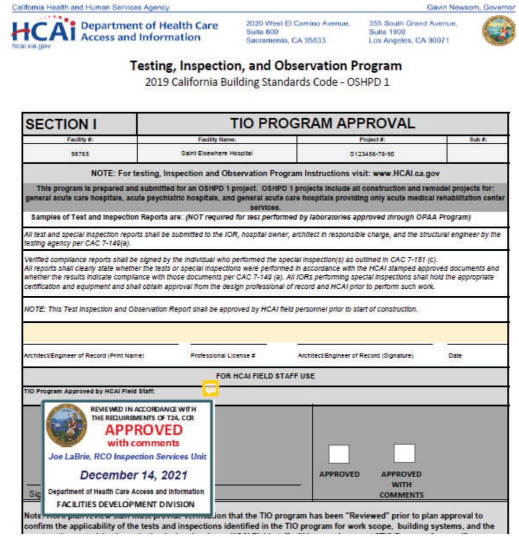
TIO REVIEWED
Joe LaBrie, RCO Inspection Services Unit
December 14, 2021
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION

REVIEWED | REVIEWED WITH COMMENTS

Testing Inspection and Observation (TIO):

HCAI Field Approved (Section I):

- The TIO Program should include an "Approval Page" that clearly documents the certification by the DPOR and the approval by HCAI Field Staff.


California Health and Human Services Agency — Gavin Newsom, Governor

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Testing, Inspection, and Observation Program

2019 California Building Standards Code - OSHPD 1

SECTION I	TIO PROGRAM APPROVAL		
Facility #:	Facility Name:	Project #:	Sub #:
98765	Saint Elsewhere Hospital	S123456-78-90	

NOTE: For testing, Inspection and Observation Program Instructions visit: www.HCAI.ca.gov

This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services.

Samples of Test and Inspection Reports are: *(NOT required for test performed by laboratories approved through OPAA Program)*

All test and special inspection reports shall be submitted to the IOR, hospital owner, architect in responsible charge, and the structural engineer by the testing agency per CAC 7-149(a).

Verified compliance reports shall be signed by the individual who performed the special inspection(s) as outlined in CAC 7-151 (c).
All reports shall clearly state whether the tests or special inspections were performed in accordance with the HCAI stamped approved documents and whether the results indicate compliance with those documents per CAC 7-149 (a). All IORs performing special inspections shall hold the appropriate certification and equipment and shall obtain approval from the design professional of record and HCAI prior to perform such work.

NOTE: This Test Inspection and Observation Report shall be approved by HCAI field personnel prior to start of construction.

Architect/Engineer of Record (Print Name) — Professional License # — Architect/Engineer of Record (Signature) — Date

FOR HCAI FIELD STAFF USE

TIO Program Approved by HCAI Field Staff:

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
with comments
Joe LaBrie, RCO Inspection Services Unit
December 14, 2021
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION

Sig

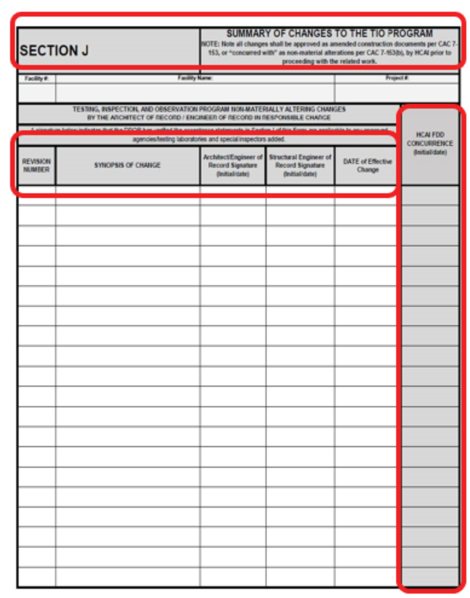
APPROVED — APPROVED WITH COMMENTS

Note: ... ion that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the

Testing Inspection and Observation (TIO):

Modifications (Section J):

- When modifications are made to the approved TIO Program, it should be clearly identifiable on the Program that the design professional has modified the document.
- This could be accomplished by a summary letter describing the changes and the reasons for change by the appropriate design professional, along with a dated revision of the TIO and the delta number.
- The Program would then initial by the appropriate HCAI representative indicating acceptance of the modification. Typically, no further documentation will be required from HCAI for the process of changing the TIO.


SECTION J	SUMMARY OF CHANGES TO THE TIO PROGRAM NOTE: Note all changes shall be approved as amended construction documents per CAC 7-153, or "concurred with" as non-material alterations per CAC 7-153(b), by HCAI prior to proceeding with the related work.				
Facility #:	Facility Name:		Project #:		
TESTING, INSPECTION, AND OBSERVATION PROGRAM NON-MATERIALLY ALTERING CHANGES BY THE ARCHITECT OF RECORD / ENGINEER OF RECORD IN RESPONSIBLE CHARGE					HCAI FDD CONCURRENCE (Initial/date)
agencies/testing laboratories and special inspectors added.					
REVISION NUMBER	SYNOPSIS OF CHANGE	Architect/Engineer of Record Signature (Initial/date)	Structural Engineer of Record Signature (Initial/date)	DATE of Effective Change	

Testing Inspection and Observation (TIO):

"Keep Up" INFLUENCE

Modifications (Section J):

- Regardless of the specific approach used to develop and maintain TIO Programs, strong leadership of the team throughout the process is of paramount importance.
- Leadership by the DPOR must include open communication and persistent monitoring of the TIO progress.
- Project quality can best be assured by teams of design, construction, and inspection professionals committed to excellence through critical thinking, properly applied to specific conditions of the project.

Hospital Building Safety Board

Tip: The TIO is an essential document that must be given critical attention during construction

Working with HCAI Field Staff

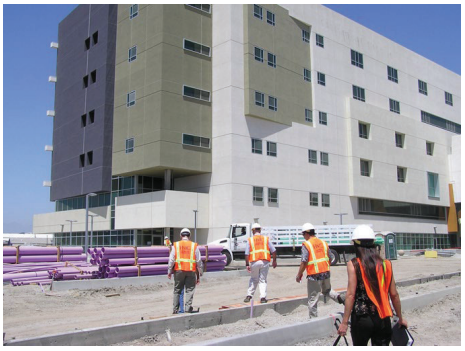
HCAI's Role:

- HCAI field staff is responsible for ensuring that hospital buildings are constructed in accordance with the approved construction documents and applicable statutes and regulations.
- The Office shall make such observations that in its judgment are necessary or proper for the enforcement of the regulations

INFLUENCE Three "Critical Thinking

Hospital Building Safety Board

Working with HCAI Field Staff



HCAI's Role:

- HCAI's Field Staff IS NOT:
  - The project Quality Control Program. This must be provided by the General Contractor.
  - The project Quality Assurance Program. This must be provided by the Owner.
  - Obligated to provide 'just in time' services
  - Expected to always agree with your project team

Tip: HCAI Field Staff IS REQUIRED to always communicate respectfully and professionally

Working with HCAI Field Staff

HCAI's Role:

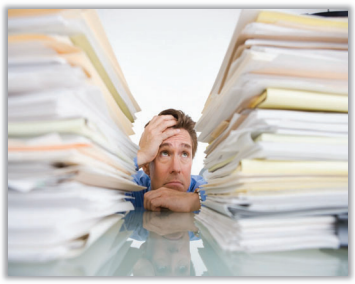
- HCAI field staff make scheduled and unscheduled visits to the project
  - To observe the construction
  - Assess the IOR's performance
  - Monitor TIO Program progress
  - Confirm the required on-site construction documentation.

Working with HCAI Field Staff

Changes:

- Project Teams may want to make changes to save money, improve construction efficiencies, fix mistakes, or they may find details that are difficult to construct. Avoid changes when possible
- It is virtually impossible to prepare construction plans that are perfect; changes will inevitably be necessary.
- The Design Professional should give critical thinking to the reasons for a proposed change and decide if it is compelling.

Working with HCAI Field Staff



Changes:

- The approval process for ACDs can range from one day for field approval to several months for Office review and approval depending on size and scope.
- Amended Construction Documents (ACD) shall include the change to the contract amount unless alternate methods have been approved by HCAI for confirming zero cost changes.
- DPOR must maintain files and logs for ACDs and NMAs that tracks the status and assigns responsibility for completion.
- DPOR must maintain files and logs for deferred submittal items submitted to HCAI that tracks the status and assigns responsibility for completion.

Working with HCAI Field Staff

Changes:

- Construction cannot proceed until HCAI approves the ACD.
- If unapproved changes are found during construction by the IOR or HCAI field staff, work will be halted until appropriate approvals have been obtained.
- Do not approve changes for convenience. The DPOR should note this with during the preconstruction meeting. Rarely do contractor recommended changes actually save money for the project in light of the ensuing delay for the required development and approval of the construction documents by the Design Team and HCAI.

Working with HCAI Field Staff

Changes:

- Project management varies from owner to owner.
- Some owners have staff dedicated to projects and some depend largely on consultants.
- Because owner changes are one of the major factors associated with project delays and associated problems, once the project permit is issued owners should resist the urge to make changes.
- Determine whether the changes can be made later – after the project is complete.

Working with HCAI Field Staff

Documentation:

- IOR must have all the necessary documents readily available for review by the HCAI field staff
- All project stakeholders must apply "Reasonable Diligence to Obtain Personal Knowledge" of project documents. This includes IOR Daily Records, HCAI Field Visit Reports, Test & Inspection Reports.
- Comprehensive control of all documents, including Amended Construction Documents (ACD), Non-Materially Alter (NMA) Log, Inspection Field Records and Test Reports, is key to the success of a project.

Working with HCAI Field Staff

Job Walks:

- On larger projects it may be beneficial to have the designers and contractor's representative(s) accompany the IOR and HCAI field staff during their scheduled walk-throughs of the construction project.

  This improves alignment of stakeholder understanding of how the process works, observations made and therefore are better able to incorporate HCAI requirements into the project.

- Occasionally HCAI staff may request that they be allowed to conduct site reviews with the IOR independently. This facilitates IOR Performance Evaluation discussions that are best kept private.

Working with HCAI Field Staff

Owner Notes:

- Consider administrative support for the IOR. IOR resources is one of the critical elements of success for any project. Any weakness in the IOR program will lead to project delays, contractor claims, and general chaos. The IOR is the primary interface between HCAI and the project.

- Include the IOR Inspection Request Program as part of the contract Establishing the inspection request program will facilitate coordination with HCAI and optimize the time spent on the project by HCAI field staff.

Working with HCAI Field Staff

Owner Notes:

- Schedule HCAI FDD field staff time efficiently

- HCAI Field Staff's time at the project site is limited. The owner, through the IORs, should ensure that priorities are established and that all parties are prepared so that their time is efficiently utilized.

- Follow HCAI's processes for resolution of problems should they arise. The first step on any issue is to meet with the appropriate HCAI field staff and explain the issue.

Working with HCAI Field Staff

Construction Challenges:

- Work not executed in conformance with the approved construction documents.
- Post-approval changes to the project.
- Delays in processing Deferred Submittal (DSI) Items and Amended Construction Documents (ACD).
- Unrealistic expectations. HCAI field staff can only perform their duties within the code requirements as stipulated in the code.
- Project Teams must be knowledgeable of HCAI processes, and manage the construction project process to maximize the effectiveness of HCAI's role

Tip: Hospital project construction works best when EVERYONE applies reasonable diligence to do their job well.

In closing...


Thank you!