

Seismic Performance Category (SPC) Compliance

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April 2nd, 2025

Recent / Upcoming HCAI Seismic Webinars

- February 20, 2025 - Seismic Grant: Small and Rural Hospital Relief Program
- March 4, 2025 - Seismic compliance plan and delays beyond the 2030 deadline
- March 18, 2025 - NPC compliance
- March 27, 2025 - Water rationing plan
- April 2, 2025 - SPC compliance

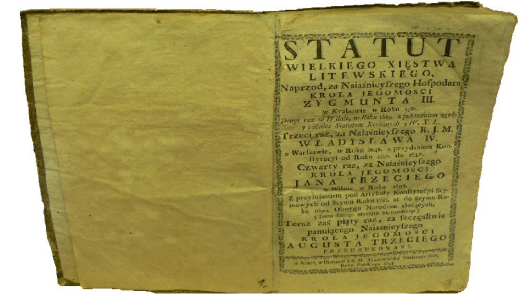
Outline

- Background, History
- Removal of Acute Care Services (RACS)
- SPC 2 to SPC 4D Upgrade
- Frequently Asked Questions

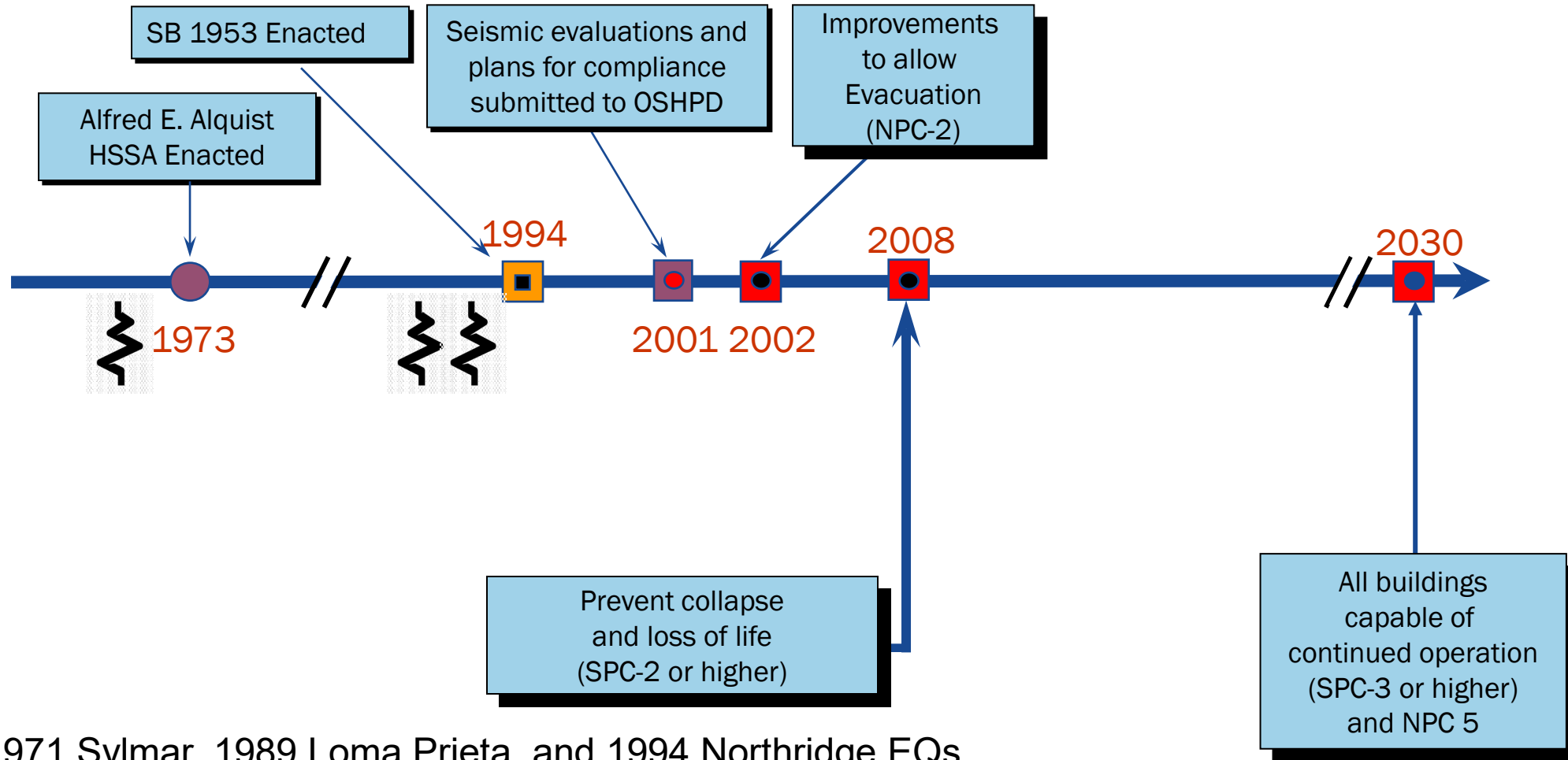
Alfred E. Alquist Hospital Seismic Safety Act (Statutes of 1972)

*“... that hospitals, that house patients who have less than the capacity of normally healthy persons to protect themselves, and that **must be reasonably capable of providing services to the public after a disaster**, shall be designed and constructed to resist, insofar as practical the forces generated by earthquakes, gravity, and winds.*

- Original Alquist Act applied only to new construction

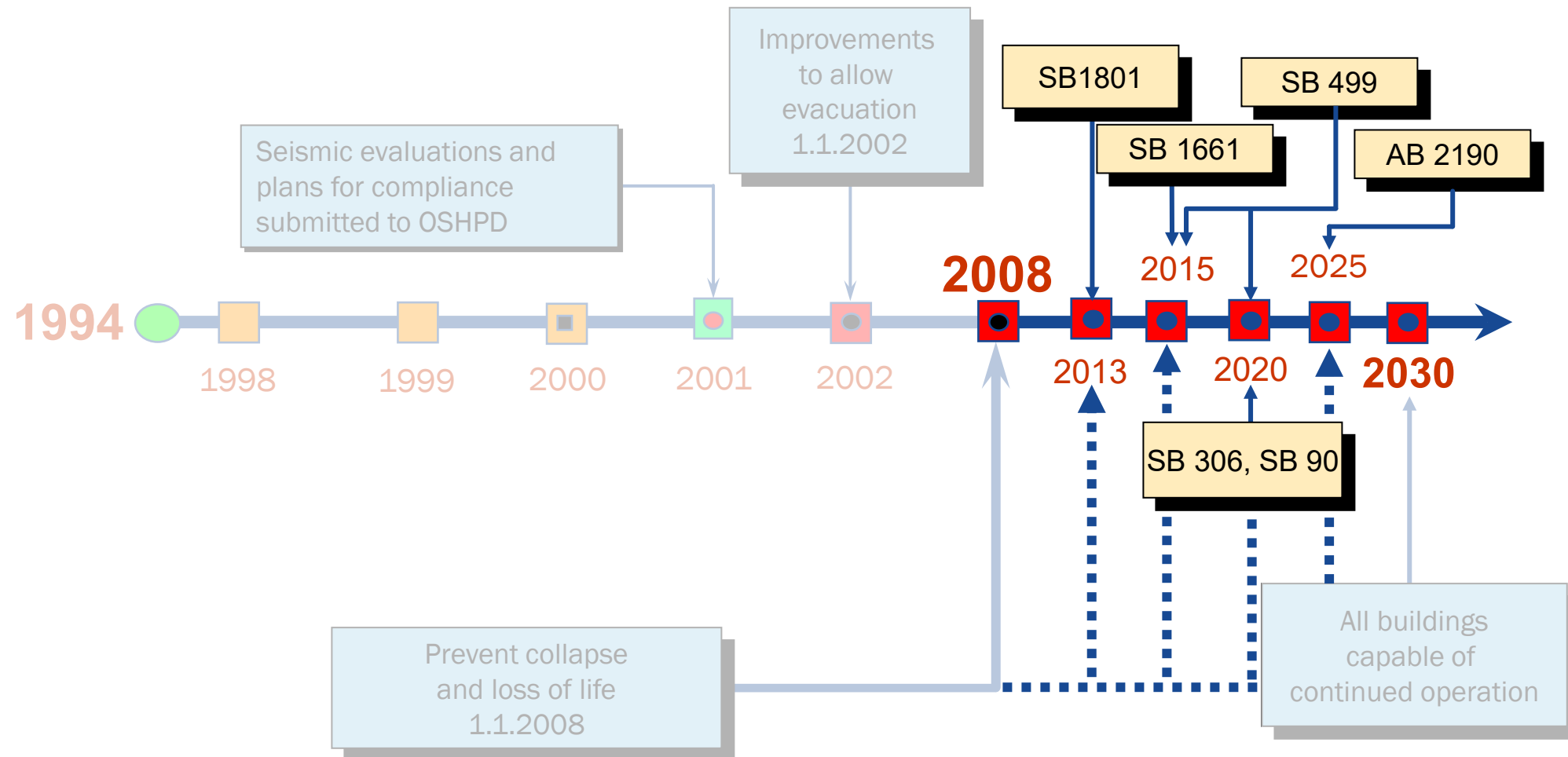


SB 1953 Original Deadlines



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

Extensions to SPC-1 Deadlines



Hospital Functionality

STRUCTURAL

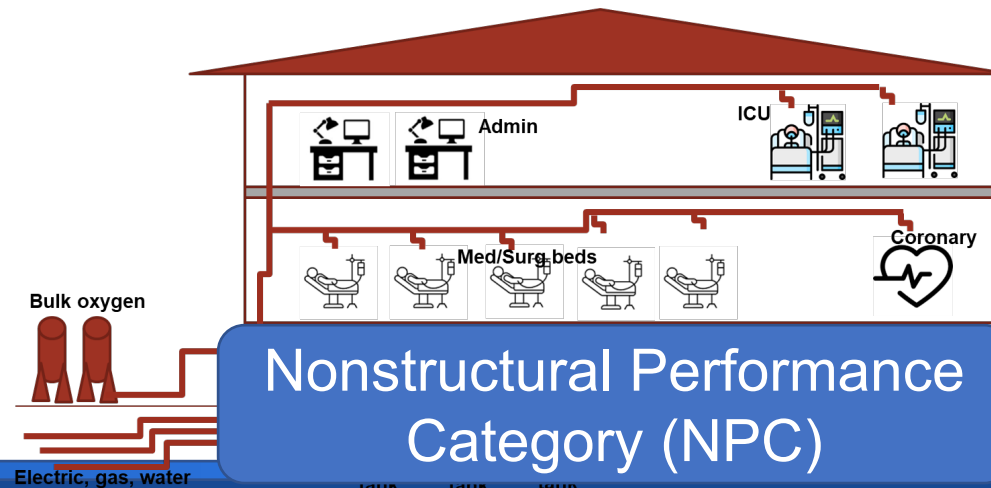
Beams, Columns,
Shear Walls, Slabs,
Foundations



Structural Performance
Category (SPC)

NONSTRUCTURAL

Cladding, Partitions,
Ceilings, Equipment, Pipes,
Furnishings, Contents,
Elevators, Stairs, etc

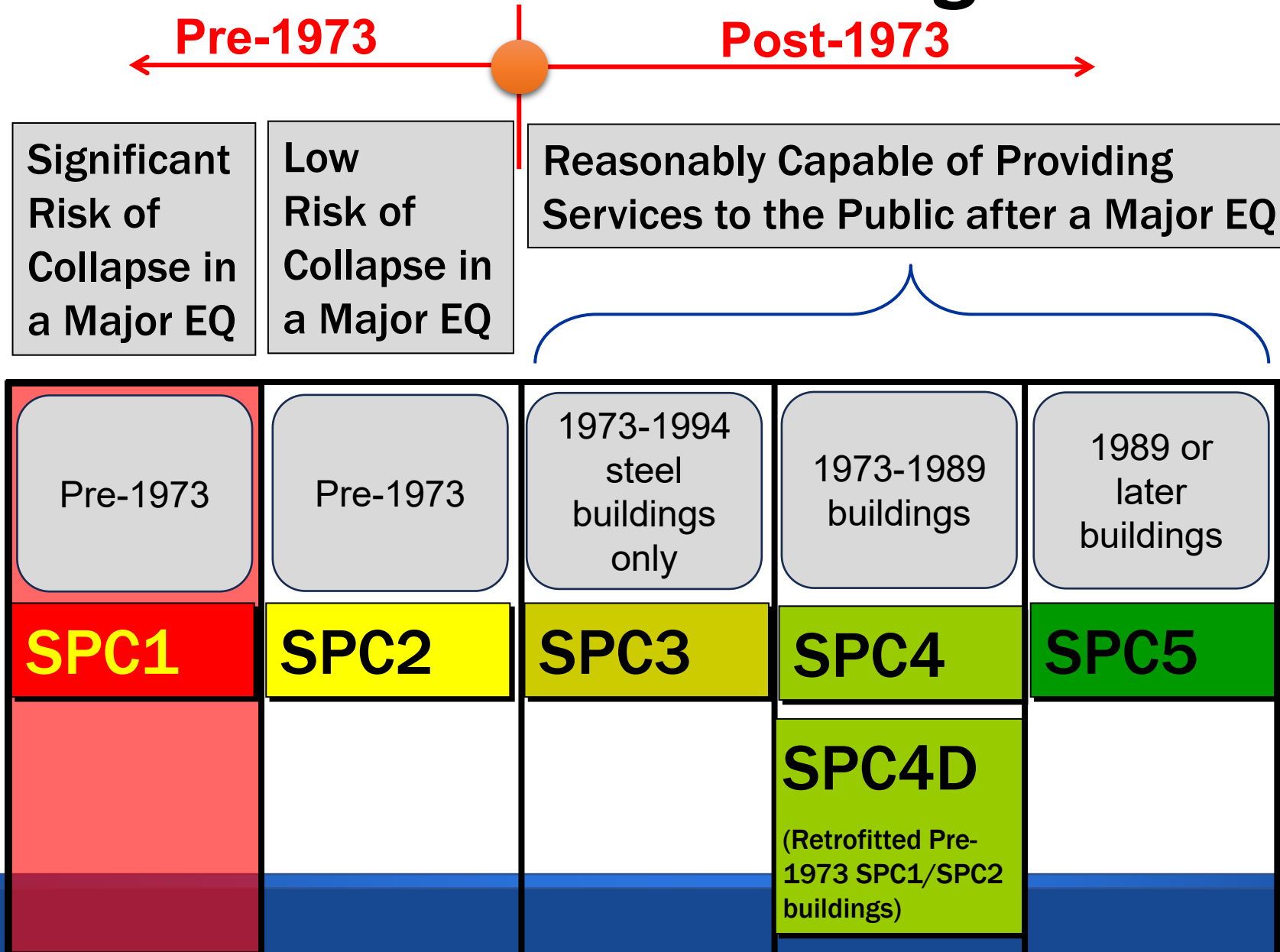


Nonstructural Performance
Category (NPC)

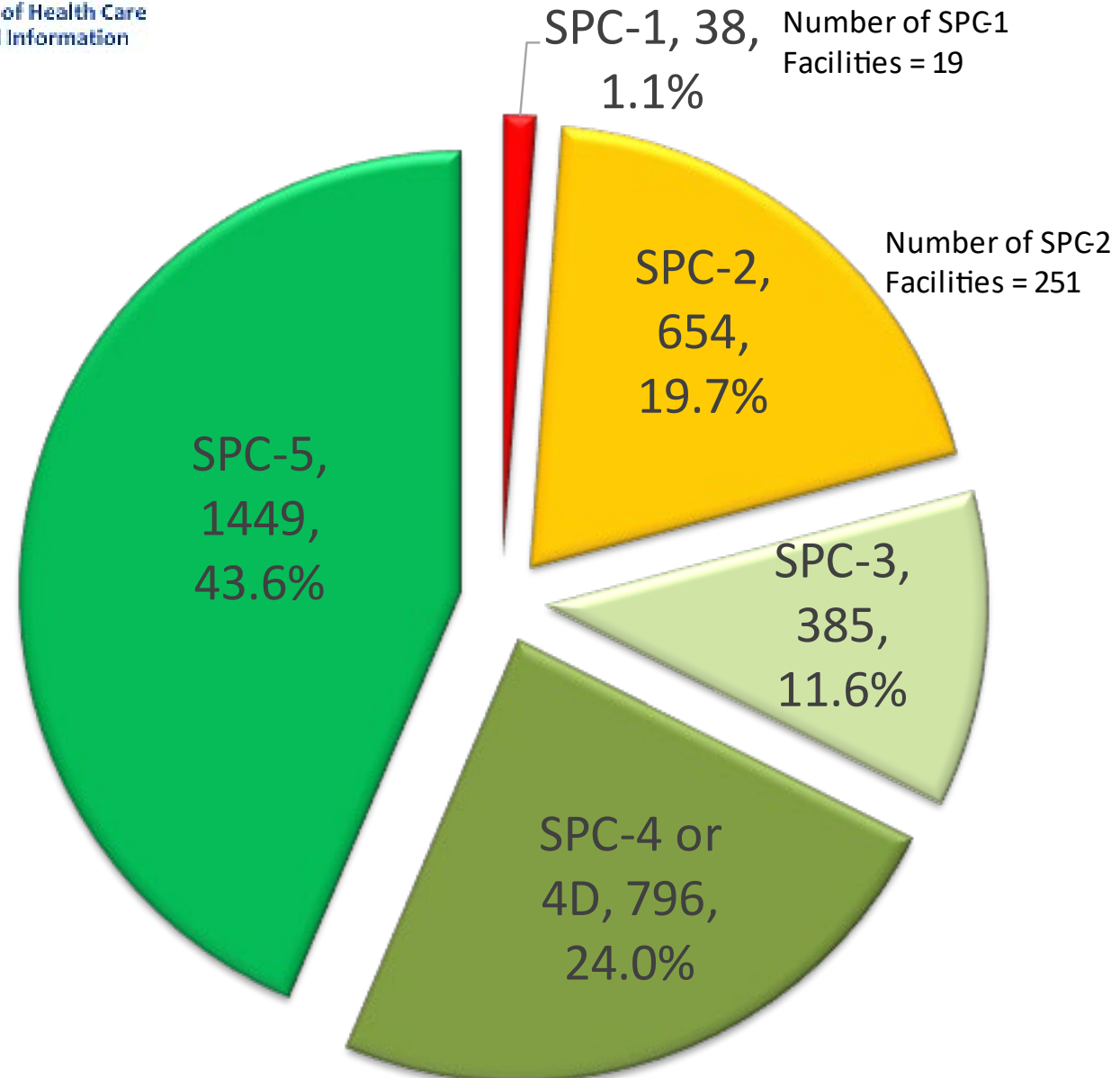
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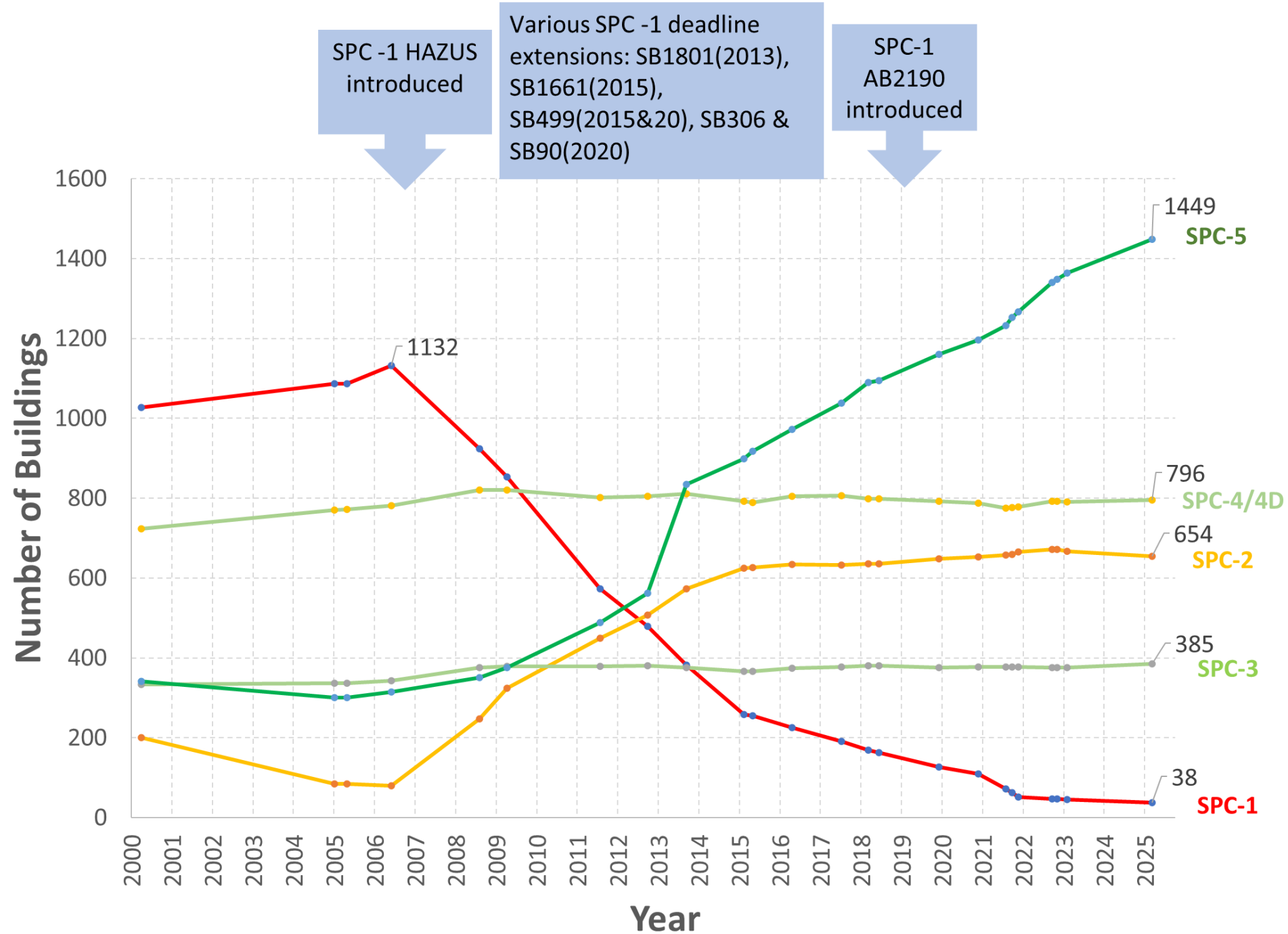
Structural Performance Categories



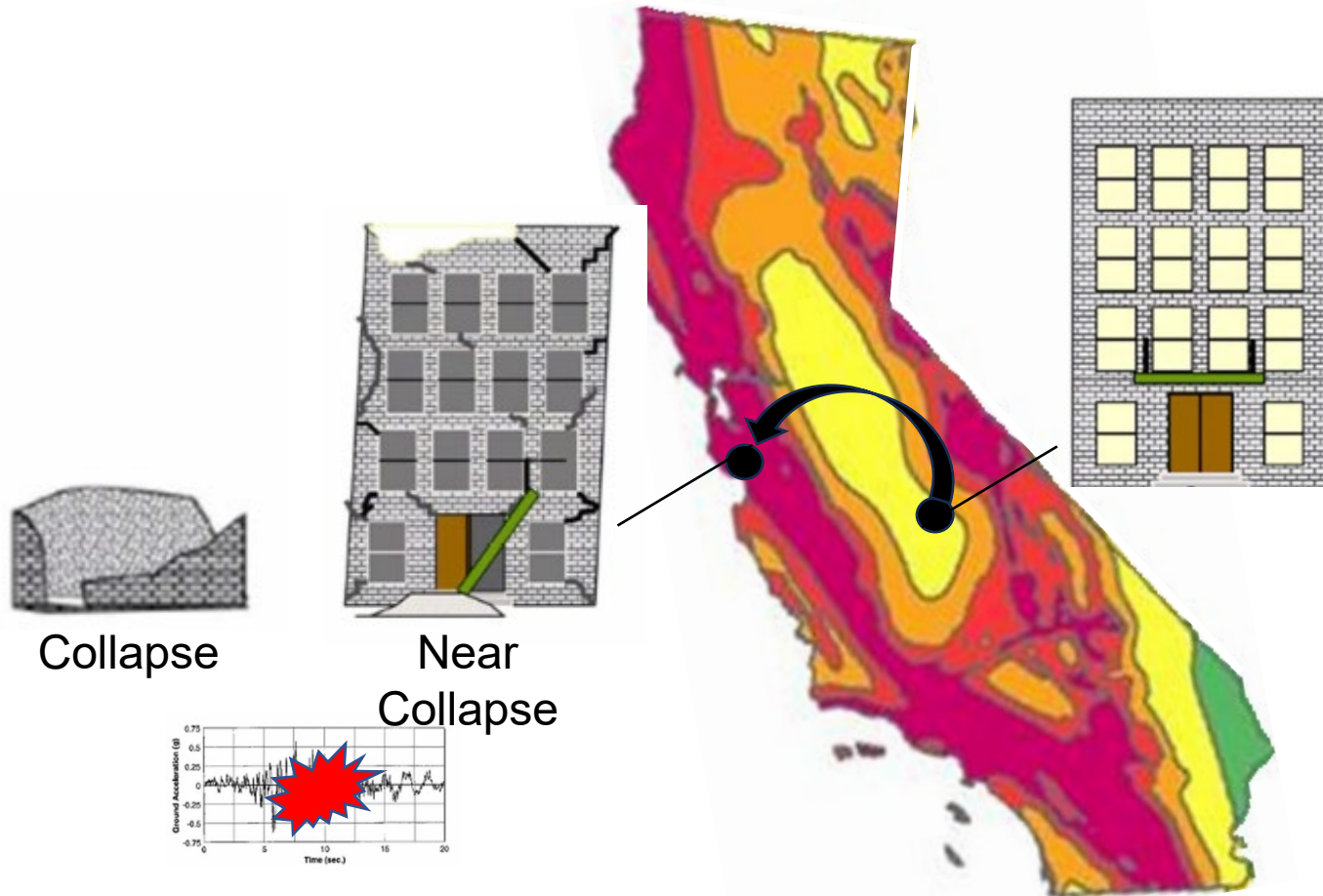
3/20/2025**



Total number of SPC Buildings = 3322 in 414 Facilities



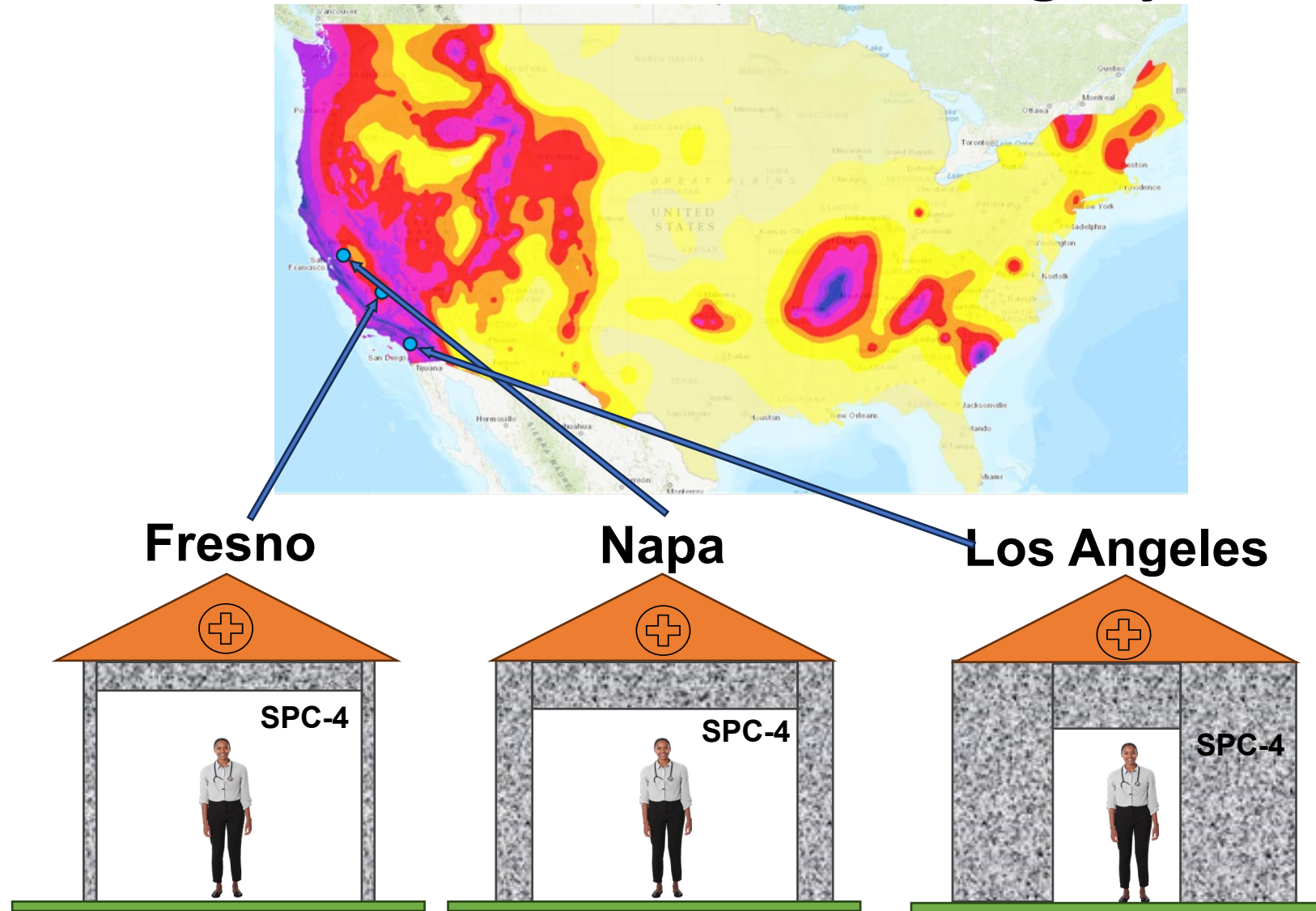
SPC is Not “One Size Fits All”



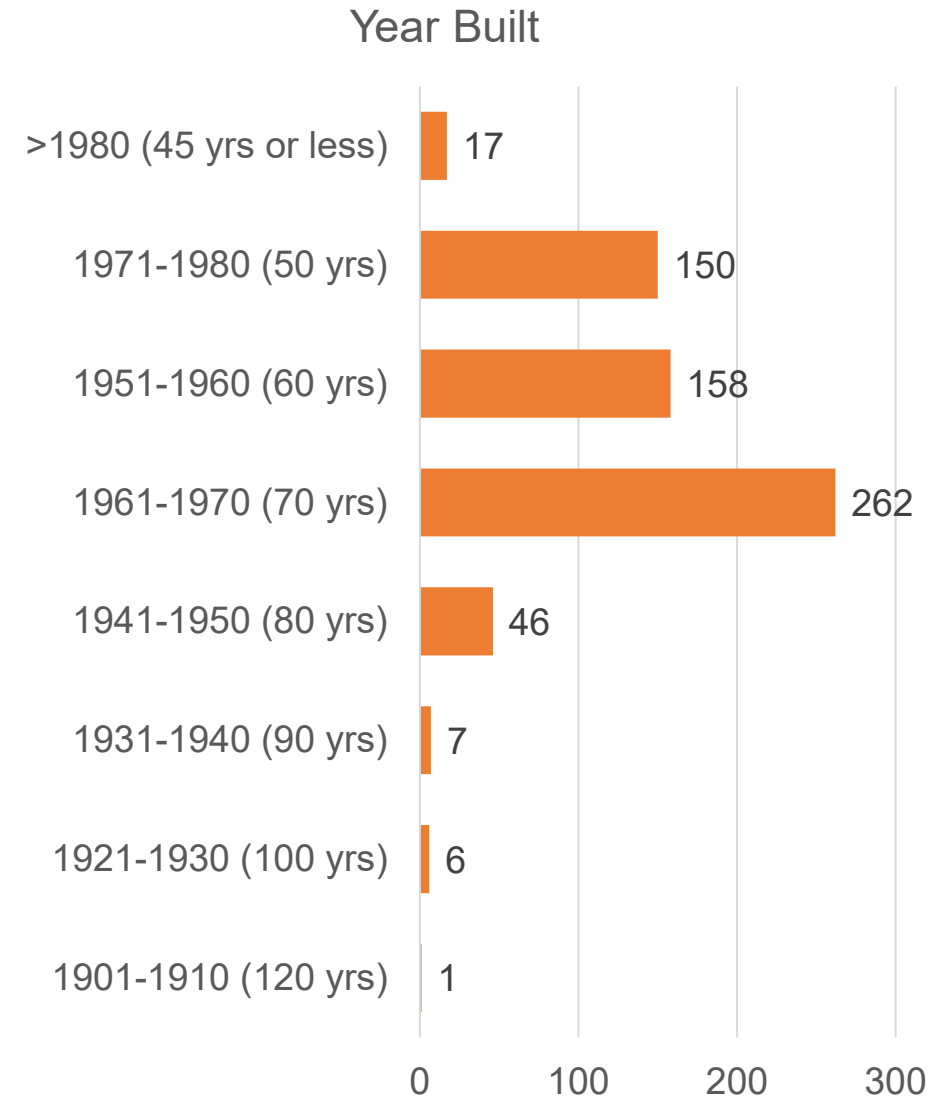
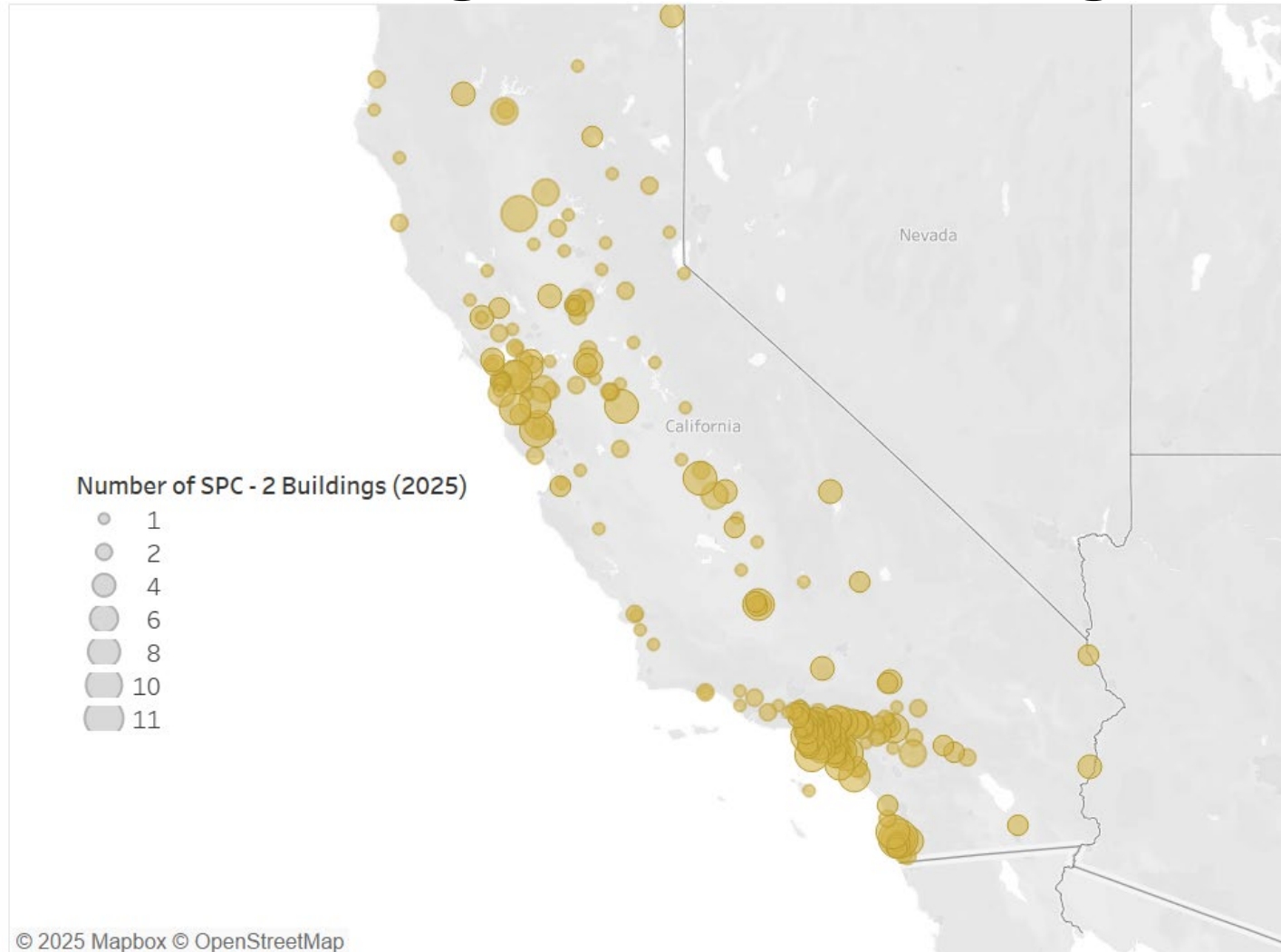
Hospital Resiliency – SPC Structural Performance Category

Primary building structures able to resist anticipated ground motion from forces specific for each building's specific location.

A hospital building only needs to demonstrate resiliency for the conditions on the ground upon which the building sits. Each site is unique, so requirements for each building are different.

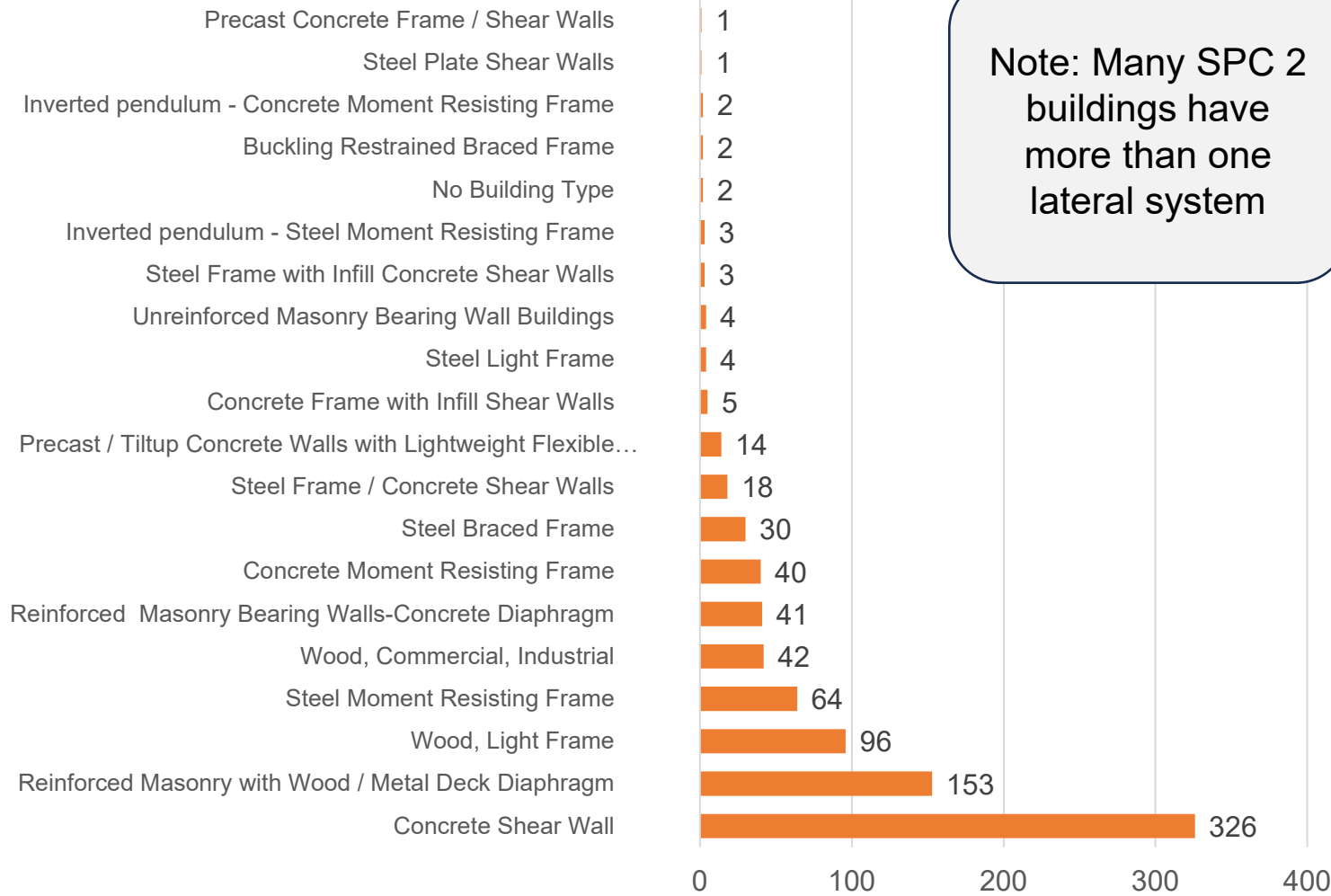


SPC 2 Buildings Location and Age

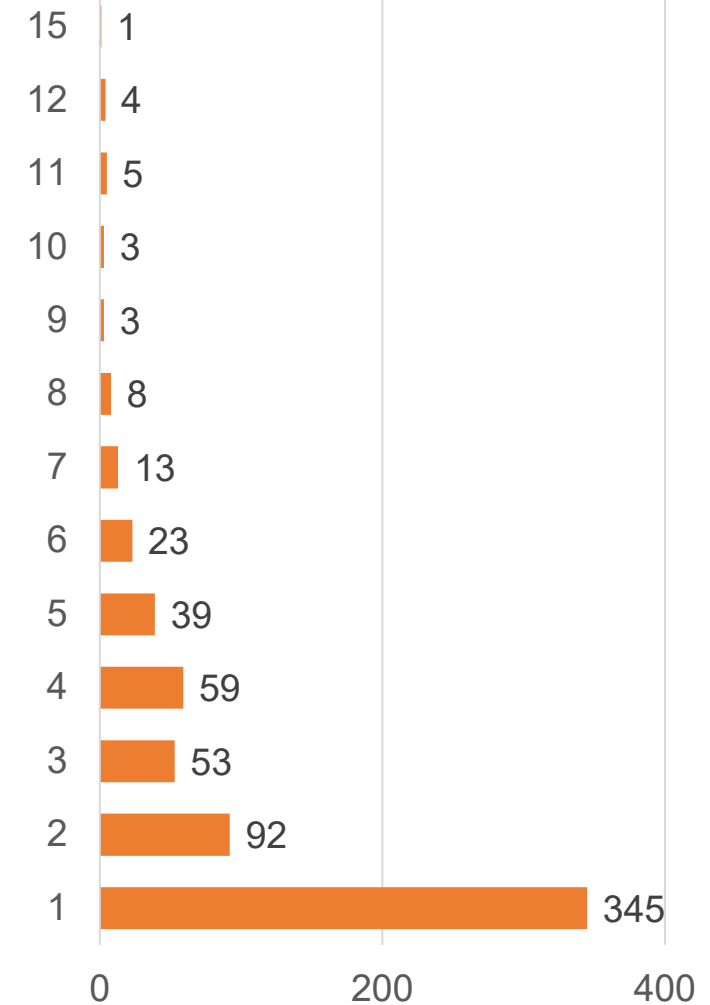


SPC 2 Buildings: Seismic Lateral System & No. of Stories

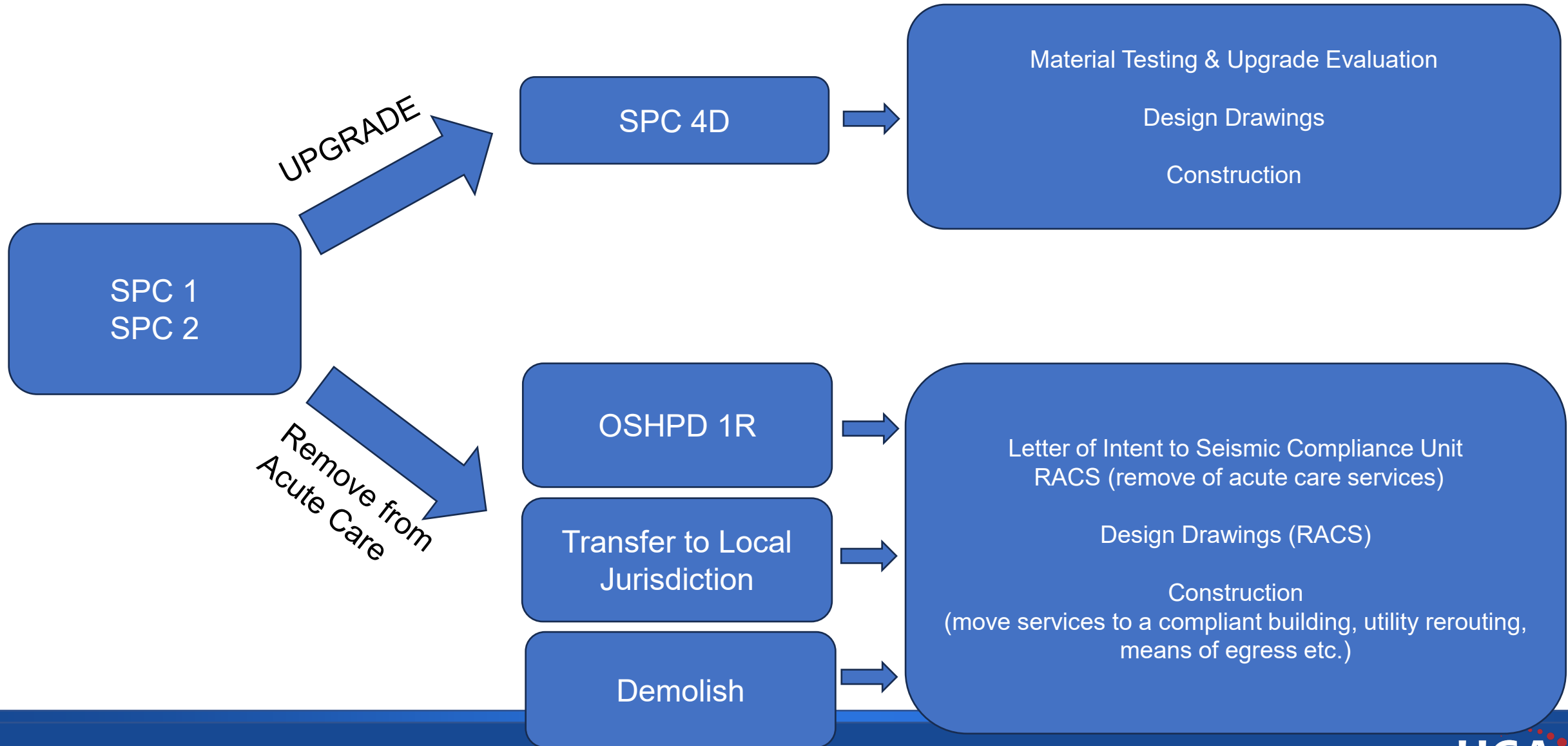
Building Types



Stories



SPC Compliance Paths



Removal from General Acute Care Service

California Administrative Code

Chapter 6, Section 1.4.5.1.5

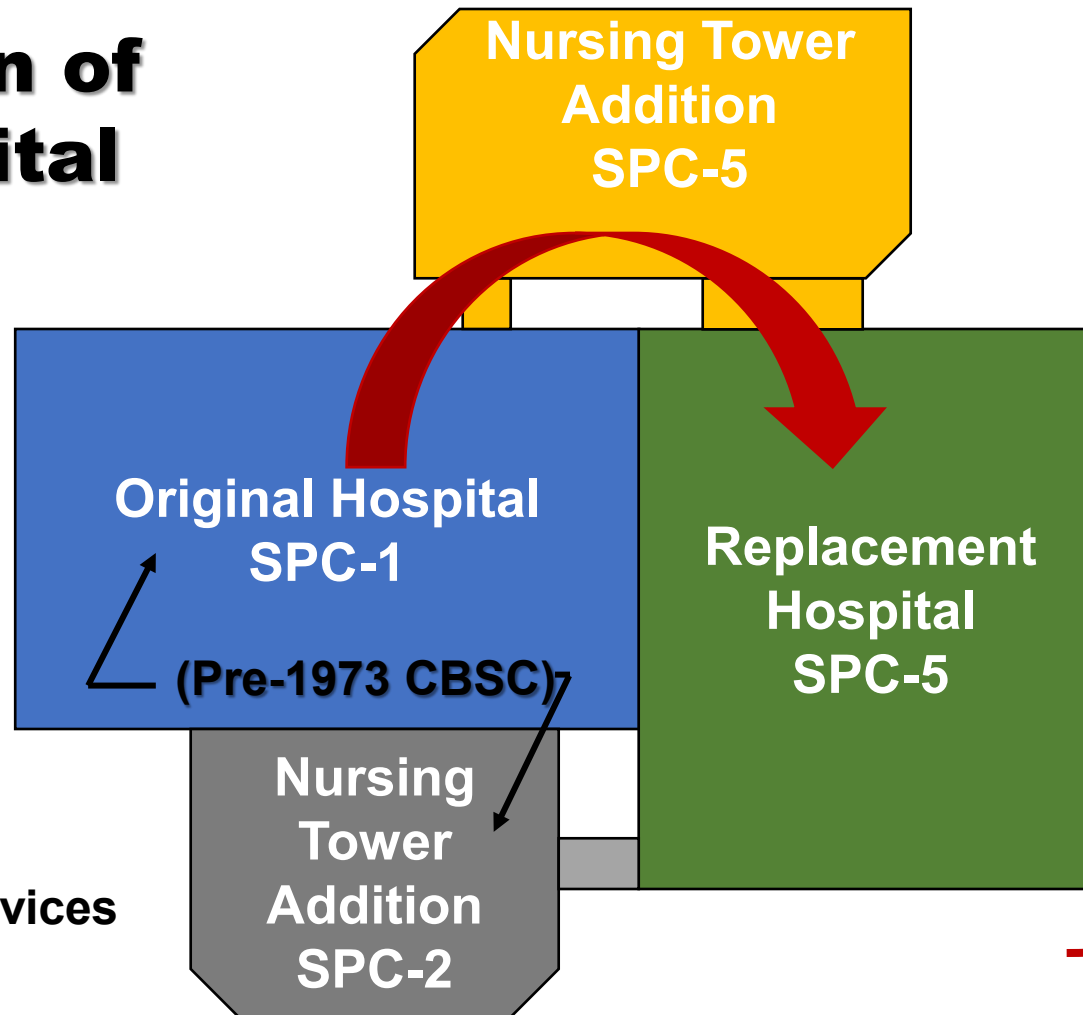
A **hospital building** from which acute care services and beds have been removed or a nonconforming hospital building without SPC or NPC rating **shall not provide general acute care services unless it has been modified to comply with the requirements of...**

appropriate SPC and NPC ratings.

Evolution of a Hospital

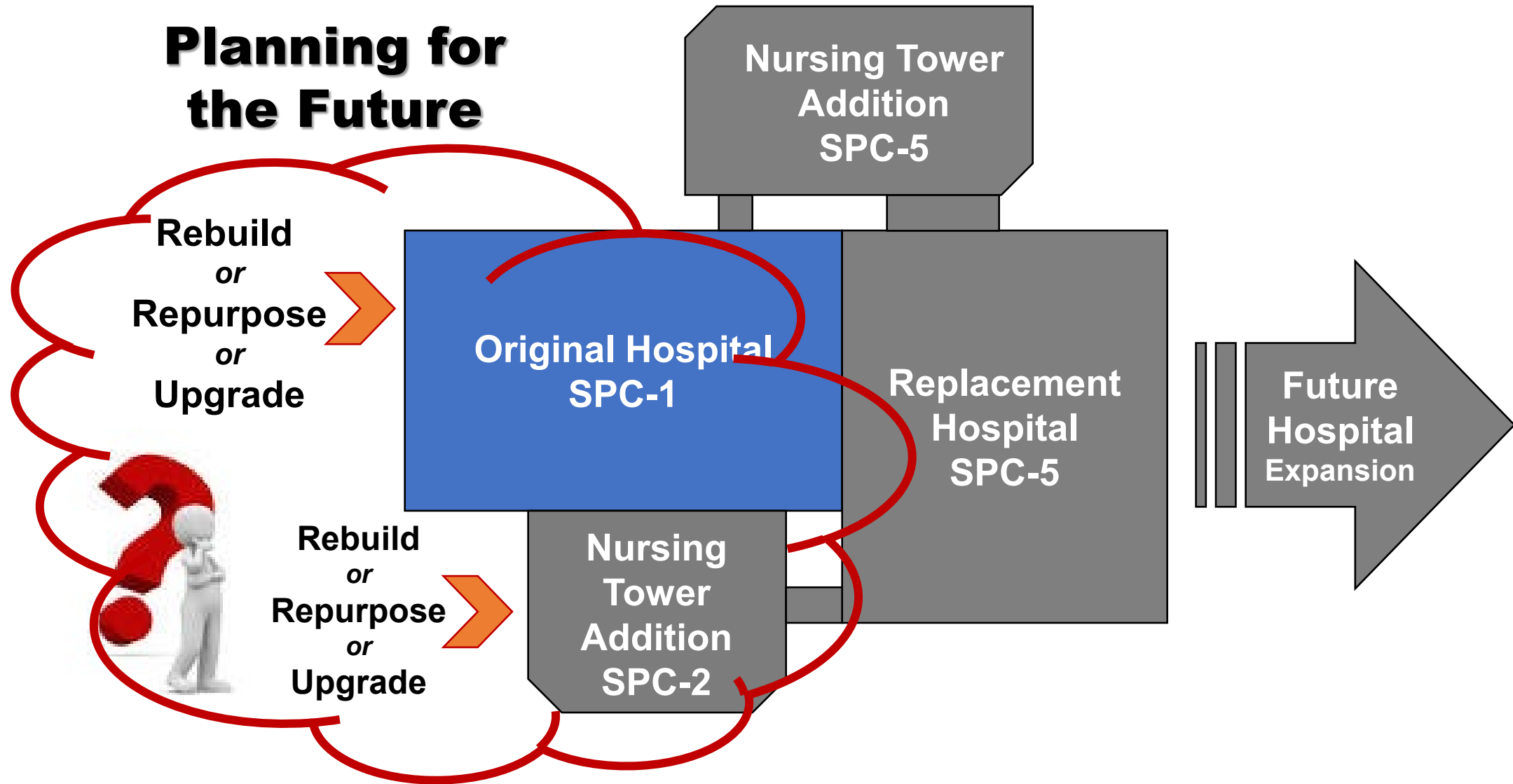
Potential Vacated GACH Services:

- Nursing
- Surgical
- Anesthesia/PACU
- Clinical Lab
- Radiology
- Pharmacy
- Dietary
- Support
- Supplemental Services



All GACH Services Relocated to Conforming Building(s) *per California Administrative Code Chapter 6*

Planning for the Future



OSHDPD 1R – What is it?

REMOVED FROM ACUTE CARE SERVICE [OSHDPD 1R]

Buildings that previously provided basic and/or supplemental services, as defined in Section 1224.3, that have

- ✓ ***been removed from acute care service*** in compliance with Part 10 California Existing Building Code Chapter 3 and 3A,
- ✓ ***and remain under the jurisdiction of the Department of Health Care Access and Information (HCAI).***

OSHDPD 1R – Deadlines

- For any general acute care hospital **not** to be use as a GAC hospital building after January 1, 2030 (See 2025 CAC Section 1.4.5 and 1.5.2:
 - **By January 1, 2026**, submit a Seismic Compliance Plan to HCAI ready for review. Indicate intent to replace/remove GAC services from the building.
 - **By March 1, 2026**, submit to HCAI construction documents ready for review by the Office to replace/remove GAC services from the building .

OSHDPD 1R – Deadlines

- For any general acute care hospital **not** to be use as a GAC hospital building after January 1, 2030 (See 2025 CAC Section 1.4.5 and 1.5.2:
 - **By March 1, 2028**, obtain a building permit to begin construction.
Hospitals not meeting this deadline shall not be issued a building permit except for:
 - Seismic compliance
 - Maintenance
 - Emergency repairsSee exceptions in 2025 CAC Chapter 6 Section 1.5.2.
 - **By January 1, 2030**, the GAC building shall achieve OSHDPD 1R designation (except AB 869 eligible facilities with delay)

OSHPD 1R – Implications

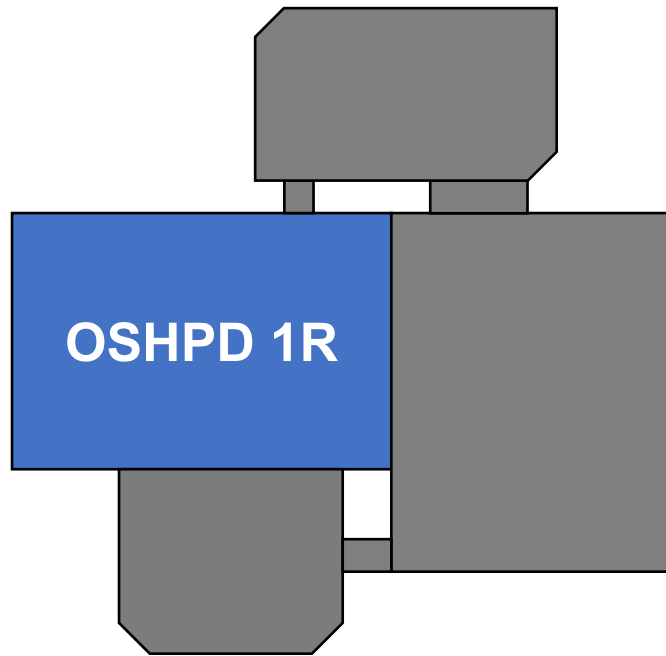
- The **removal of General Acute Care Hospital (GACH) services** from a building may result in a change of:
 - ☐ Use
 - ☐ Occupancy
 - ☐ Function
 - ☐ Licensure
 - ☐ A combination of the above for all or a part of the building
- It may also involve a change of the authority having jurisdiction from OSHPD to the local enforcement agency if the *SPC Building* meets specified seismic separation and fire protection criteria (i.e. “Freestanding”)

OSHPD 1R - Required Analysis

- ✓ **General Acute Care Hospital (GACH) Services are removed from *SPC Building***
- ✓ **Utility Infrastructure Services not permitted to traverse or provide services from *SPC Building* to support GACH (see SPC-2 Exceptions)**
 - ☐ **Mechanical**
 - ☐ **Plumbing**
 - ☐ **Medical Gasses**
 - ☐ **Electrical**
 - ☐ **Fire Suppression & Alarm**
 - ☐ **Other**
- ✓ **Exiting through *SPC Building* not permitted as “Means of Egress” from GACH**

OSHDP *versus* Local Jurisdiction

NOT Freestanding

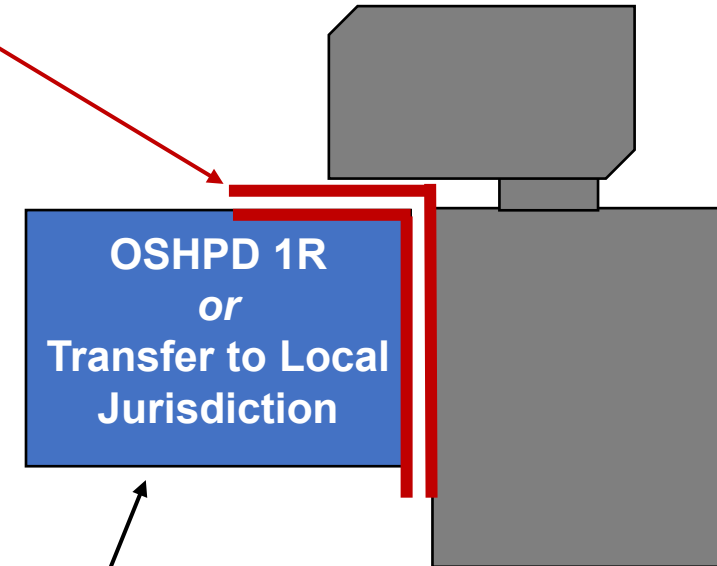


“FREESTANDING”

means...

**Structural and Fire
Separation
per California Building
Code
(CAC 7-111)
and within
Height/Area
Limits on
Same Lot**

Freestanding



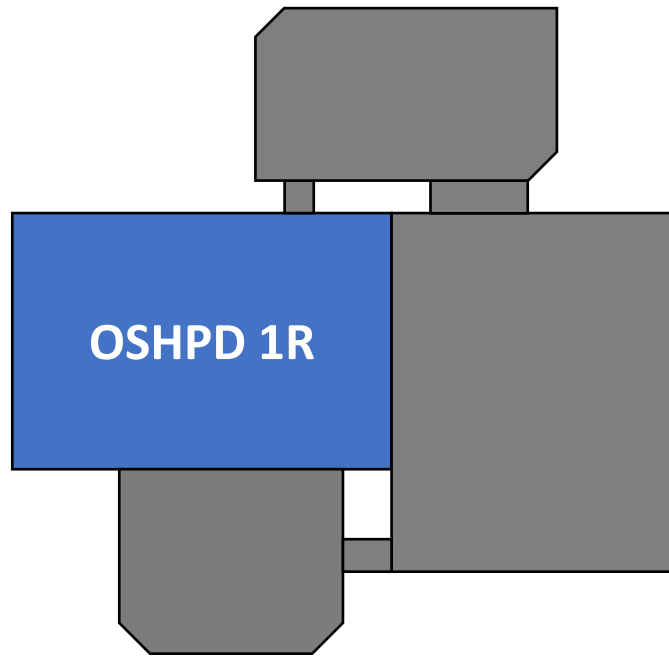
*Building must have a qualifying service per
Part 10, Chapter 3A to remain as “OSHDP 1R”
under OSHDP jurisdiction*

Definitions

- **BUILDING or Architectural Building:** is defined by the area included within surrounding exterior walls or any combination of exterior walls and fire walls. *A Building will consist of one or more SPC Buildings.* (Based on the definition of **AREA, BUILDING**, 2022 California Building Code (CBC), Section 503.1)
- **SPC BUILDING** is defined as a structure with an independent vertical and lateral load resisting system and a seismic performance category assigned by OSHPD.

“Freestanding” Determination – Fire

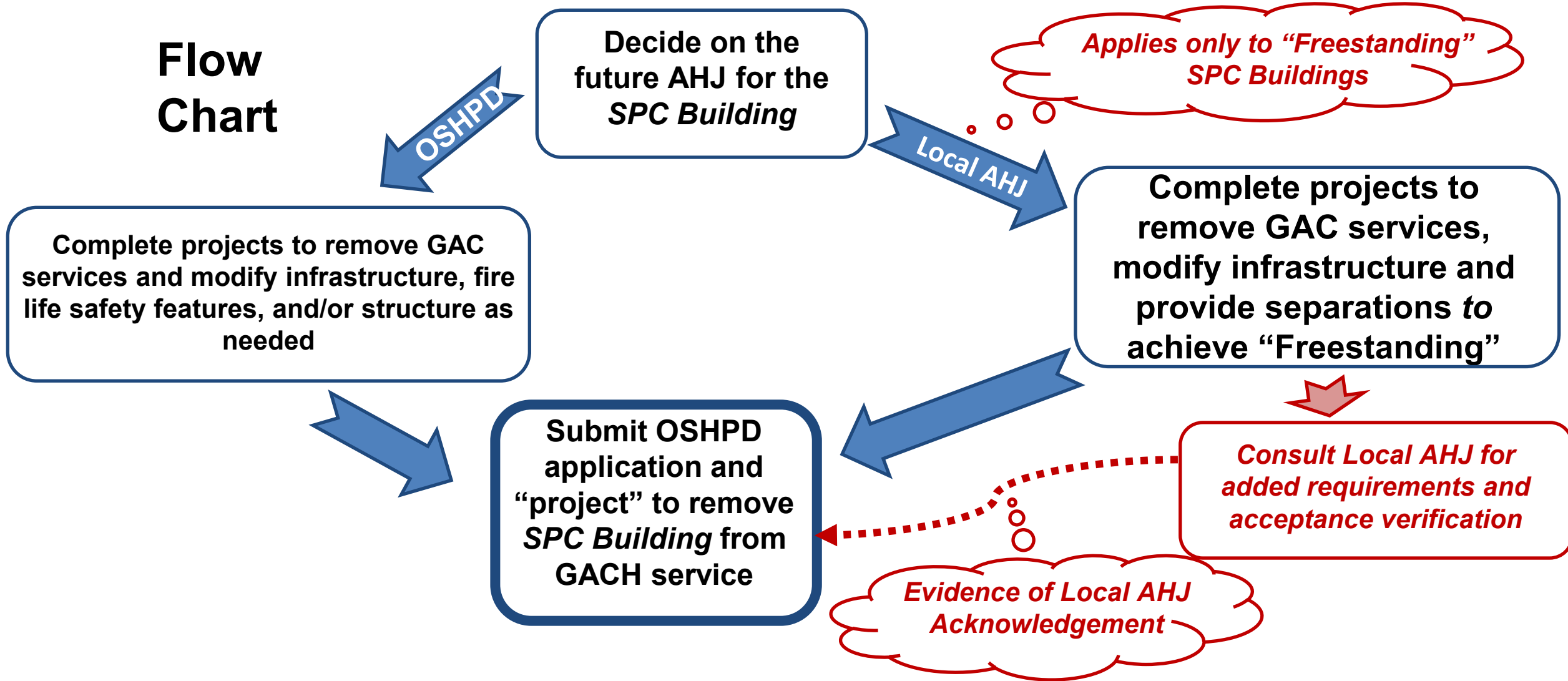
NOT Freestanding



Architectural Building
vs. SPC Building

General Overview for Removal

Flow Chart



312.3 Buildings to remain under OSHPD jurisdiction.

312.3.1 Freestanding buildings containing qualifying nonacute care services. In order for a freestanding building, as defined in the California Administrative Code, Section 7-111, that is removed from general acute care service, to remain under OSHPD jurisdiction, it shall contain one or more qualifying nonacute care services. Qualifying nonacute care services include:

- a. Services considered “Outpatient Clinical Services” as defined in H&SC §129730(a):*
 - i. Administrative space that directly supports hospital operations*
 - ii. Central sterile supply*
 - iii. Storage*
 - iv. Morgue and autopsy facilities*
 - v. Employee dressing rooms and lockers*
 - vi. Janitorial and housekeeping facilities*
 - vii. Laundry*
- b. Outpatient portions of the following services (with no more than 25 percent in-patient use), including but not limited to:*
 - i. Surgical*
 - ii. Chronic dialysis*
 - iii. Psychiatry*
 - iv. Rehabilitation, occupational therapy, or physical therapy*
 - v. Maternity*
 - vi. Dentistry*
 - viii. Chemical dependency*
- c. Services that duplicate Basic Services, as defined in H&SC §1250, or services that are provided as part of a Basic Service but are not required for facility licensure (with no more than 25 percent in-patient use).*

Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3

1. All basic acute care services or supplemental services on the hospital's license are provided in SPC buildings satisfying the requirements for SPC-2, SPC-3, SPC-4, SPC-4D or SPC-5.
2. All basic acute care services or supplemental services on the hospital's license are provided in SPC buildings satisfying the requirements for NPC-3, NPC-4/NPC- 4D or NPC-5.
3. The hospital complies with all egress requirements, including occupant load, number of required exits and travel distance to exits, and provides evidence that no egress from any acute care hospital building passes through the SPC buildings removed from general acute care service, SPC-1 buildings, or through buildings not under OSHPD jurisdiction.



Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3

4. No SPC building removed from general acute care service is used as a smoke compartment for any acute care hospital building. Buildings not under OSHPD jurisdiction shall not be used as a smoke compartment for any acute care hospital building.
5. Structural separation, fire barriers and fire walls shall satisfy the requirements of the California Building Standards Code.

Exception: An SPC seismic separation in accordance with the California Administrative Code Chapter 6 Section 3.4 shall be deemed to satisfy the building structural/seismic separation requirement in this section for SPC buildings that will remain under OSHPD jurisdiction.

Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3

6. If the SPC building removed from general acute care service shares a common fire alarm system with the acute care hospital, the main fire alarm control panel shall be located in an acute care hospital building. The SPC building removed from general acute care service shall be in a separate zone monitored by the main fire alarm control panel. Flexible connections shall be provided for conduits/conductors crossing structural or SPC seismic separation joints. If the intent is to place the SPC building under local jurisdiction, the building shall satisfy Section 312A.5.1.

Exception: Flexible connections for fire alarm conduits/conductors crossing seismic separation joints between an SPC building removed from general acute care service and adjacent SPC-1 or SPC-2 buildings may be omitted, provided the fire alarm in the adjacent SPC-1 and SPC-2 buildings have no connection to any SPC-3, SPC-4, SPC-4D and SPC-5 buildings providing general acute care service.



Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3



7. If the SPC building removed from general acute care service shares the fire sprinkler system with the acute care hospital, an isolation valve with a tamper switch shall be provided to isolate the portion of the system serving the SPC building removed from acute care service. Flexible connections shall be provided in piping that crosses structural or SPC seismic separation joints. The fire sprinkler system shall not originate in the SPC building removed from general acute care service. If the intent is to place the building under local jurisdiction, the building shall satisfy Section 312A.5.1.

Exception: Flexible connections for seismic separation joints and fail safe shutoff valves, and disconnects for utilities between an SPC building removed from general acute care service and adjacent SPC-1 or SPC-2 buildings may be omitted, provided utilities in the adjacent SPC-1 and SPC-2 buildings have no connection to any SPC-3, SPC-4, SPC 4D and SPC 5 buildings providing general acute care service.

Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3

8. Patient access as required by California Building Code Section 1224.4.7.5 does not pass through an SPC building removed from general acute care service or through buildings that are not under the jurisdiction of OSHPD.
9. The primary accessible entrance to the hospital is not through an SPC building removed from general acute care service or through buildings that are not under the jurisdiction of OSHPD.
10. No utilities servicing acute care hospital buildings originate in or pass through, over or under, an SPC building removed from general acute care service, except as permitted by Section 310A.1.1.1.5, or a building not under OSHPD jurisdiction.

Removal from general acute care service scope

2022 California Existing Building Code Section 312A.3

11. If utilities originating in an acute care hospital building feed an SPC building removed from general acute care hospital service, fail safe shutoff valves and/or disconnects shall be provided that permit isolation of the SPC building removed from general acute care service from the hospital utilities. Flexible connections shall be provided for all utilities crossing structural or SPC seismic separation joints.

Exception: Flexible connections for seismic separation joints and fail safe shutoff valves, and disconnects or utilities between an SPC building removed from general acute care service and adjacent SPC-1 or SPC-2 buildings may be omitted, provided utilities in the adjacent SPC-1 and SPC-2 buildings have no connection to any SPC-3, SPC-4, SPC-4D and SPC-5 buildings



Vacant Spaces CEBC 312.3.5:

Require Building Permit to Address:

- Unsafe, Insanitary
- Deficiencies from Inadequate:
 - Means of Egress
 - Lighting
 - Ventilation
- Fire Hazards
- Dangers to:
 - Human Life
 - Public Welfare
- Unsafe Conditions Due To:
 - Illegal Occupancy
 - Improper Occupancy
 - Inadequate Maintenance
 - Unsecured Against Unauthorized Entry



Legislative Mandate for Hospitals



Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983

APPLICATION:

*It is the intent of the Legislature that **hospital buildings that house patients** who have less than the capacity of normally healthy persons to protect themselves, **and** that must be reasonably capable of **providing services to the public after a disaster....***



Alquist Act - Application

California Administrative Code (CAC) Chapter 6 (SB 1953 regs)

GENERAL ACUTE CARE HOSPITAL, as used in Chapter 6, Part 1 means a hospital building as defined in Section 129725 of the Health and Safety Code and that is also licensed pursuant to subdivision (a) of **Section 1250** of the Health and Safety Code, **but does not include these buildings if...**

... provide skilled nursing or acute psychiatric services only.

OSHPD 1R - Allowable Services

OSHPD Services permitted in OSHPD 1R Buildings:

- OSHPD 1 – **Section 1224** Duplicative Hospital Services
(in excess of those required for *GACH Basic and Supplemental Services*)
- OSHPD 1 – **Section 1224.39** Outpatient Hospital Services
- OSHPD 2 – **Section 1225** Skilled Nursing
- OSHPD 5 – **Section 1228** Acute Psychiatric Hospital and/or Related Services

Other Services are also permitted in accordance with model code provisions

New Occupancies in OSHPD 1R Buildings

- Requirements of new uses are Occupancy based
- Accessibility for new uses are Occupancy based

Part 10 – Signage for OSHPD 1R

Part 10 – 2022 California Existing Building Code

312.1.3 Non-General Acute Care Building (non-GAC building)

Access. All access points into SPC-1 buildings/non-GAC buildings from General Acute Care buildings shall prominently display signage at entrances/corridors, on each floor with access into the SPC-1 building stating ***“NO GENERAL ACUTE CARE SERVICES BEYOND THIS POINT”***

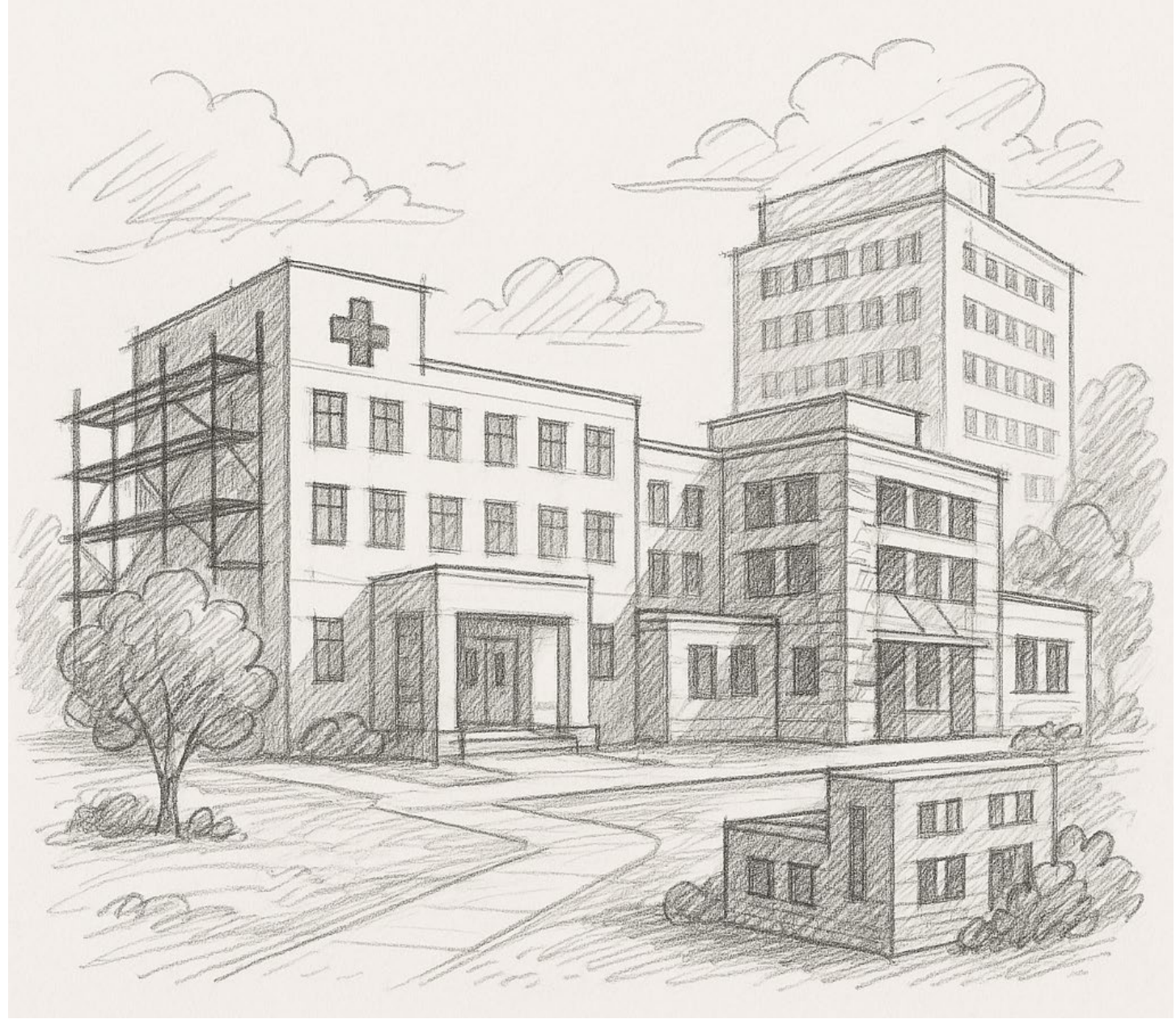
Part 10 – Repurposing OSHPD 1R Uses

Part 10 – California Existing Building Code

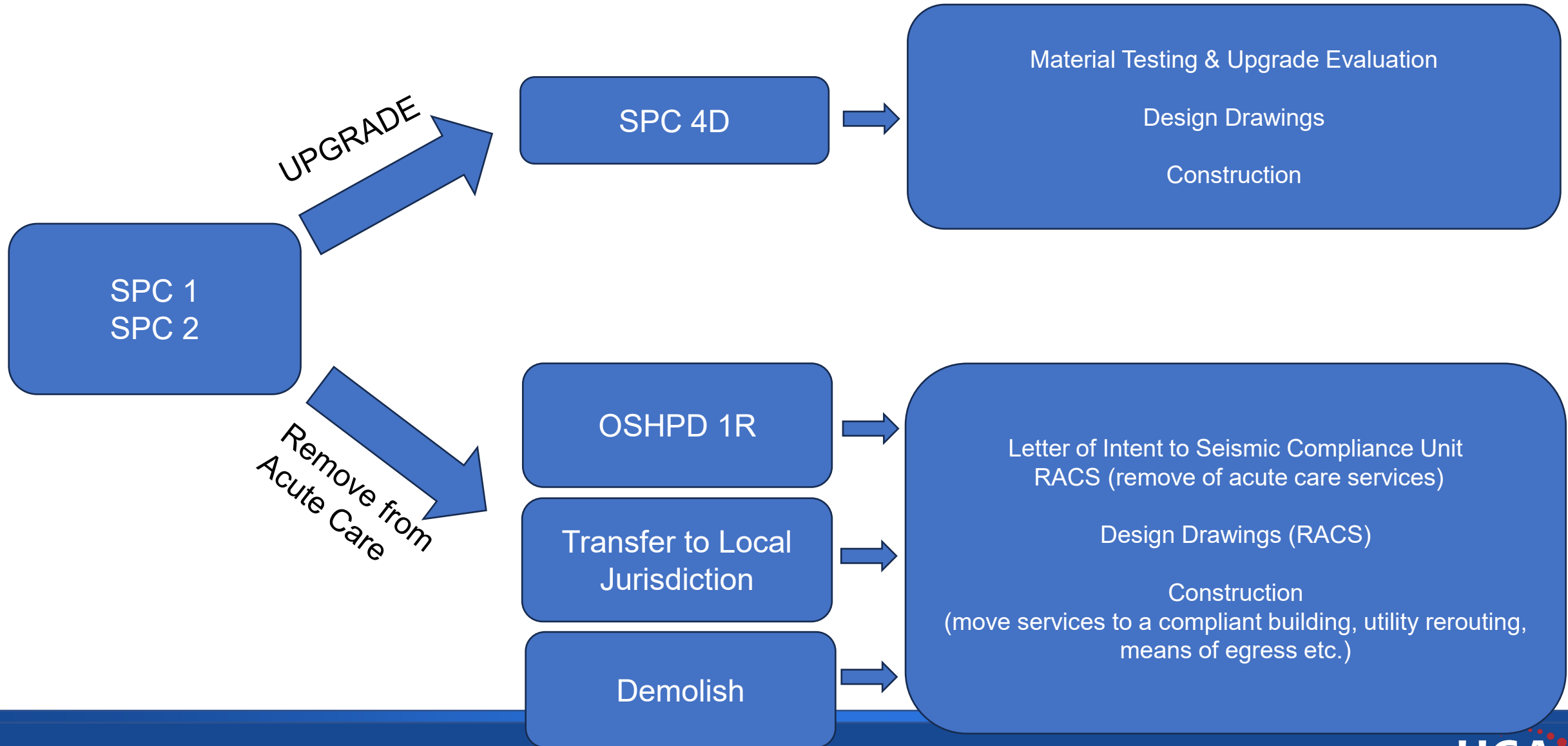
506.1.2 Change in function. [OSHPD 1R, 2, 4 and 5] *A change in function shall require compliance with all the **functional** requirements for new construction in the California Building Code, including requirements in Sections 1224, 1225, 1226, 1227 and 1228.*

Exception [OSHPD 1R]: *Hospital buildings removed from acute care service adapted for re-use as skilled nursing facilities, acute psychiatric hospitals, or out-patient services of a hospital may be permitted to meet the minimum room clearances, areas, and dimensions **of the 2001 California Building Code** for existing rooms re-used for a similar purpose, subject to the approval of OSHPD.*

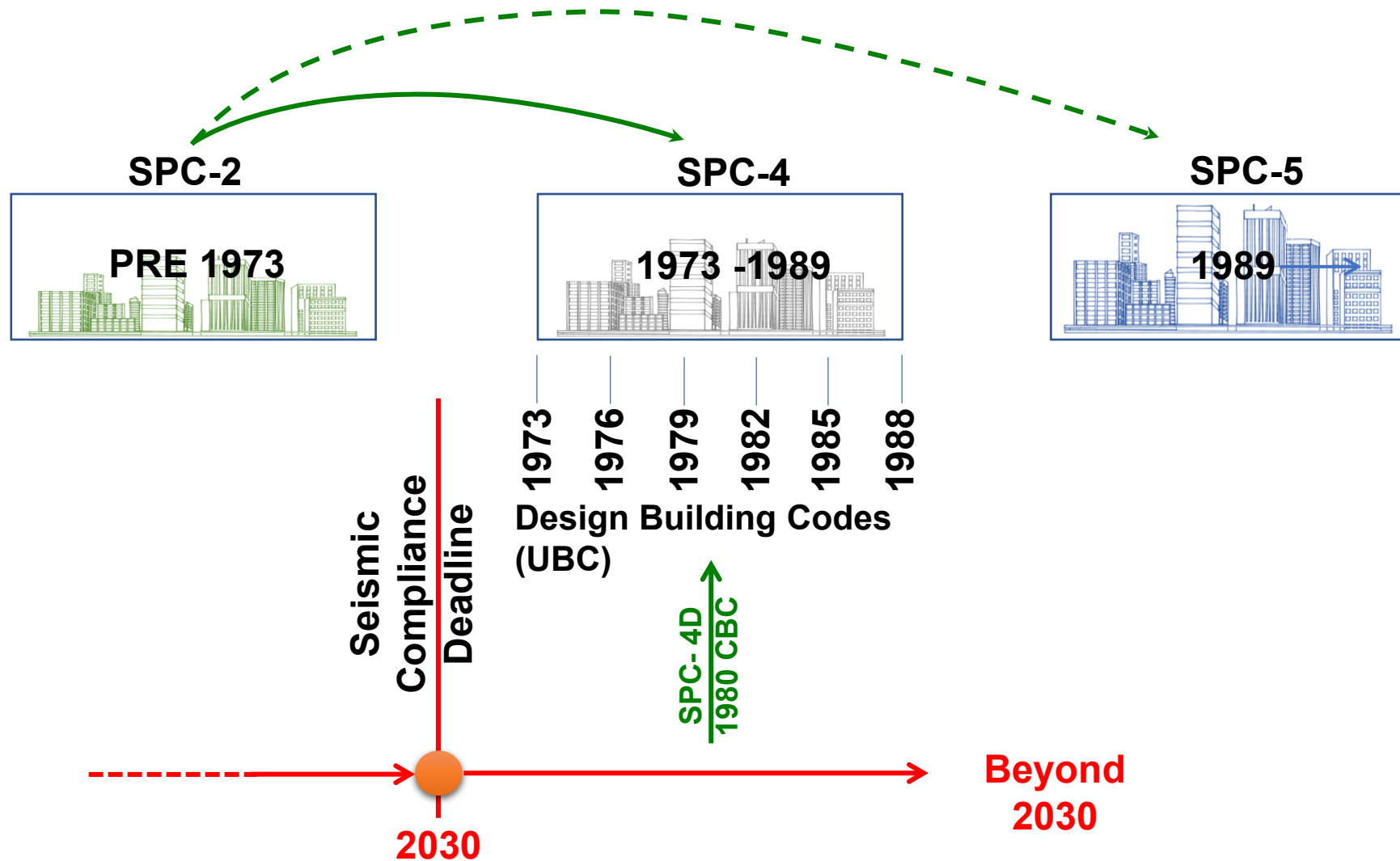
SPC 4D



SPC Compliance Paths



SPC-4D Damage Control



Performance Expectation of SPC-4D Buildings

- May control damage to permit return to function similar to SPC-3 or 4 buildings but not as quickly as SPC-5 buildings
- Performance should be equivalent to existing SPC-3 and SPC-4 buildings

How to get to SPC 4D?

1980 CBC option:

SPC-4D is a performance category assigned to existing nonconforming hospital buildings that have been demonstrated either by analysis or retrofit to be equivalent to the minimum prescriptive requirements of the 1979 Uniform Building Code (UBC 1979) including the California amendments, hereafter called the 1980 CBC, in accordance with the CBC 2016 Section 3412A.2.3.

ASCE 41 option:

Damage Control Structural Performance

It is a performance category at a midway point between Life Safety and Immediate Occupancy

Which option do I use? 1980 CBC or ASCE 41?

Owner's Choice considering factors such as feasibility, cost, etc.

CBC 1980

- One or two story buildings
- Building has adequate detailing
- Analysis is simpler

ASCE 41

- Buildings with prohibited irregularities
- Tall buildings with irregularities
- Building has inadequate detailing
- Seismicity on site has changed
- Take advantage of existing material properties
- Variety of analysis options

Damage Control Performance

- Midway between Immediate Occupancy (IO) and Life Safety (LS).
- Allows for damage that may be repairable after a design level seismic event.
- Collapse Prevention at BSE-2E.
- Any repair work in a hospital is always difficult.

Table 2-1. Basic Performance Objective for Existing Buildings (BPOE)

Risk Category	Tier 1 ^a	Tier 2 ^a	Tier 3	
	BSE-1E	BSE-1E	BSE-1E	BSE-2E
I & II	Life Safety Structural Performance Life Safety Nonstructural Performance (3-C)	Life Safety Structural Performance Life Safety Nonstructural Performance (3-C)	Life Safety Structural Performance Life Safety Nonstructural Performance (3-C)	Collapse Prevention Structural Performance Nonstructural Performance Not Considered (5-D)
III	See footnote <i>b</i> for Structural Performance Position Retention Nonstructural Performance (2-B)	Damage Control Structural Performance Position Retention Nonstructural Performance (2-B)	Damage Control Structural Performance Position Retention Nonstructural Performance (2-B)	Limited Safety Structural Performance Nonstructural Performance Not Considered (4-D)
IV	Immediate Occupancy Structural Performance Position Retention Nonstructural Performance (1-B)	Immediate Occupancy Structural Performance Position Retention Nonstructural Performance (1-B)	Immediate Occupancy Structural Performance Position Retention Nonstructural Performance (1-B)	Life Safety Structural Performance Nonstructural Performance Not Considered (3-D)

^aFor Tier 1 and 2 assessments, seismic performance for the BSE-2E is not explicitly evaluated.

^bFor Risk Category III, the Tier 1 screening checklists shall be based on the Life Safety Performance Level (S-3), except that checklist statements using the Quick Check procedures of Section 4.5.3 shall be based on MS-factors and other limits that are an average of the values for Life Safety and Immediate Occupancy.

Seismic Hazard for SPC 4D upgrades

- All versions of California Existing Building Code (CEBC) refer to ASCE 41-13, “locking” the design criteria standard for SPC 4D upgrades.
- Seismic hazard is also tied to ASCE 41-13

SPC-4D Compliance Deadline?

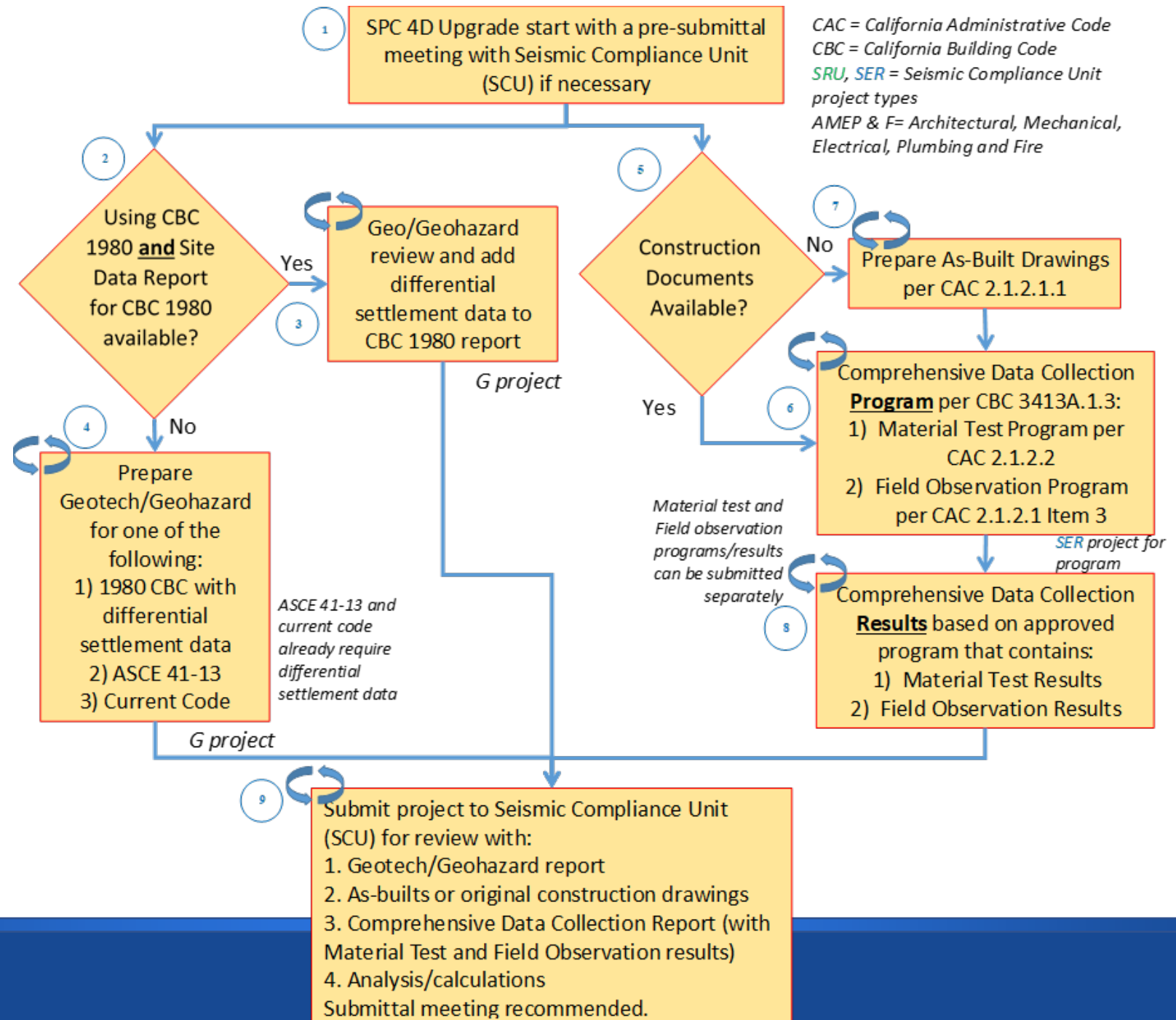
- SPC has 2030 compliance deadline only
- SPC deadline does not follow NPC submittal deadlines
- Strongly recommend considering SPC and NPC scope together when discussing facility's future compliance plans

Buildings Not Eligible for SPC-4D

1. Hospital buildings with the potential for surface fault rupture and surface displacement at the building site
2. Unreinforced masonry shear wall buildings
3. Precast concrete buildings

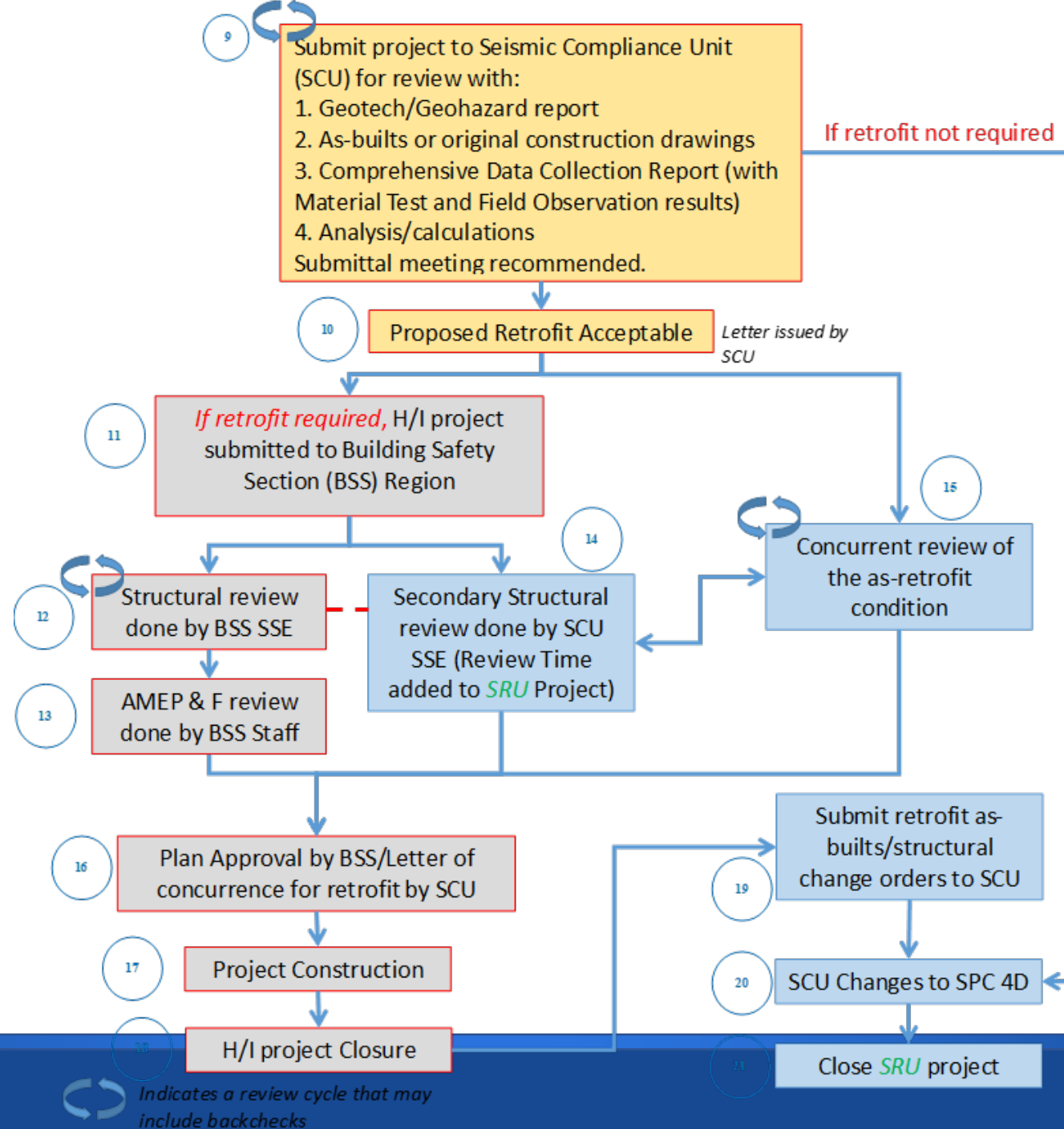
Process

- Preliminary Discussions.
- Documents gathering and Geotech/Geohazard reports.
- Material testing and condition assessment programs and results.
- Analysis of retrofit concept.



Process

- Approval of retrofit concept.
- Preparation of construction drawings.
- Review of construction details.
- Construction observation and review of change orders if any.
- Upgrade to SPC-4D.



Material Testing



Condition Assessment and Material Testing

- The buildings in the hospital inventory were built without observation by OSHPD and in many cases without inspections from local jurisdictions.
- No sunset date for SPC-4D hospital buildings - therefore prudent to get enough information to assure performance.
- Comprehensive level of material testing and condition assessment is required for any performance level greater than life safety in ASCE 41-13.
- Require the structural engineers to verify conditions in the building before embarking on the retrofit design.

Material Testing and Condition Assessment Program - MTCAP

STEPS:

1. MTCAP – Material Testing and Condition Assessment Program (SRU Project)
2. Regional Construction Project for testing and condition assessment (Sxxxxxxx-xx-xx)
3. MTCAR – Material Testing and Condition Assessment Results (SRU Project)

MTCAP – Excessive Sampling

- For multi-story and/or substantial plan area buildings (> 200,000 sq. ft), ASCE 41-13 sampling requirements can get onerous.
- If sampling numbers are significant – divide into two phases, do (X)% sampling and testing first, to give a statistical representation. If all acceptance criteria are met (standard deviation), the remaining (100-X)% does not need to be performed.
- Evaluated on a case-by-case basis.

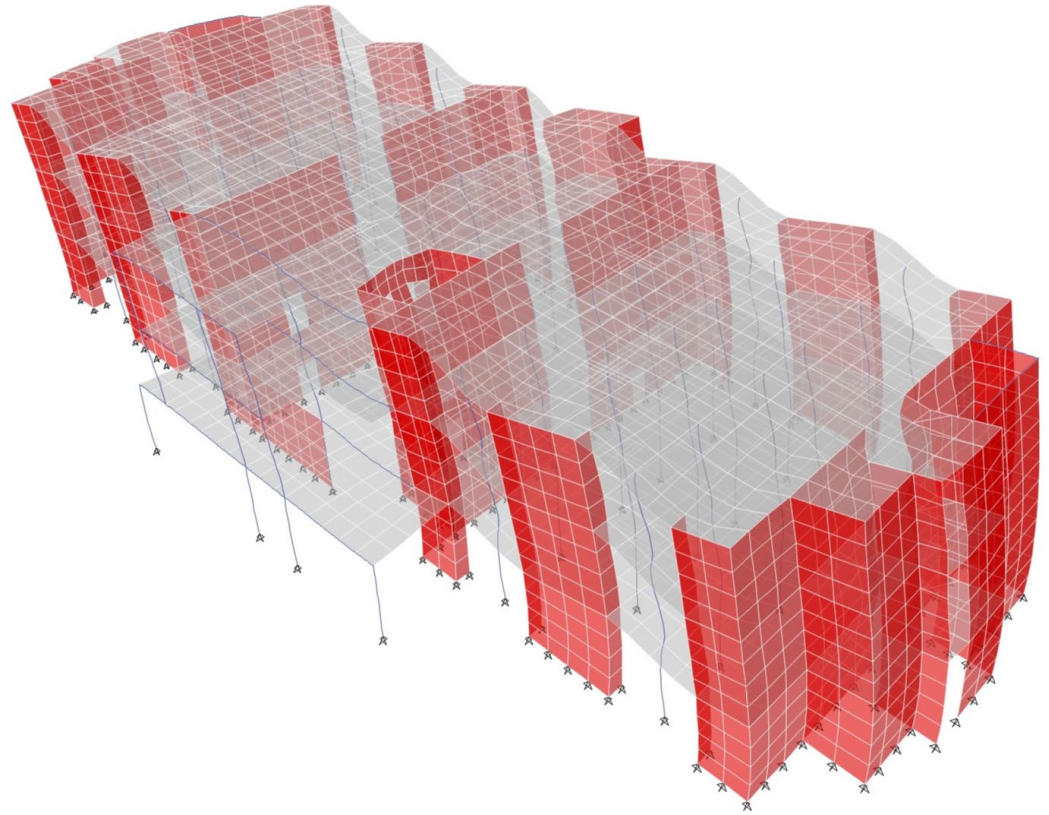
MTCAP Issues observed

- Too many masonry prism extractions in small buildings can cause damage. Generally, recommend reduce the number of samples.
- Verification of reinforcement splices and laps can be done through a combination of non-destructive methods and removal a small area of concrete cover.
- Weld samples often show inconclusive results, therefore generally recommend reducing or eliminating the test.
- Taking samples from columns should be avoided, when possible, keep to a minimum or eliminated.

MTCAP Issues observed

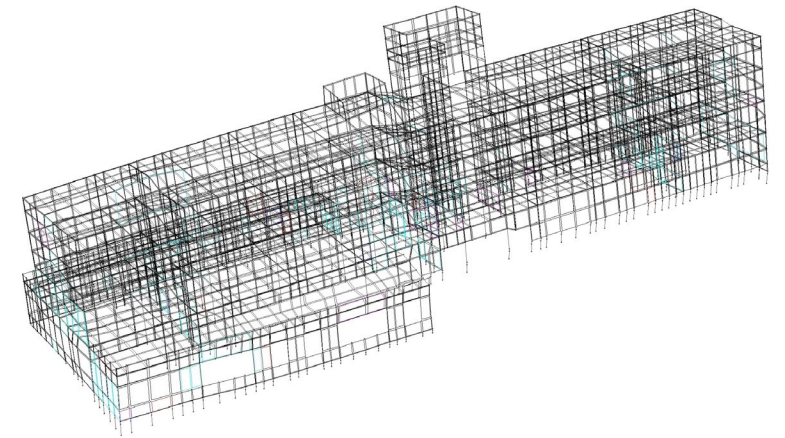
- Hospitals footprint grow over time, therefore different year of construction may occur within the same SPC building. Sampling from each era of construction is critical.
- Concrete sampling from slab-on-grade is generally not necessary.
- Condition assessment: SEOR should prepare clear existing details with which dimensions to verify.
- SEOR should communicate with HCAI in a timely manner if a significant deviation from the assumed values are observed at the field.
- Testing lab and SEOR shall not ignore “outlier” results, and this result shall be reported to HCAI.

SPC 4D Analysis



Analysis

- All analysis types permitted, though there are limitations on linear analysis when used in conjunction with ASCE 41-13.
- For static analysis, ASCE 41-13 uses unreduced pseudo forces with the force reduction for ductile elements taking place at the element level.
- For the non-ductile elements, ASCE 41-13 uses force delivery reduction factor, J , defined as either the smallest Demand Capacity Ratio (DCR) along the load path to the intended element or alternately, $J=2$ for high seismic regions.



Nonlinear Analysis

- Preferred by some structural engineers.
- Nonlinear deformation capacities accepted in a nonlinear analysis are closer to reality without including unnecessary safety margins.
- Failure of one element can redistribute the loads to others.
- However:
 - Modeling can be challenging and needs many component models to optimize and calibrate.
 - Can be difficult to understand inputs (from the reviewer point of view).
 - Generation of lots of analysis data.

Issues observed

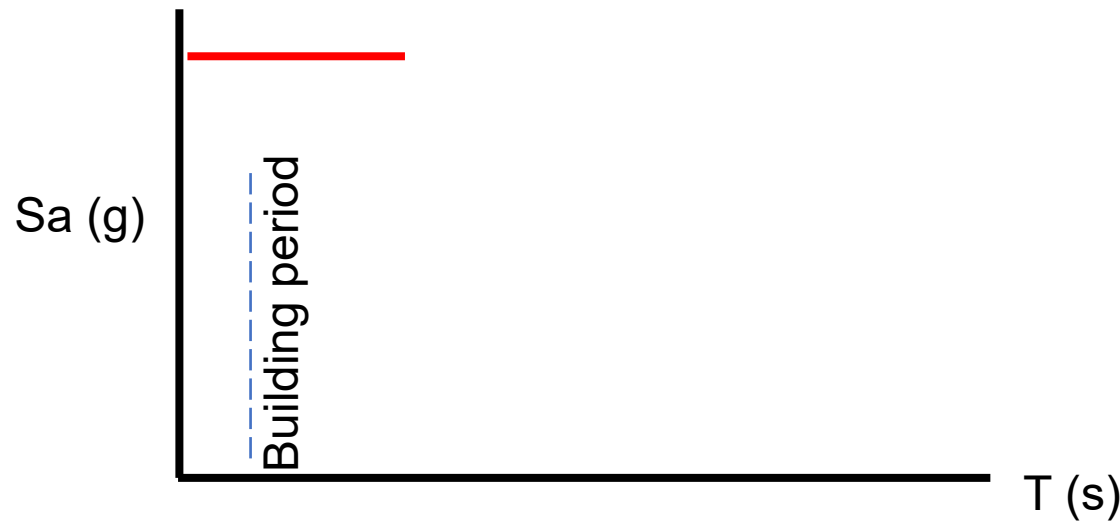
- As there is no minimum base shear requirement in ASCE 41-13, relatively low unreduced base shears are observed when using linear dynamic analysis for models where the diaphragm are explicitly modeled without a rigid diaphragm constraint (semi-rigid).
- Applying accidental torsion loads for semi-rigid diaphragms or when using a nonlinear analysis can be challenging.
- Coupling beam modeling in perforated shear walls can lead to many questions about rigid offsets.
- Selection of time histories to get the code required minimum combined spectra has many issues due to differences between ASCE 41-13, CBC 2016 (references ASCE 7-10), ASCE 41-17 and CBC 2019 (references ASCE 7-16).

Issues observed

- There has been many FRP testing recently, expanding the knowledge of analysis and design of FRP. Please contact with HCAI for potential FRP solutions.
- HCAI is working on FRP preapprovals to streamline FRP analysis and design, stay tuned...

Response Spectra

- Soil structure interaction (SSI) is required if the building's period is at the ascending portion per ASCE 41-13.
- If SSI is not pursued, draw a straight line at top and use this spectra.



Issues observed (continued)

- Many unique circumstances:
 - Truss moment frame buildings (modeling issues and retrofit strategies)
 - Under-reinforced masonry buildings (composite retrofit applications).
 - Under-reinforced concrete shear wall buildings and inadequate dowels (composite retrofit applications).
 - Embedded truss in concrete wall headers (nonlinear modeling).
 - Flat plate moment frame buildings (Applicability of ASCE 41 requirements).

Comparison to New Building Design

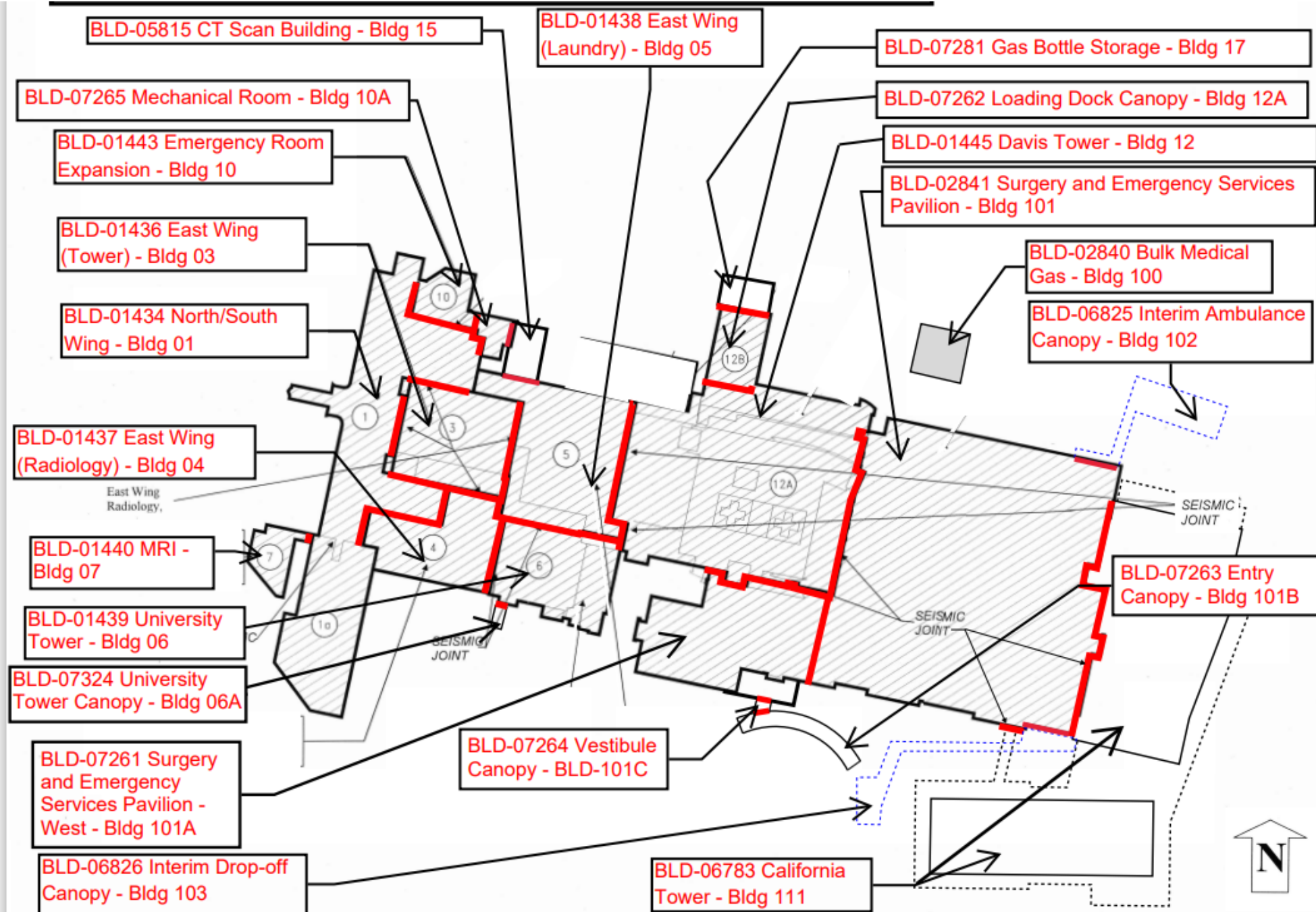
ASCE 7-10 Designation	Lateral Force Resisting System	Controlling Behavior	ASCE41/ ASCE7 DCR Ratio for Behavior	Controlling Behavior	ASCE41/ ASCE7 DCR Ratio for Behavior	Controlling Behavior	ASCE41/ ASCE7 DCR Ratio for Behavior
C3	Steel Intermediate Moment Frames	Column PMM	0.88	Beam M	0.44	Connection	0.53
C4	Steel Ordinary Moment Frames	Column PMM	0.68	Beam M	0.34	Connection	0.41
B3	Steel Ordinary Concentrically Braced Frames	Brace P	0.40	Foundation Uplift	0.56	Connection	0.57
C6	Concrete Intermediate Moment Frames	Column PMM	0.62	Beam V	0.47	Connection	0.59
C7	Concrete Ordinary Moment Frames	Column PMM	0.37	Beam V	0.28	Connection	0.35
B5	Ordinary Reinforced Concrete Shear Walls	Wall Shear	0.58	Foundation Uplift	0.95	Connection	0.70
A2	Ordinary Reinforced Concrete Shear Walls	Wall PMM	0.44	Wall Shear	0.47	Connection	0.56
A8	Intermediate Reinforced Masonry Shear Walls	Wall PMM	0.28	Wall Shear	0.58	Connection	0.43
A9	Ordinary Reinforced Masonry Shear Walls	Wall PMM	0.29	Wall Shear	0.33	Connection	0.24
	Average		0.50		0.49		0.49

Retrofit Technology

- Adding new elements (Examples: new shear walls, micro-piles, BRBs, viscous dampers, friction devices)
- Enhancing performance of existing elements (Example: FRP)
- Improving connections between structural elements (Examples: adding collectors, retrofit of steel column splices, improving SMRF joints).
- Reducing structural demand (Examples: seismic isolation, adding dampers, reducing number of stories in a building).
- Removing selected structural components (Examples: cutting longitudinal reinforcement to get a more ductile flexural failure).

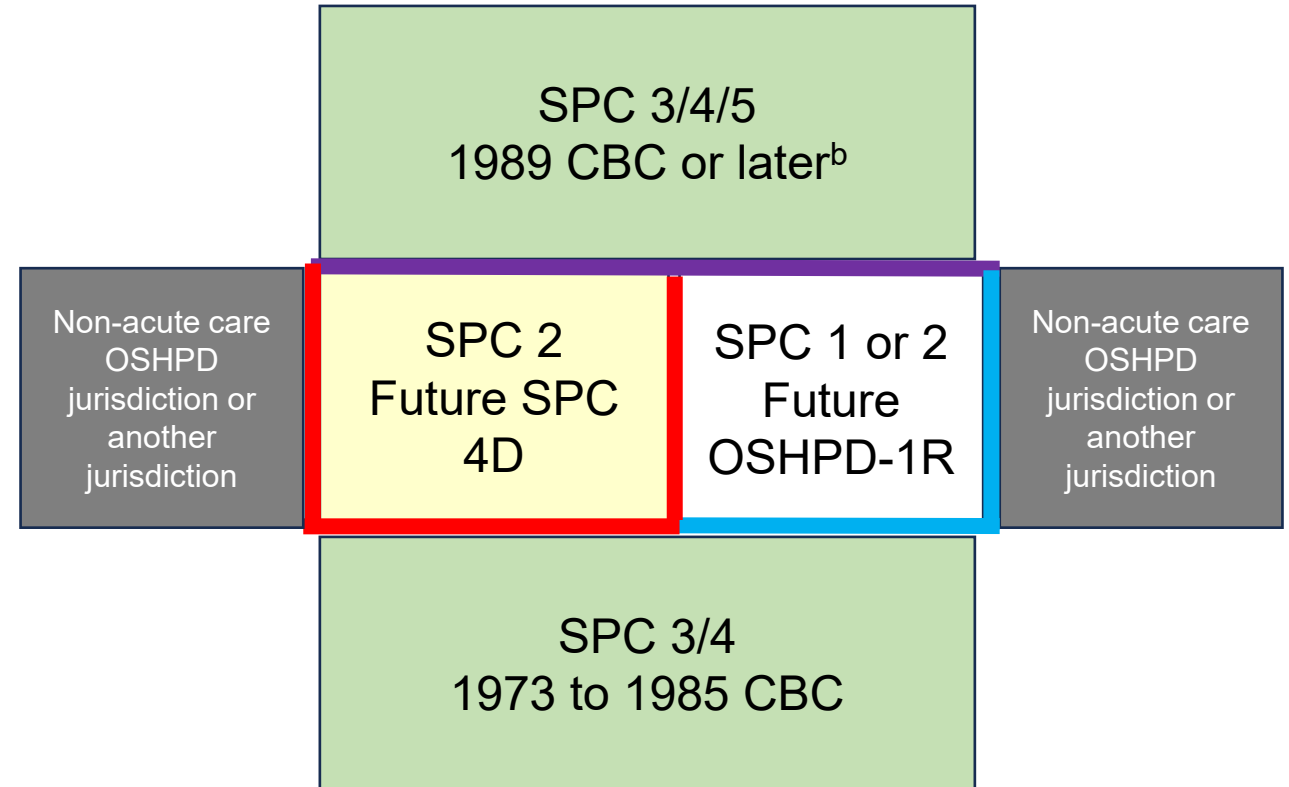
Seismic Separations





Seismic Separation

- Evaluation required per 2022 CEBC 312A.3 and 2022 CAC Chapter 6 Section 3.4
- Deemed compliant per 2022 CEBC 304A.3.4.5.1 and 2022 CAC Chapter 6 Section 2.0.1.2.1
- Evaluation required per 2022 CEBC 304A.3.4.5.1



Seismic Separation

- The requirements of 2022 CAC Chapter 6, Section 3.4 are considered met for adjacent structures (without a 2-inch gap per level) if the floor levels align and the height of the adjacent building is at least half the height of the evaluated building. For example, a 1-inch gap between two adjacent 8-story buildings would be deemed CAC-compliant, provided the floor levels align and the height of the adjacent building is at least half the height of the evaluated building
- For new construction, see the applicable code requirement
- SPC 1 and 2 buildings removed from HCAI jurisdiction should comply with CBC seismic separation requirements.

Seismic Separation – CEBC

304A.3.4.5.1



Replace ASCE 41-13 § 7.2.13.2 with the following:

- A. Where the adjacent building was constructed using the 1989 or later edition of the California Building Code and built under OSHPD jurisdiction, the minimum building separation distance specified in Section 7.2.13.1 need not be evaluated for Structural Performance Level Damage Control or lower.
- > B. Where adjacent structure or building evaluated is not less than half as tall and adjacent structure has floors/levels that match those of the building being evaluated, the following exceptions apply:
 - > 1) For Structural Performance Level of Life Safety or lower, the seismic separation between the adjacent structure and the building being evaluated need not be evaluated.
 - 2) For Structural Performance Level of Damage Control, buildings need not meet the minimum separation distances specified in Section 7.2.13.1 where either a) or b) applies:
 - a) Adjacent structure is more than 2 inches (50.8 mm) times the number of stories below that level away from the building being evaluated at all floor levels that align.
 - b) The adjacent building does not have any of the following structural deficiencies as defined in the California Administrative Code (CAC), Chapter 6, Article 3:
 - 1) Load path (3.1)
 - 2) Weak story (3.3.1)
 - 3) Soft story (3.3.2)
 - 4) Vertical discontinuity (3.3.5) or
 - 5) Torsion (3.3.6)
- C. Where an approved pounding analysis procedure that accounts for the change in dynamic response of the structures caused by impact is used, the evaluated and retrofitted buildings need not meet the minimum separation distance specified in Section 7.2.13.1. Such analysis shall demonstrate that:
 - 1) The structures are capable of transferring forces resulting from impact for diaphragms located at the same elevation; or
 - 2) The structures are capable of resisting all required vertical and lateral forces considering the loss of any elements or components damaged by impact of the structures.

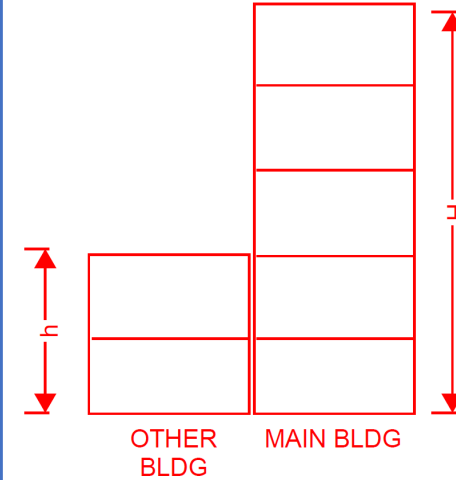
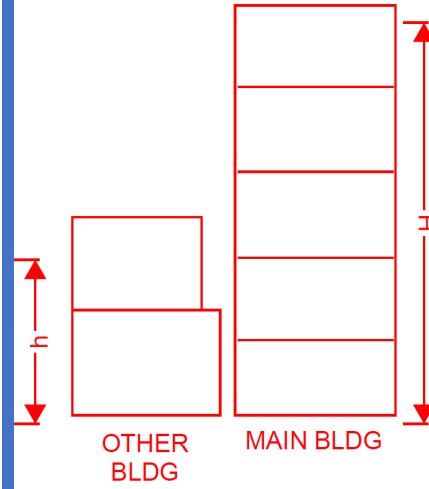
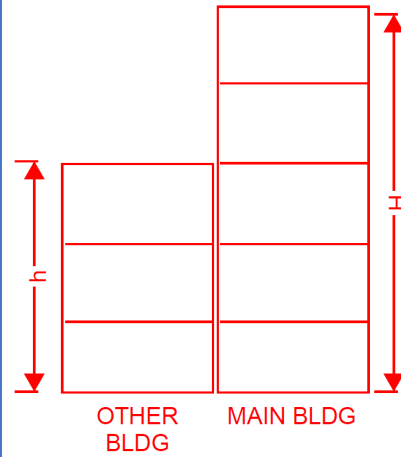
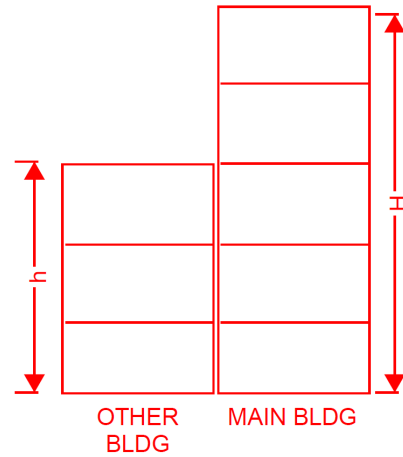
Seismic Separation – CAC

3.4 Adjacent buildings.

There is no immediately adjacent structure that is less than half as tall or has floors/levels that do not match those of the building being evaluated. A neighboring structure is considered to be “immediately adjacent” if it is within 2 inches times the number of stories away from the building being evaluated.

The deficiency is the distance between the buildings. Report the condition as a hazard. Where both buildings are designed and constructed in accordance with the 1989 or later editions of Part 2, Title 24, the evaluator may consider this condition as mitigated. Other conforming buildings which fail these checks shall be placed in SPC 4.

SPC 4D – CEBC §304A..4.5.1 (b)



GAP > 2" * # of Stories	Yes	No	Yes	No
Height Check?	OK	OK	NG	NG
Floors Match?	Yes	Yes	NG	Yes
Exception allowed?	Not required	Yes	No	No
CP gap check?	Not required	Not required	Required	Required
DC gap Check	Not Required	Check if OK	N/A	N/A
Deficiency check	Not Required	If DC check not OK → Required	N/A	N/A

SPC

Frequently Asked Questions

SPC-4D Drift Limits

303A.3.5.5 ASCE 41 Section 7.5.1

Modify ASCE 41 Section 7.5.1 with the following:

Acceptance Criteria - Drift Limitations: The interstory drift criteria shall not exceed the drift limits for Risk Category IV buildings in ASCE 7 Table 12.12-1 due to forces corresponding to BSE-1E or BSE-1N, as applicable

Exception: Larger interstory drift ratios shall be permitted where justified by rational analysis that items identified in Chapter 6 Article 10 of the California Administrative Code can tolerate such drift and approved by the enforcement agent.

FAQ #1: Do I need to submit drawings with the Seismic Evaluation Report?

The submittal requirements for the seismic evaluation can be found in 2022 California Administrative Code, Chapter 6, Section 1.3, Seismic Evaluation and all subsections which follow. **These provisions stipulate that certain drawings and plans are an integral part of the Seismic Evaluation Report.** The evaluator shall use drawings, diagrams, and details to accurately present the information necessary to communicate evaluated conditions and details of the subject existing building system.

The graphical information can be presented and incorporated in the evaluation report.

PDF format is preferred, oversized documents that are too large to upload to eSP may be submitted using our Secure File Transfer (SFT) website, click to [request an SFT link](#).

Codes / California / 2022 California Administrative Code, Title 24, Part 1

BASIC READ ONLY

Chapter 6 Seismic Evaluation Procedures for Hospital Buildings

Fullscreen

Legend

1.3.1 Seismic evaluation submittal.

Hospital owners shall submit the seismic evaluation report to the Office by January 1, 2001. There are no provisions for submittal of the evaluation report after this date, except as provided in Section 1.4.5.1.2. The hospital owners shall submit the evaluation report in accordance with Section 7-113, "Application for Plan Report or Seismic Compliance Extension Review" and Section 7-133, "Fees" of Article 3, Chapter 7, Part 1, Title 24.

Exceptions:

- Any hospital facility owner whose building is exempted from the structural evaluation in accordance with Section 2.0.1.2 shall not be required to submit a structural evaluation report as specified in Section 1.3.3. In lieu of the structural evaluation report, hospital owners shall submit the matrix of construction information for the specified building(s) as noted in Section 1.3.4.6 to the Office by January 1, 2001;
- Any hospital facility owner whose building is exempted from the nonstructural seismic evaluation in accordance with Section 11.0.1.2 shall not be required to submit a nonstructural evaluation report as specified in Section 1.3.4. In lieu of the nonstructural evaluation report, hospital owners shall submit the matrix of construction information for the specified building(s) as noted in Section 1.3.4.6 to the Office by January 1, 2001.

1.3.2 Seismic evaluation format.

The evaluation shall consist of the Structural Evaluation and the Nonstructural Evaluation Reports. The reports shall be prepared in conformance with Part 1, Chapter 7, Title 24 and these regulations and prepared as follows:

- Reports shall be submitted in an 8¹/₂" × 11" format;
- All site, architectural, and engineering plans shall be formatted on 11- by 17-inch sheets (folded to 8¹/₂ by 11 inches);
- Larger sheets, if required to clearly describe the requested information, shall be appended to the reports; and
- Other supporting documents in addition to those meeting the minimum requirements of Sections 1.3.3 and 1.3.4 may be appended to the reports.

1.3.3 Structural evaluation report.

The structural evaluation report shall include the following elements:

- A description of the building, including photographs of the building, and sketches of the lateral force resisting system;
- The "General Sets of Evaluation Statements" from the Appendix;
- A synopsis of the investigation and supporting calculations that were made;
- A list of the deficiencies requiring remediation to change statement responses from false to true; and
- The SPC for the building, with comments on the relative importance of the deficiencies.

FAQ #4: We are doing a major SB 1953 retrofit on a hospital building. Will this trigger compliance with accessibility for disabled persons? Does the answer change if functional service areas are remodeled? Is there any range on cost to do accessibility changes?

The latest enforceable accessibility requirements for persons with disabilities contained in CBC Section 11B-202.4, Part 2, Title 24 (referenced from California Existing Building Code Section 305A.1) apply to any project submitted to the Office for hospital building retrofit or remodel, pursuant to SB 1953 regulations. HCAI/OSHPD does not have the authority to enforce federal (ADA) accessibility requirements for disabled persons. If functional service areas are remodeled, the remodeled area will also need to comply with any accessible elements and path-of-travel requirements associated with the specific area of remodel. For additional information refer to Code Application Notice (CAN) 2-11B.

 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) 440-8300 355 South Grand Avenue, Suite 1900 • Los Angeles, CA 90071 • (213) 897-0166	
CODE APPLICATION NOTICE (CAN) Health and Safety Code §129851	
CAN: 2-11B	
SUBJECT Accessibility in Health Facilities	Effective: 07/30/2021 Revised: 12/19/2023
	
CODE SECTIONS 2019 California Building Code	
CHAPTER 11B - ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS AND PUBLIC HOUSING	
PURPOSE	
The purpose of this Code Application Notice (CAN) is to clarify code sections in the 2019 California Building Code (CBC) in order to provide consistent application of accessibility regulations as they relate to new construction and alteration of health facilities under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD). This CAN only addresses accessibility requirements associated with CBC Chapter 11B. Functional/clinical requirements in Chapter 12 and/or existing requirements in Chapter 10 may also apply. Project elements must be compliant with all relevant California Building Standards Code requirements.	
BACKGROUND	
The Division of the State Architect – Access Compliance (DSA-AC) adopts Title 24 CBC code requirements relating to accessibility for persons with disabilities. The purpose of these code requirements is to ensure that barrier-free design is incorporated in all buildings, facilities, site work, additions, alterations, and structural repairs. OSHPD enforces the DSA-AC accessibility code requirements for hospitals, skilled nursing facilities, and intermediate care facilities.	
Accessibility within a building is addressed in two ways in California; the Americans with Disabilities Act (ADA) and Title 24 California Building Standards Code (CBSC). The ADA is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including access to all public and private places that are open to the general public. Title 24 is a building code that provides standards for building construction including requirements for providing accessibility. Even though existing noncompliant conditions may not be required to be corrected as part of a project through the building standards code, this does not relieve facilities of providing legal accessible compliance required by ADA within their facilities.	
INTERPRETATIONS	
Note: Code section language being clarified is shown within the boxes. In some instances, an entire code section is clarified. In other instances, specific language within the code section is clarified. For these instances, the specific language within the code section is shown in <i>bold underlined italics</i> followed by the interpretation.	
Indicates Revision	

2022 CBC Chapter 11B

When the adjusted construction cost, as defined, is less than or equal to the current valuation threshold, as defined, the cost of compliance with Section 11B-202.4 shall be limited to 20 percent of the adjusted construction cost of alterations, structural repairs or additions. When the cost of full compliance with Section 11B-202.4 would exceed 20 percent, compliance shall be provided to the greatest extent possible without exceeding 20 percent.

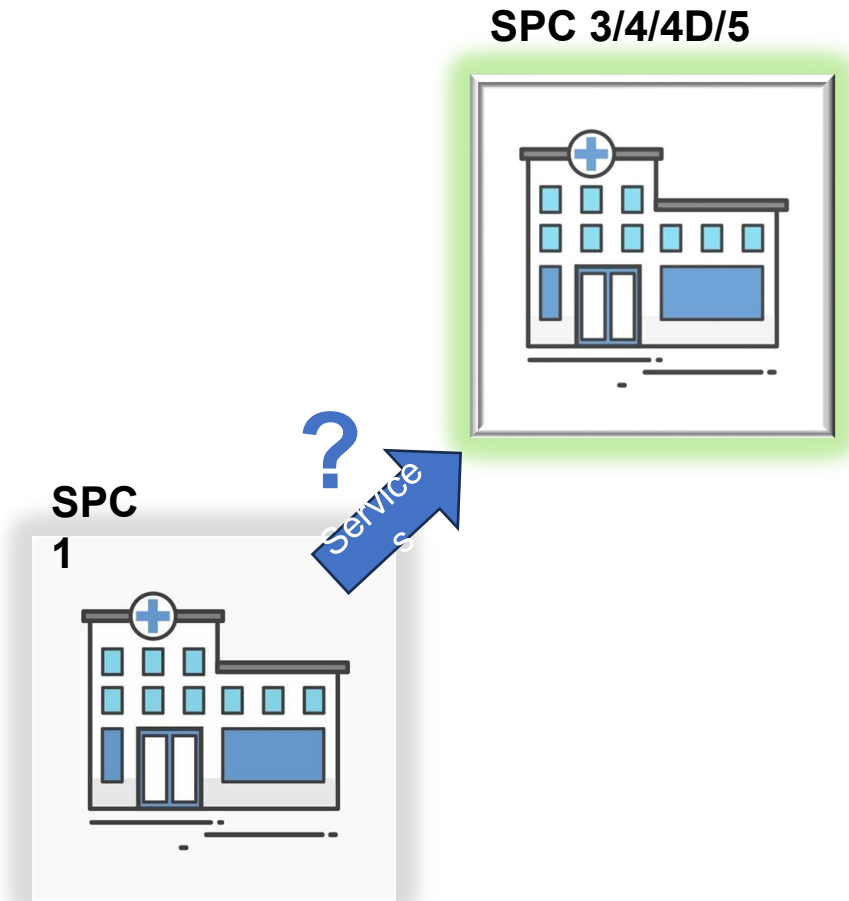
[please refer to this section for further requirements]

SPC 4D upgrade triggers 20% ADA upgrade

NPC upgrades do NOT trigger ADA upgrades (Scope of seismic anchorage only)

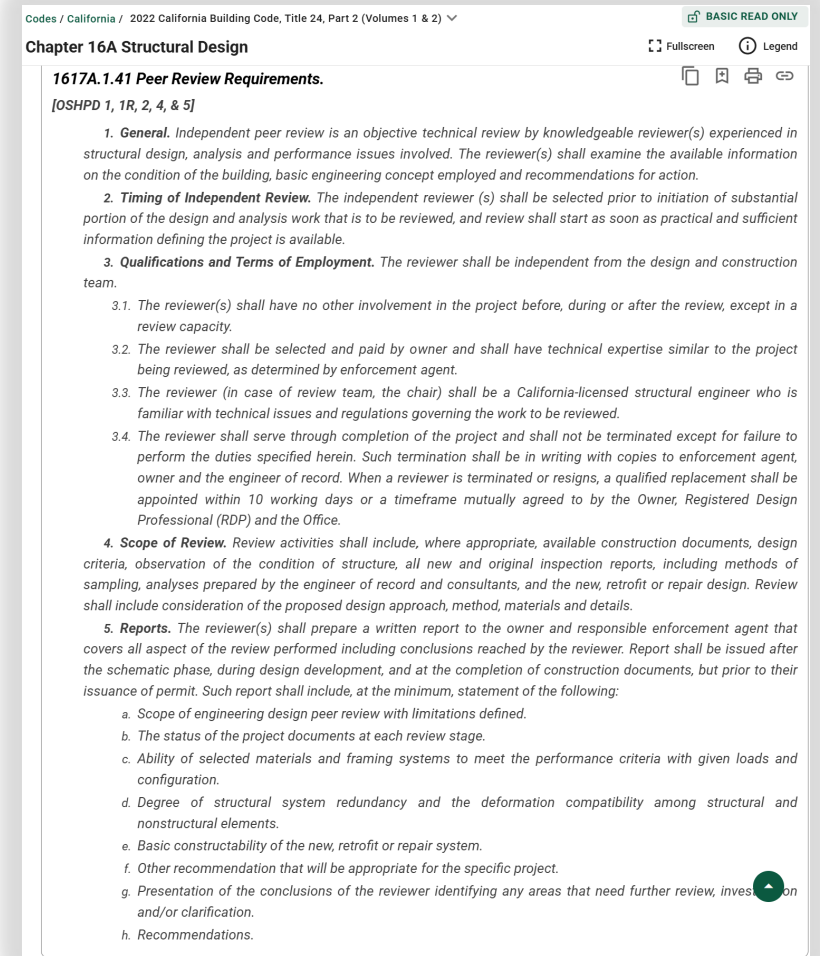
FAQ #5: Can a conforming hospital building (SPC 3, 4, 4D or 5) be supplied with utilities emanating from a SPC 1 hospital building?

A SPC 1 hospital building will cease operation as a general acute care hospital building at the end of the maximum extension granted to that building. Refer to California Existing Building Code Section 307A.1.1.1 for additions, alternations and remodels of conforming hospital buildings.



FAQ #7: If a Static Nonlinear (Pushover) design approach is used, can the hospital utilize the same engineering specialist that assists with the analysis to provide the peer review functions?

No, see 2022 California Building Code Section 1617A.1.41, Part 2, Title 24.



FAQ #8: How do I add a hospital building to OSHPD's building inventory, or certify an SPC 5/NPC 4 rating for a new building?

To add a building to OSHPD's hospital inventory, or to certify a new building as SPC 5/NPC 4, submit a Seismic Compliance Project application using the eServices Portal (eSP), and upload the following supporting documents:

Step 1: Submit an Evaluation of the building per 2022 California Administrative Code (CAC), Chapter 6. If the building is a new OSHPD approved construction a letter stating that the building is conforming per 2022 CAC, Article 2.0.1 (Item 2.1) and Article 11.01.2 (Item 2) will suffice.

FAQ #8: How do I add a hospital building to OSHPD’s building inventory, or certify an SPC 5/NPC 4 rating for a new building?

Step 2: Include a Matrix of Construction per 2022 CAC, Chapter 6, Section 1.3.4, Item 6, page 86.

BUILDING NAME/ DESIGNATION	OSHPD (or local building) permit date/ number	GOVERNING BUILDING CODE	CONSTRUCTION COMPLETION DATE	BUILDING TYPE (per Section 2.2.3)	SPC	NPC

FAQ #8: How do I add a hospital building to OSHPD's building inventory, or certify an SPC 5/NPC 4 rating for a new building?

Step 3: Submit an amended or revised site plan showing the location of the building(s) to be added. We also recommend including approved drawings for this building (PDF format is preferred, oversized documents that are too large to upload to eSP may be submitted using our Secure File Transfer (SFT) website, click to request an SFT link). This will expedite the review as it takes time to retrieve the drawings from HCAI archives.

The SCU will assign SPC 5/NPC 4 to the building if the project under which the building was built is closed in compliance.

FAQ #9: How do I remove Acute Care Services from a hospital building?

Please see eSP User Guide Applying for Removal of Acute Care Services. The 3-step process is summarized below;

Step 1

- Submit a construction project using the eServices Portal (eSP).

If no construction is required for the removal of acute care services, this step may be skipped. If construction is required to remove acute care services from a building submit one or more application(s) for new project to the Building Safety Section using the [eServices Portal \(eSP\)](#). See eSP User Guide [Applying for Removal of Acute Care Services](#) Section 3.1 for more information.

Step 2

- Submit a no-construction project using the eServices Portal (eSP).

Once the construction project(s) from Step 1 have been completed and closed in compliance, submit a no-construction application for new project to the Building Safety Section using the [eServices Portal \(eSP\)](#). See eSP User Guide [Applying for Removal of Acute Care Services](#) Section 3.2 for more information.

Step 3

- Submit a Removal of Acute Care Services (RACS) project to the Seismic Compliance Unit (SCU)

Once the no-construction RACS project from Step 2 has been completed and closed in compliance, [submit a Seismic Compliance Project application using the eServices Portal \(eSP\)](#), and upload the following supporting documents:

1. Where HCAI jurisdiction is requested, provide the RACS project number and approval letter.
2. Where Local jurisdiction is requested, provide the letter written by the supervisor of the appropriate region that hands the jurisdiction of the building to local authorities.
3. Submit an amended or revised site plan showing the location of the buildings that remain in HCAI jurisdiction.

FAQ #10: How are demolished buildings removed from the OSHPD building inventory?

Once the buildings have been demolished, [submit a Seismic Compliance Project application using the eServices Portal \(eSP\)](#), and upload the following supporting documents:

Step 1

- Submit an amended or revised site plan showing the location of the remaining buildings.



Step 2

- Submit relevant sheets of permit drawings under which the building was demolished (PDF format is preferred, oversized documents that are too large to upload to eSP may be submitted using our Secure File Transfer (SFT) website, click to request an SFT link)



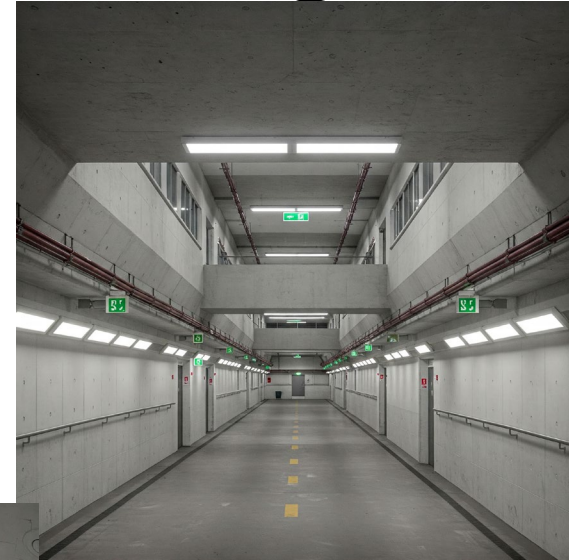
Step 3

- Submit a Field Staff Report showing start or completion of demolition or demolition progress photographs.

FAQ: Do buried tunnels have SPC or NPC ratings?

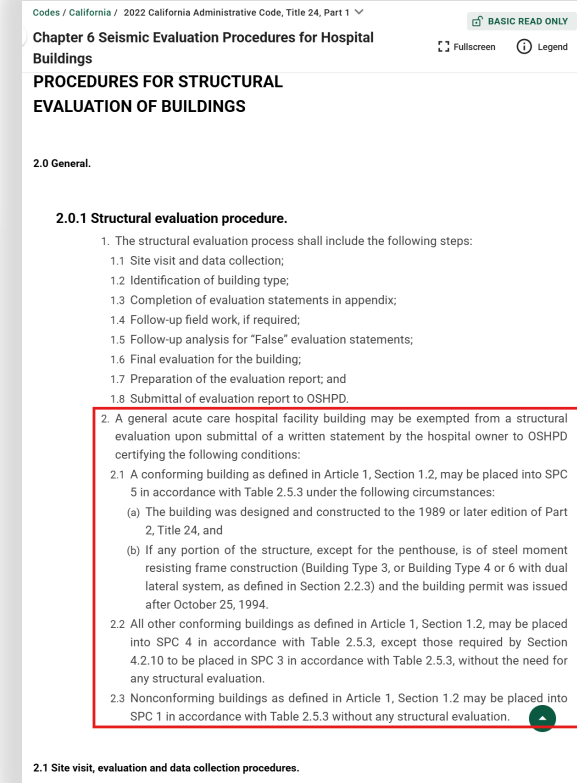
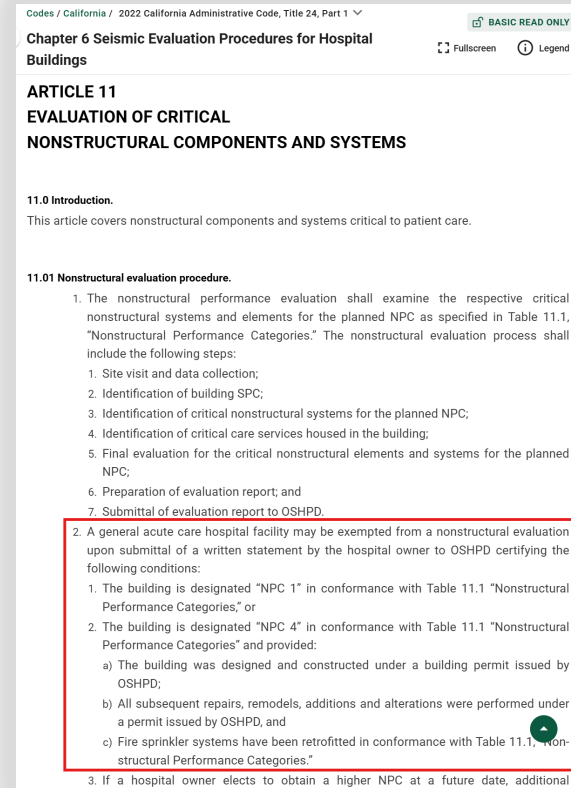
Buried tunnels connecting hospital buildings that are **not used for public egress** (such as utility tunnels with just service personnel access) **receive NPC ratings only.**

Buried Tunnels **for public use** (such as tunnels linking the basements of multiple hospital buildings) **are required to have SPC and NPC ratings.** The actual use of the tunnels may be verified by HCAI field staff.



FAQ: Can I submit a letter declaring the seismic performance category of a hospital building instead of a detailed Seismic Evaluation Report?

Per 2022 California Administrative Code, Sections 2.0.1.2 (SPC) and 11.01.2 (NPC) list the specific conditions where a hospital facility owner can submit a written declaration and be exempt from submitting either a structural or nonstructural evaluation report. However, the matrix of construction information specified in Section 1.3.4.6 shall be submitted pursuant to the requirements of Section 1.3.1. There are no other provisions for exemption from the Seismic Evaluation Report.



FAQ: What material standard version should be used for SPC-4D building design per ASCE 41-13? For example, ACI 318-11 (referenced in ASCE41-13 Chapter 17) or ACI 318-19 (current code CBC 2022 Chapter 35)?

It is acceptable to use ASCE 41-13 Chapter 17 referenced standards or later versions. **Do not mix and match the reference standards** throughout the evaluation.

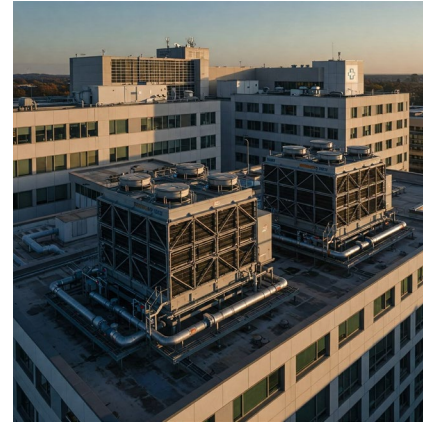


FAQ: What does “Not a Building Structure” on the HCAI website mean??

“Not a Building Structure” are buildings that are **not intended for occupancy by people except for maintenance** and other intermittent access and that are not constructed in the manner of a building.

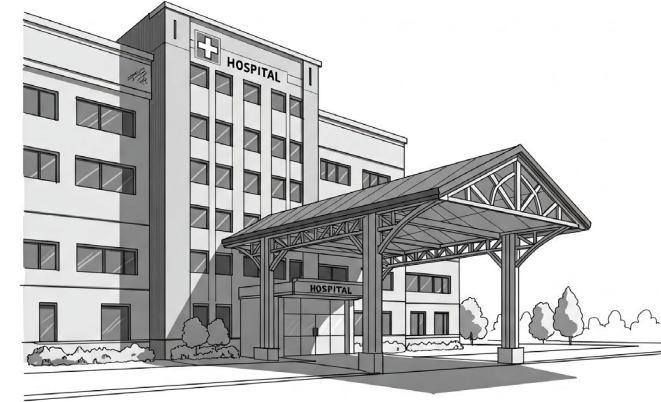
Examples of buildings that are classified as Not a Building Structures are:

1. Cooling Towers
2. Elevated platforms supporting equipment
3. Fabricated bolted together enclosures such as emergency generator sound enclosures
4. Tank structures



FAQ #8: Can outside canopies be designed using ASCE 41-13 Chapter 13?

“For outside on the ground, one story independent canopy steel structures, **ASCE 41-13 Chapter 9 steel structure criteria** under BSE-1E and BSE-2E shall be used. ASCE 41-13 Chapter 13 is not acceptable.”



FAQ #10: What is the SPC 4D evaluation requirement for penthouse structures?

Penthouse structures with aggregate area that is less than one-third of the roof area or is not an extension of the building frame can be evaluated using either criteria 1 or 2 listed below:

1. ASCE 41-13 Chapter 13 criteria under BSE-1E. The connection to the existing concrete structure shall be designed for amplified omega level ($\Omega=2$) demands.
2. ASCE 41-13 Chapter 13 criteria under BSE-2E.



Thank You!

Questions?

Please email

SeismicComplianceUnit@hcai.ca.gov