HCAI Department of Health Care Access and Information
2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov

Hospital Building Safety Board
Offsite Fabrication/Preassembled Components
Webinar Development Subcommittee

May 8, 2024
1:00 p.m. – 4:00 p.m.

The Committee may not discuss or act on any matter raised during the public comment section that is not included on the agenda, except to place the matter on a future meeting agenda. (Government Code §§ 11125, 11125.7, subd. (a).)

Locations:
2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833
355 South Grand Avenue, Conference Room 1901, Los Angeles, CA 90071

Committee Members:	Cody Bartley, Chair Scott Mackey, AIA, Vice-Chair Teresa Endres, AIA Kelly Martinez*
HCAI Staff:	Elizabeth Landsberg, Director Chris Tokas, Deputy Director Richard Tannahill, Deputy Division Chief Arash Altoontash, Deputy Division Chief Veronica Yuke, Acting Executive Director John Gray, Attorney Alireza Asgari, Senior Structural Engineer Hussain Bhatia, Supervisor Joe LaBrie, Regional Compliance Officer Mia Marvelli, Supervisor Jamie Schnick, Senior Electrical Engineer Ali Sumer, Supervisor Nanci Timmins, Chief Fire Life Safety Officer

*Consulting Member

Item #1 Call to Order and Welcome

Facilitator: Cody Bartley, DPR Construction,Subcommittee Chair (or designee)

Item #2 Roll Call and Meeting Advisories/Expectations

Facilitator: Veronica Yuke, HCAI; Acting Executive Director (or designee)

Item #3 Review and approve the draft March 26, 2024, meeting report/minutes

- Discussion and public input

Facilitator: Cody Bartley (or designee)

Item #4 Review slides for Offsite Fabrication/ Preassembled Components webinar

- Discussion and public input

Facilitator: Cody Bartley (or designee)

HCAi
Department of Health Care Access and Information

Preapproved Fabricated Components & Systems Webinar

by

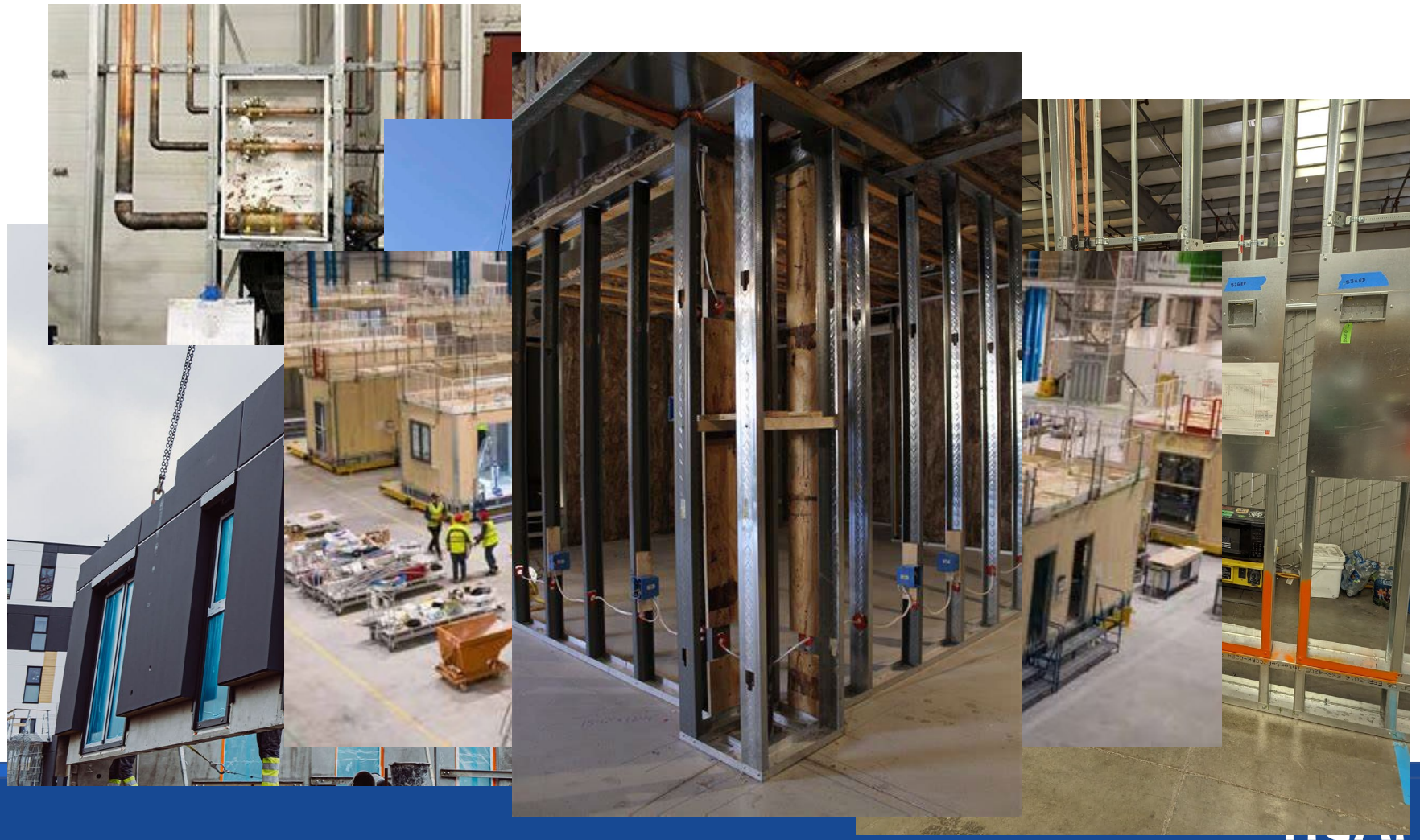
HBSB COMMITTEE MEMBERS
Scott Mackey, CHAIR
Cody Bartley, VICE CHAIR
Teresa Endres

OSHPD STAFF
Chris Tokas
Richard Tannahill
Ali Sumer
Hussain Bhatia
Alireza Asargi

Hussain?

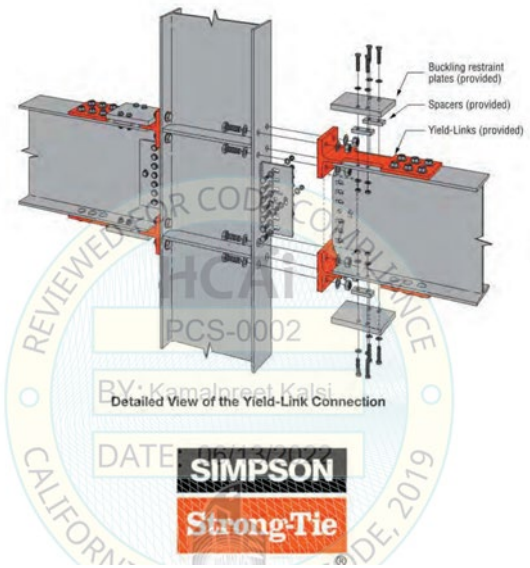
Definitions: Offsite Prefabrication & Preapproved Fabricated Components

- Components
- Manufactured
- Pre-Assembled
- Pre-Fabricated
- On-Site Fabrication
- Off-Site Fabrication



Hussain

Architect's View: Offsite Prefabrication & Preapproved Fabricated Components



Teresa/
Scott

Contractor view: Offsite Prefabrication & Preapproved Fabricated Components

Cody

OSHPD view of Offsite Prefabrication & Preapproved fabricated components

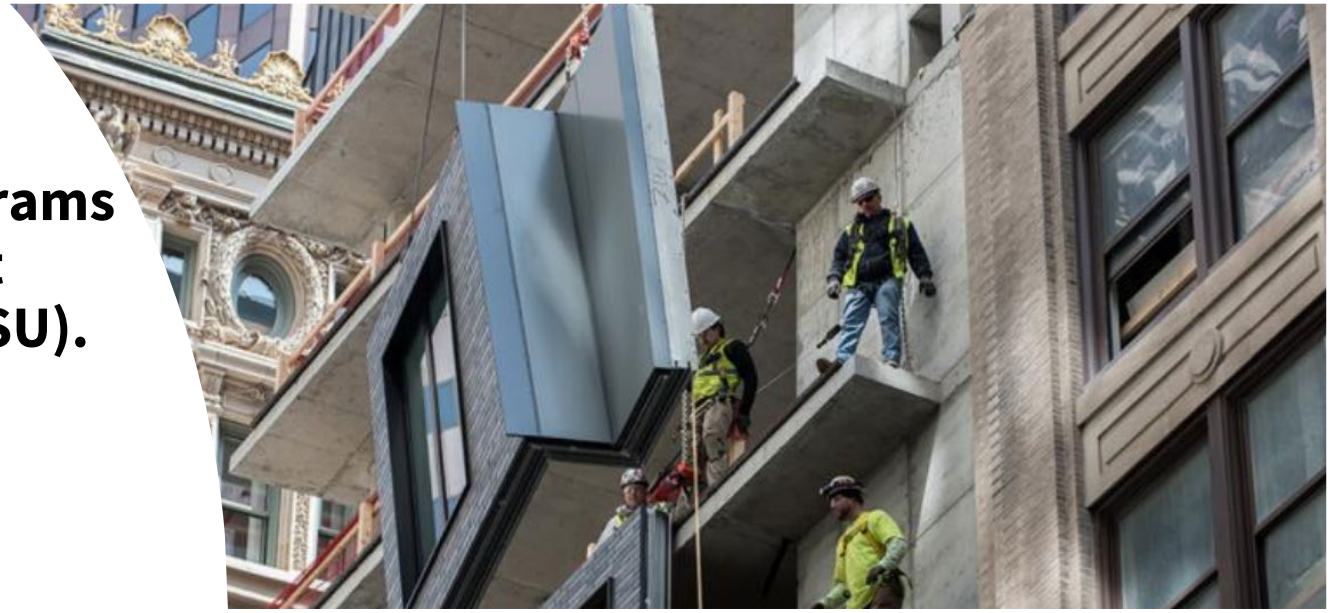
- Components are defined as parts of architectural, mechanical or mechanical system (ASCE 7). This may also be an assembly of components.
- Offsite prefabrication of components is assembly or fabrication of manufactured components that are normally assembled/fabricated on a construction site at the final installed location. Offsite prefabrication of components is approved under the project which it is installed.
- Prefabricated = Preassembled.
- Preapproved fabricated components are preapproved by OSHPD under the PCS program.

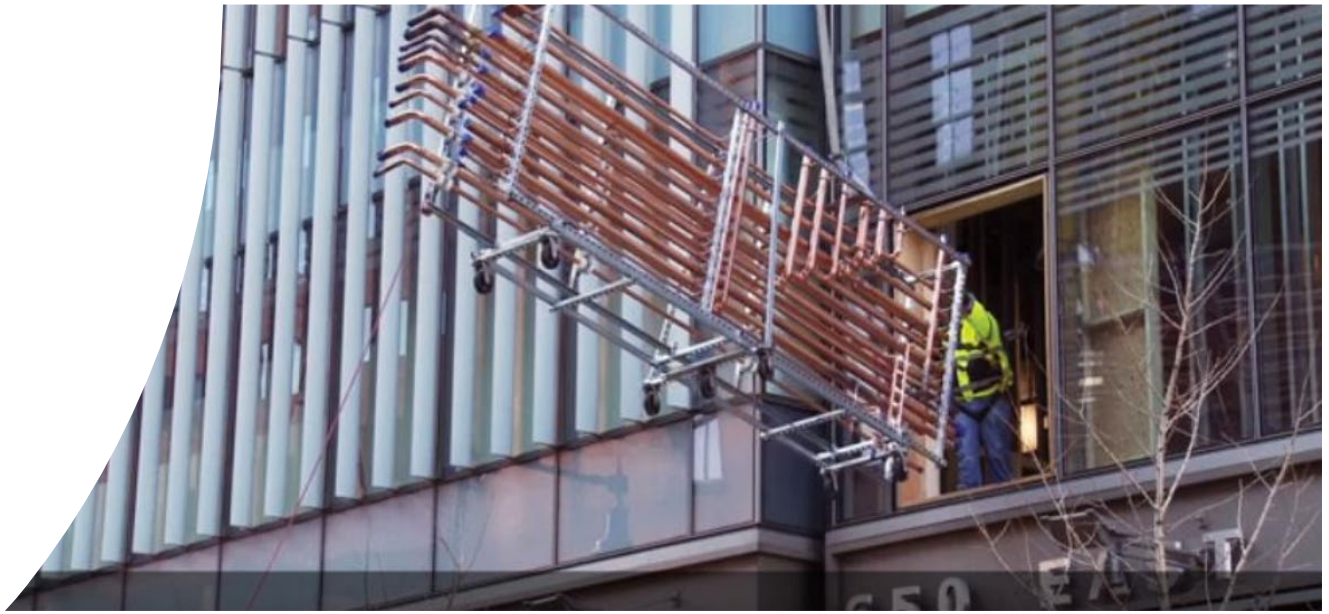
Cody

Background

OSHPD has five distinct preapproval programs that operate under the Structural Support Unit (SSU) and Inspection Services Unit (ISU).

1. OSHPD Preapproved Prefabricated Components and Systems (PCS)
2. OSHPD Preapproval of Manufacturer's Certification (OPM)
3. OSHPD Special Seismic Certification Preapproval (OSP)
4. OSHPD Preapproved Agency (OPAA)
5. OSHPD Preapproved Details (OPD)
6. OSHPD Preapproval of Anchorage (OPA) *Discontinued





Hussain

Prefabricated Systems

OSHPD Preapproved Prefabricated Components and Systems (PCS)

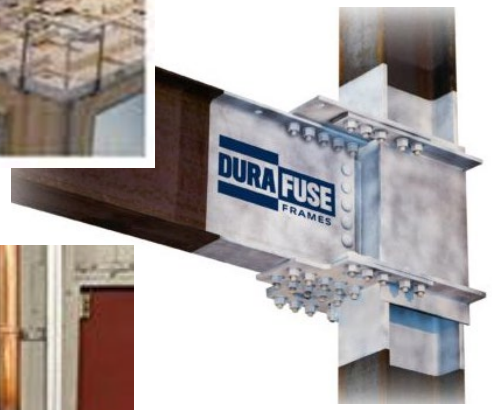
Show 10 entries

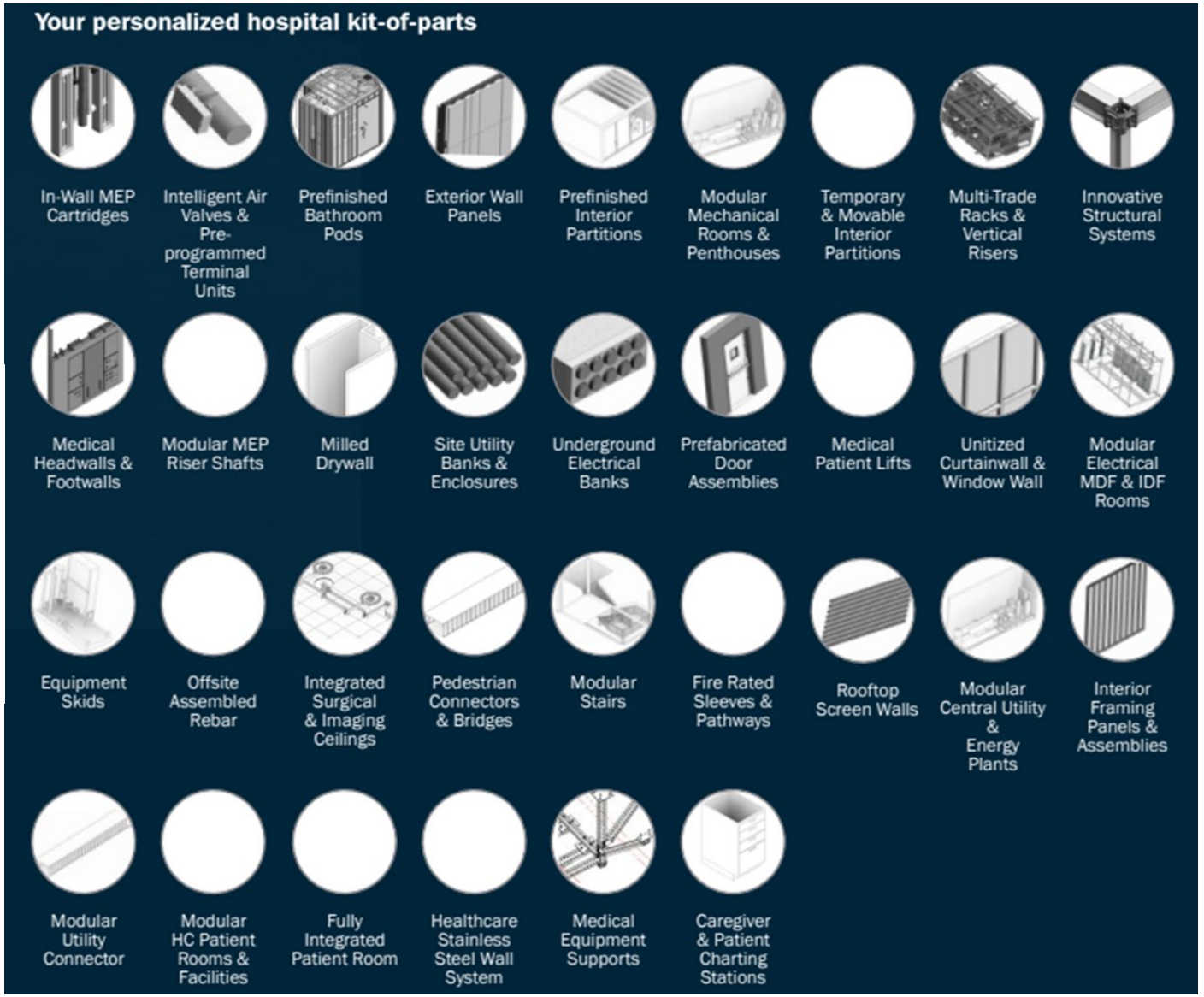
Search:

PCS Number	Manufacturer	Product Name	Approval Date	Version Number	Comments
PCS-0002	Simpson Strong-Tie	Simpson Strong-Tie Yield Link Moment Connection	6/15/2022	v1.0	See Attachment
PCS-0003	SurePods	SurePods Preafabricated Bathroom Pods	3/21/2022	v1.0	See Attachment
PCS-0004	DuraFuse Frames, LLC	DuraFuse Frames	In Review		
PCS-0005	FyfeFRP, LLC	Tyfo FRP Systems	In Review		
PCS-0006	Taylor Devices, Inc.	Taylor Damped Moment Frame	In Review		

Hussain

Select Your Kit of Parts





Cody/
Alireza

Some Options: Preassembled or Prefabricated

MODULAR MECHANICAL ROOMS & PENTHOUSES

SEE THEM IN ACTION

MODULAR STAIRS

SEE THEM IN ACTION




INTEGRATED SURGICAL & IMAGING CEILINGS

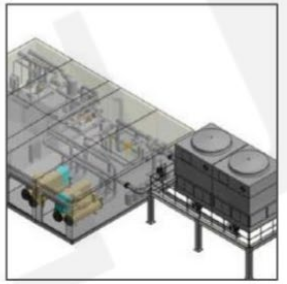
SEE THEM IN ACTION


MODULAR CENTRAL UTILITY & ENERGY PLANTS

SEE THEM IN ACTION


Dell EMC

Fidelity Data Center

Fidelity Data Center


Cody

Some Options: Preassembled or Prefabricated

MILLED DRYWALL

SEE THEM IN ACTION

Watch us produce drywall profiles

False Columns

Radius

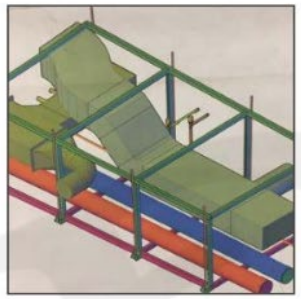
Light Cove

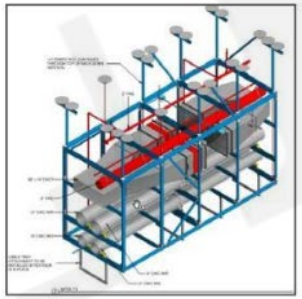
Wall End Caps

Soffits

MULTI-TRADE RACKS & VERTICAL RISERS

SEE THEM IN ACTION





MEDICAL HEADWALLS & FOOTWALLS

SEE THEM IN ACTION

VCU Health Community Memorial Hospital

HCA Clear Lake Medical Center

Newton-Wellesley Hospital

Atrium Health Pineville

Cody

Distinctions

Offsite Prefabrication Location

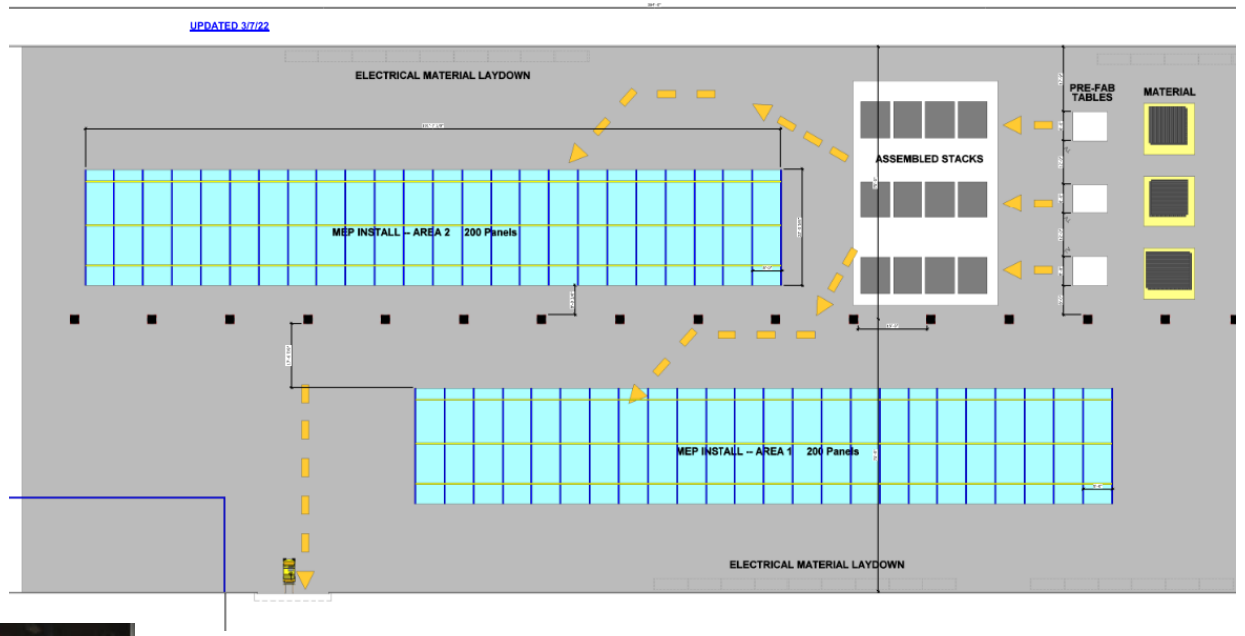
Adjacent to site

Out of state

Purpose

Project specific

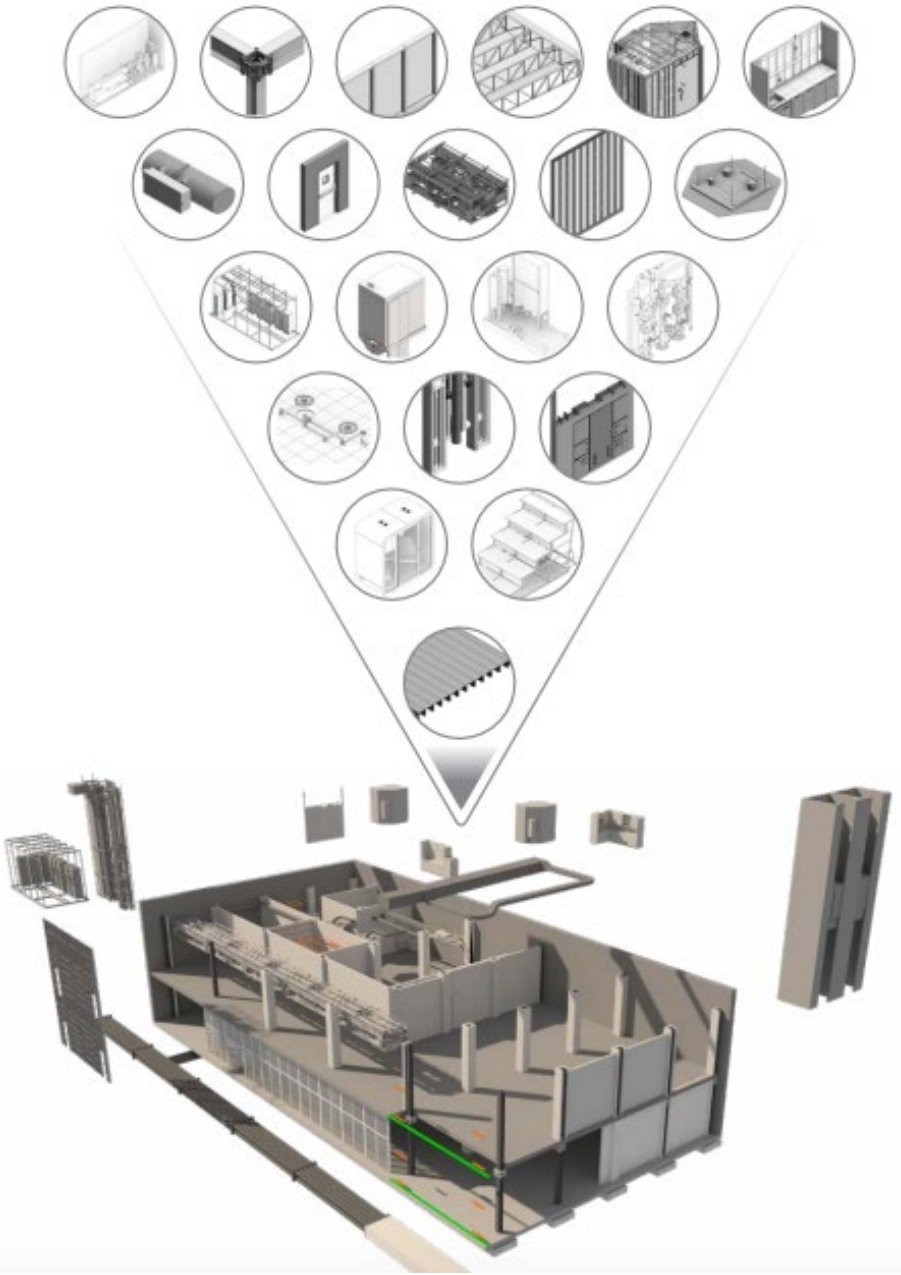
Product specific – requiring preapproval (PPCS)



Hussain/
Cody

Purpose – Buildings as Products

The OSHPD Preapproved Prefabricated Components and Systems (PCS) program is created to provide a multi-discipline preapproval for prefabricated components and systems for healthcare construction projects. This will streamline the review process for components and systems as there will be multiple disciplines that are preapproved. PCS eliminates the need for manufacturers to find a healthcare construction project to get their systems reviewed, not only saving time from repetitive plan review, but also greatly reducing uncertainty of getting approval.

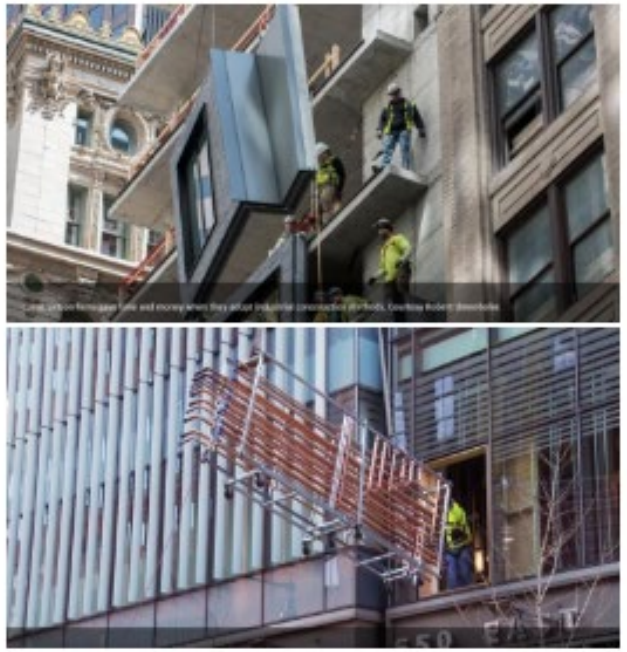


Alireza

Goals of PCS

Goals

- Increase labor productivity
- Substitute labor-intensive processes with machines
- Fast-track the rate of construction
- Commission new projects more quickly
- Reduce Costs
- Improve overall quality and sustainability
- Make customization affordable



Limitations

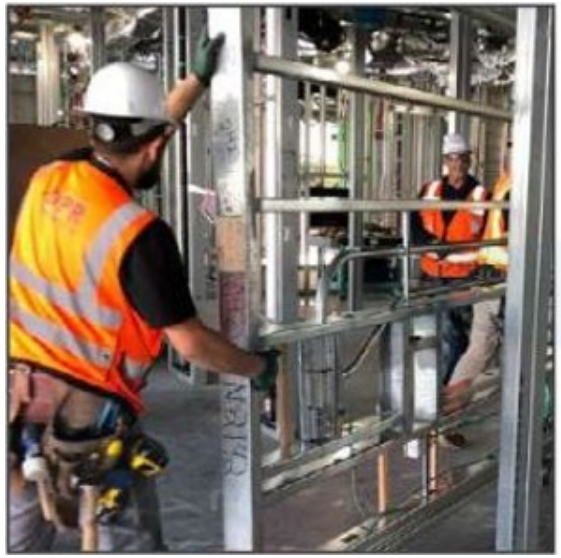
- Social Acceptance
- Expensive Overall Costs of Construction
- Lack of Skilled Labor
- Minimal Industry – Academia Collaboration
- Lack of Compliance and Regulatory Bodies

Cody

Why Off-Site Prefabrication?

Advantages of Off-Site Prefabrication & Modular Design

- Schedule
  - Speed to market
  - Market capture
  - Revenue capture
- Standardization & waste reduction
- Quality control
- Move trades off-site
  - Consistency
  - Safety
  - Collaboration
- Leverage continuous improvement principles



Cody/
Teresa

Example Project:

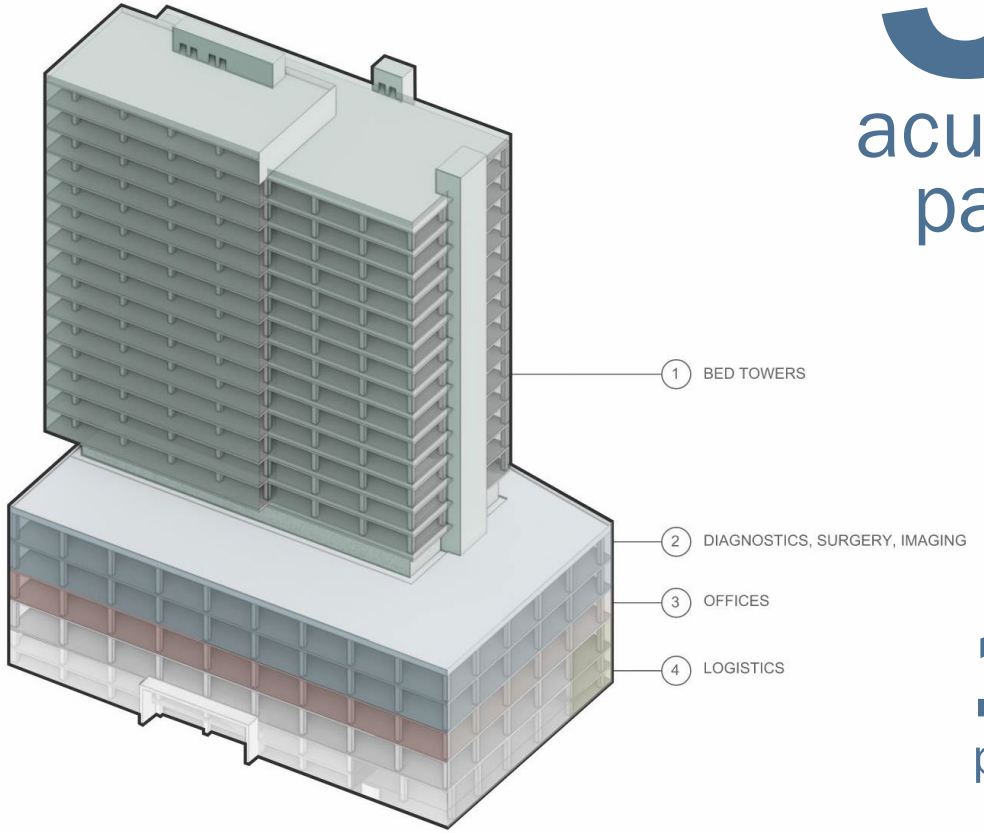
Advantages of Room Templates + Prefabrication

10,000+
employees

336
acuity-adjustable patient rooms

42
operating rooms

450+
toilet rooms



10,000
doors

1,600,000
square feet

16,000
pieces of equipment

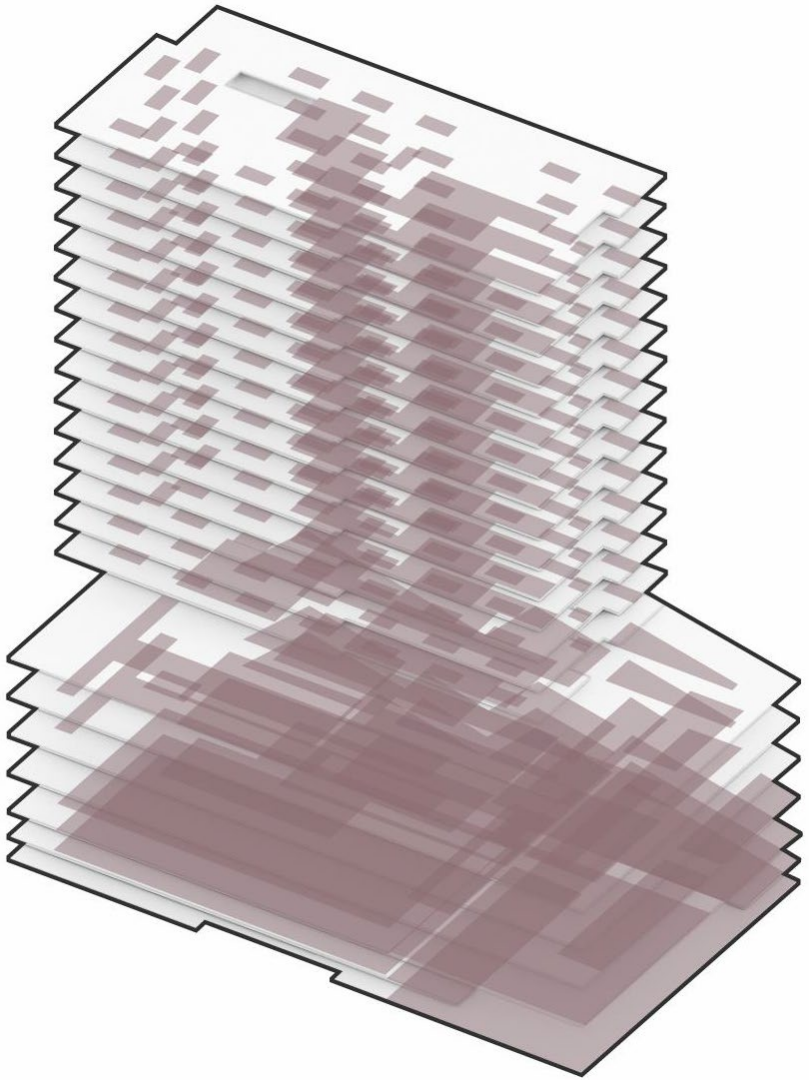
Teresa

Example Project:

WHAT

Applying Room Templates for Off-Site Prefabrication + Modular Design

- Room templates may vary from components to fully volumetric rooms
- Identify room templates & prefabricated components **early in design**
  - **Common rooms templates**
  - Department rooms templates
  - Specialty rooms templates



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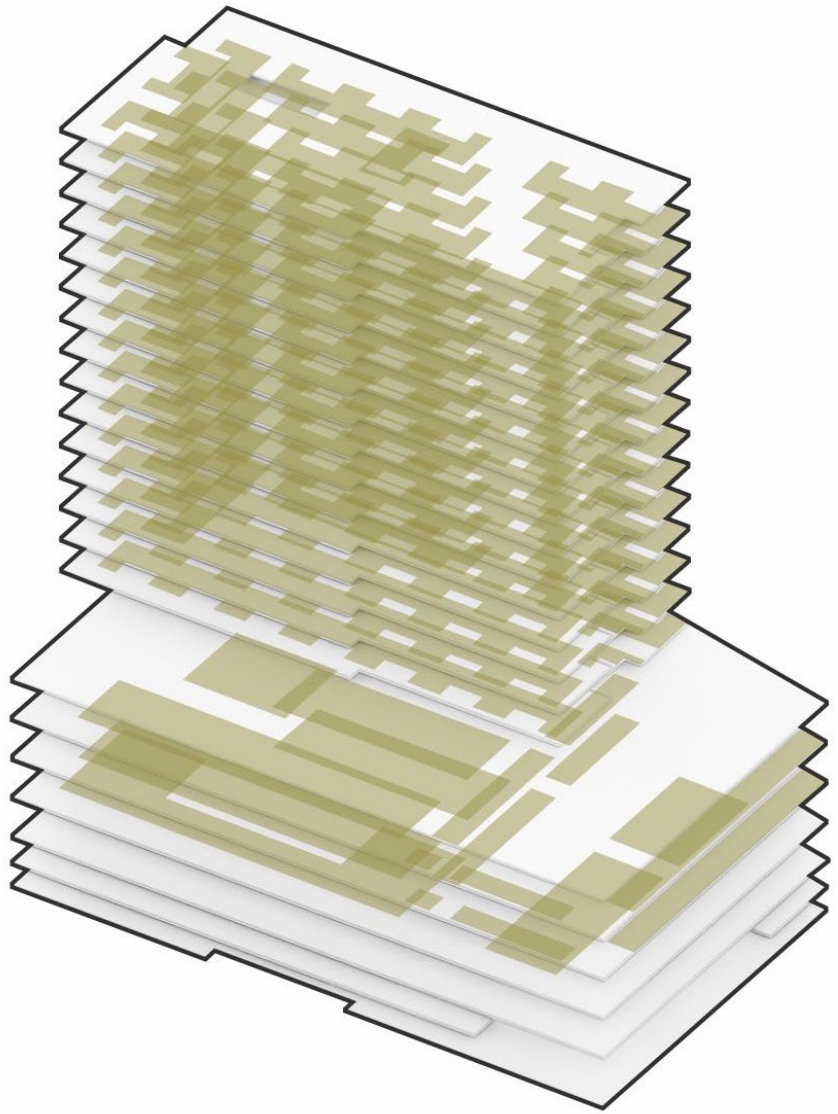

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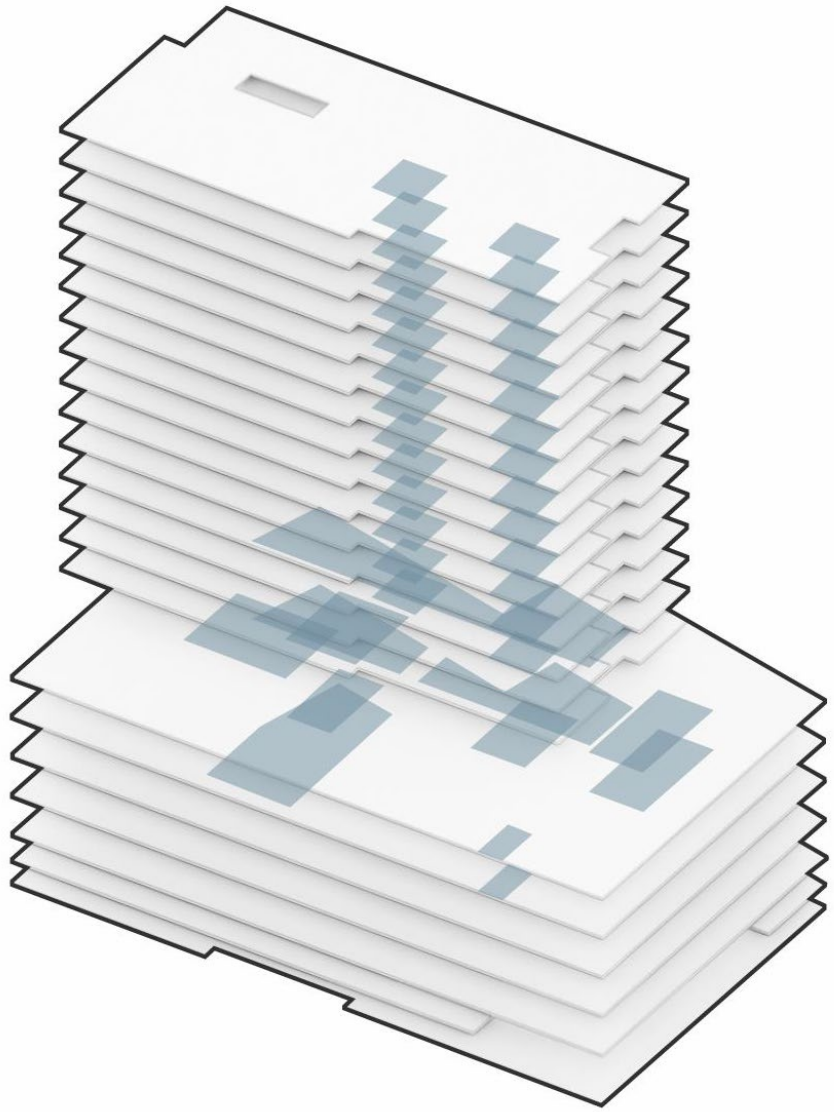

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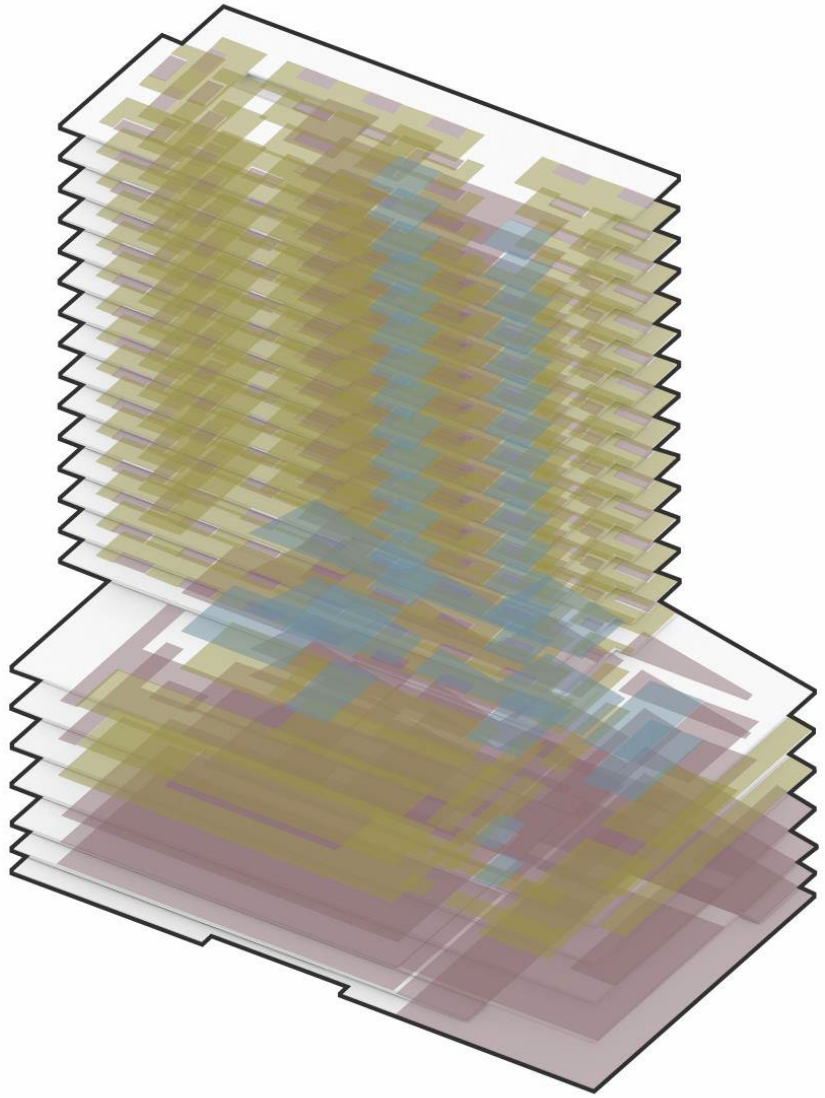


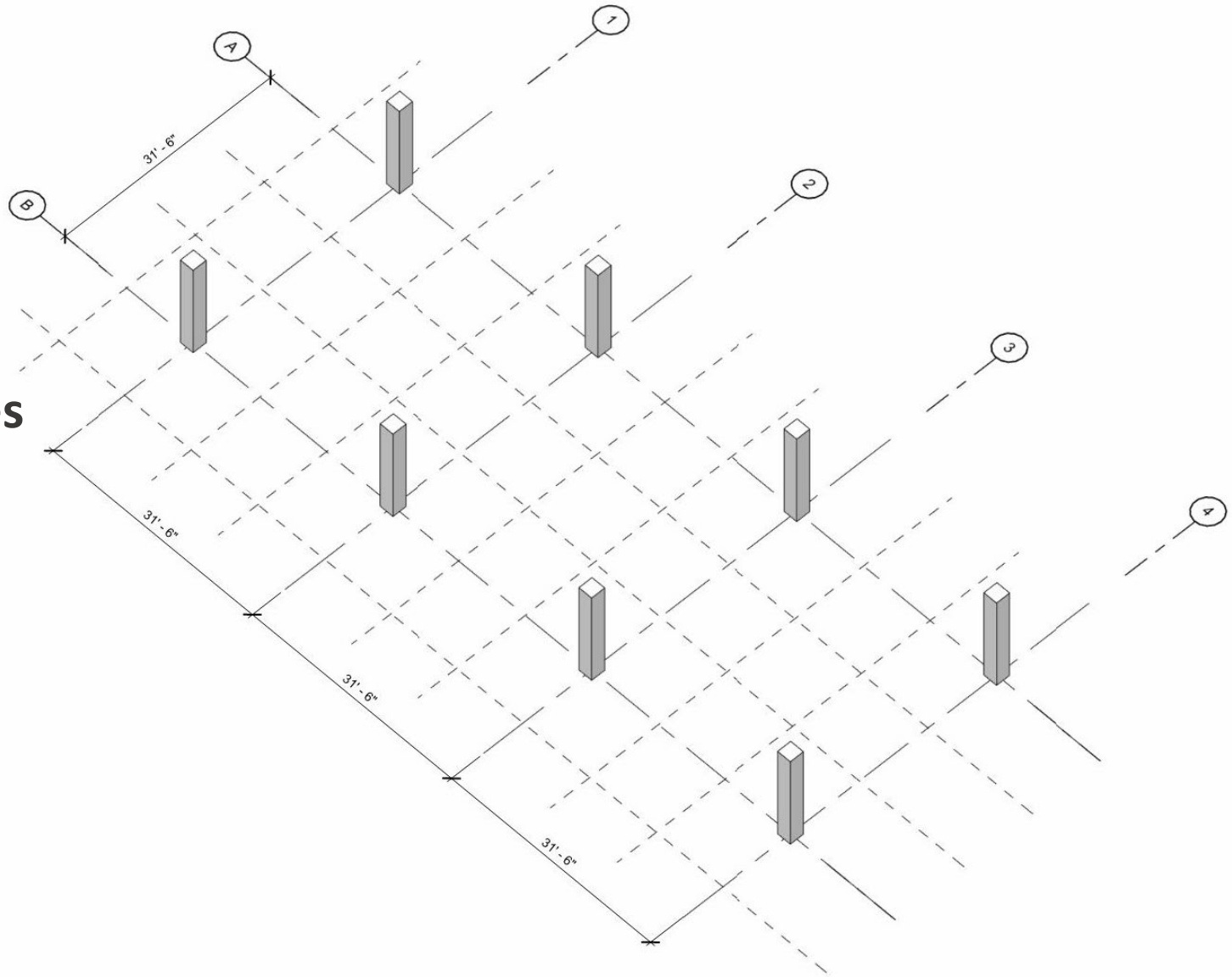
Teresa

Example Project:

HOW

Leveraging the Universal Grid & Modular Planning Principles

- The Universal Grid allows for **interchangeable planning modules**
- Modules such as
  - 3 exam rooms
  - 3 offices
  - 2 ORs
  - 2 patient rooms



Teresa

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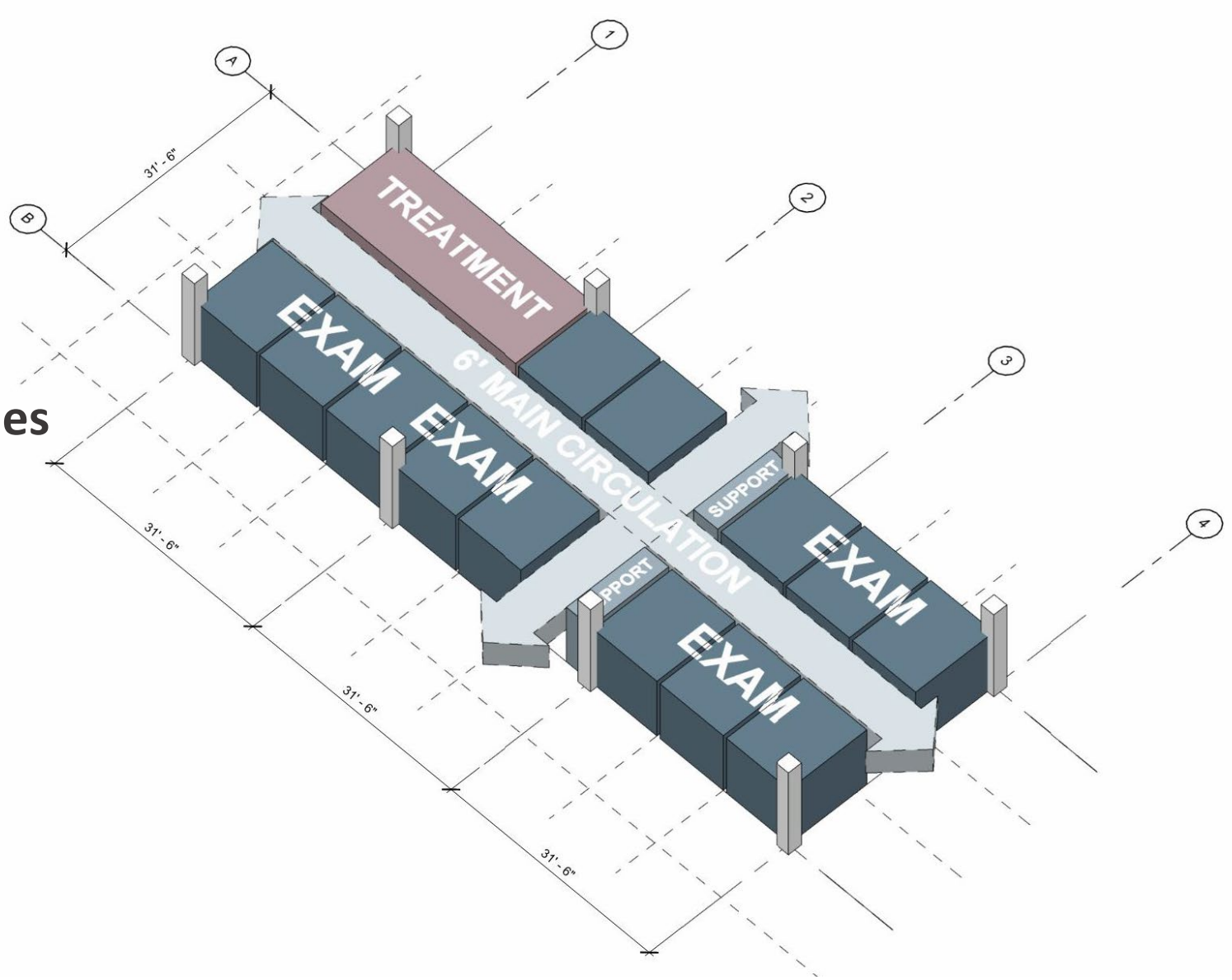

Teresa

Example Project:

HOW Modular Planning Approach

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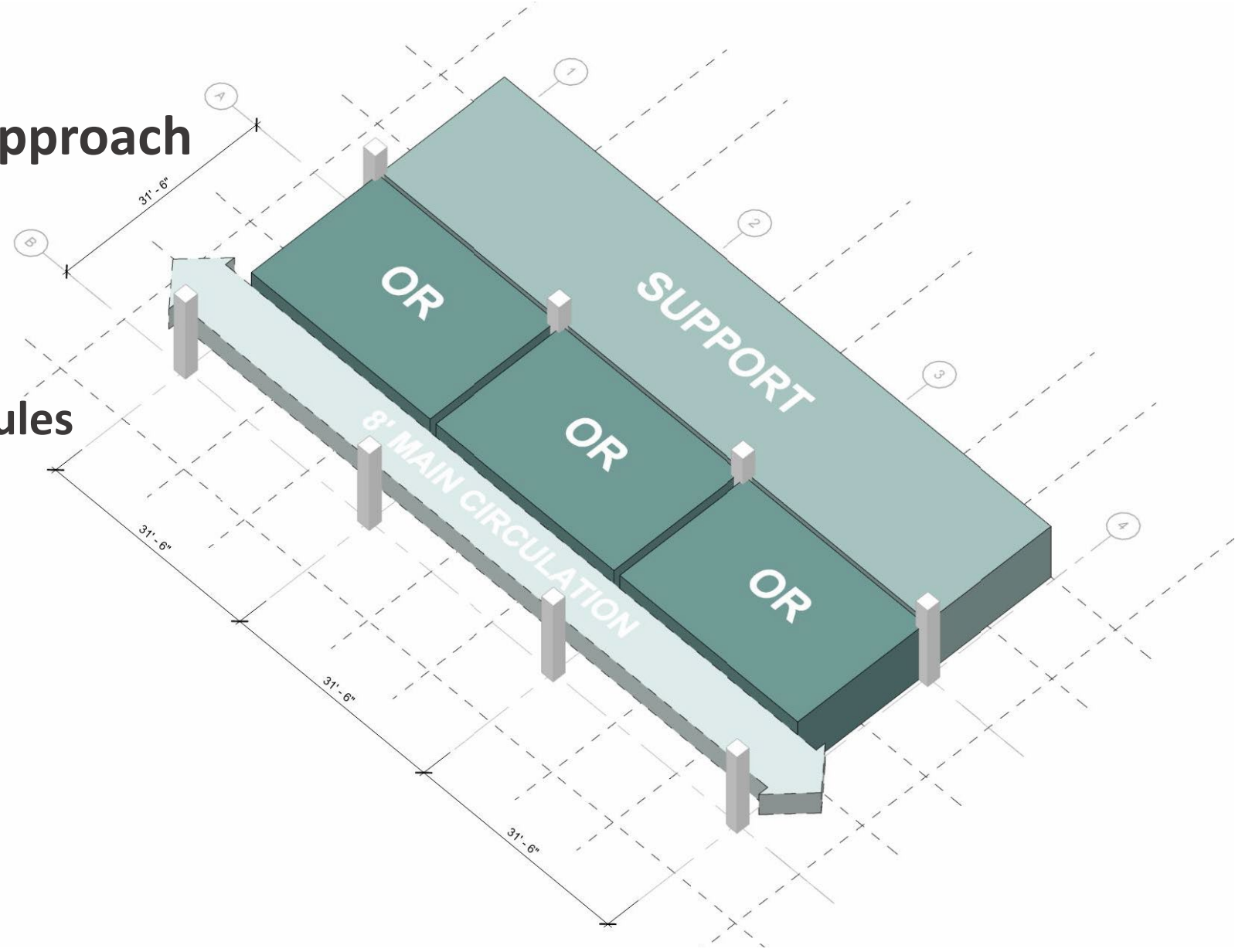

Teresa

Example Project:

HOW Modular Planning Approach

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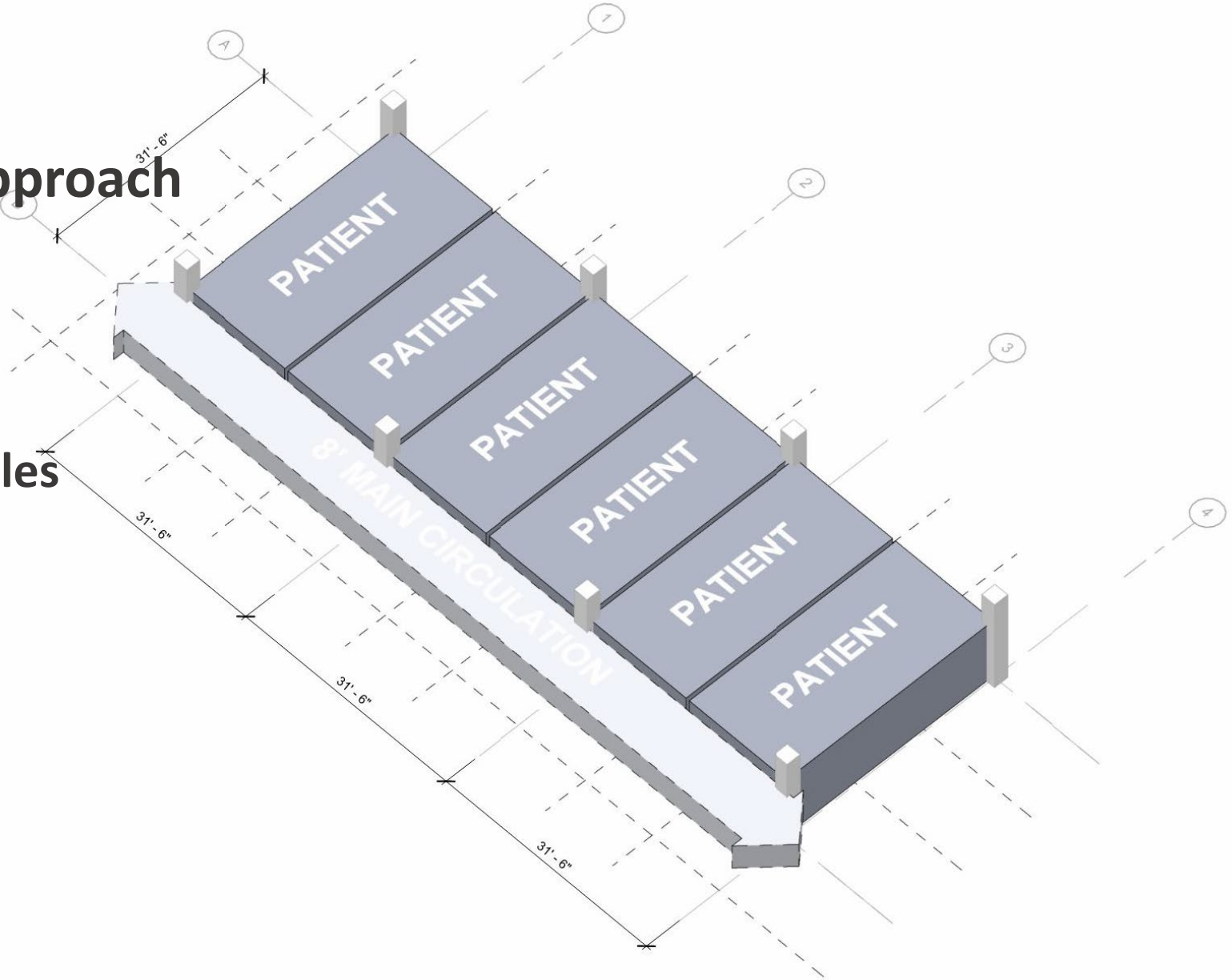
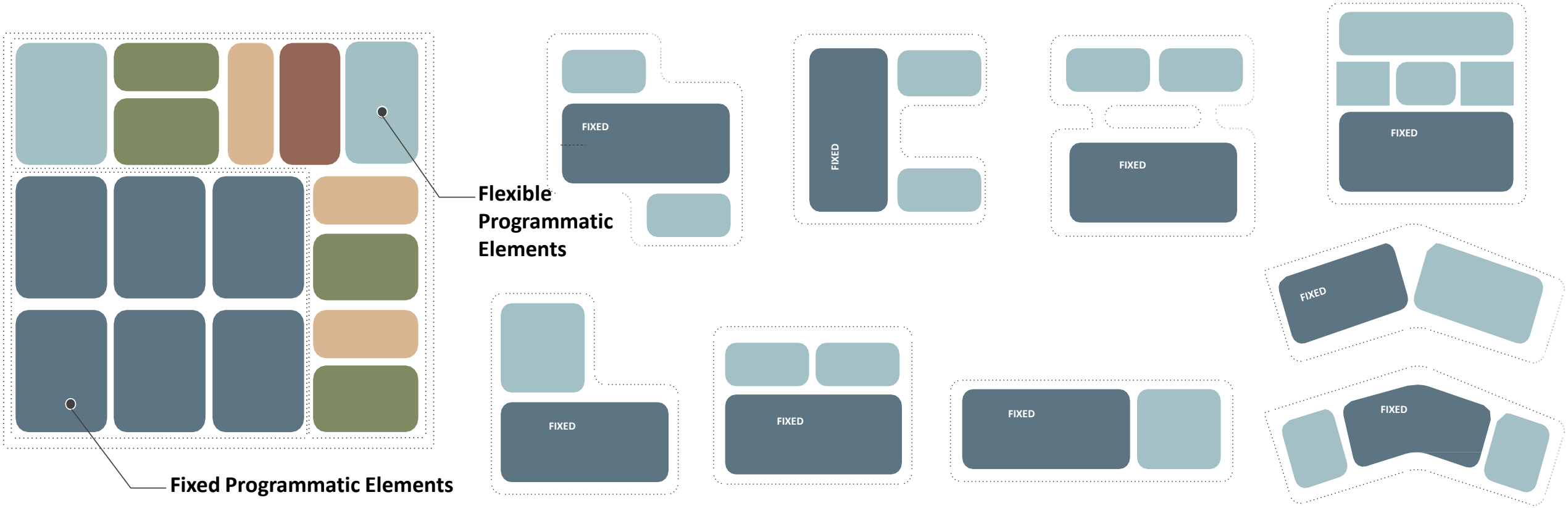


Teresa

Example Project:

HOW Standardized vs. Custom



Teresa

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Design For Manufacture and Assembly

A new approach to design

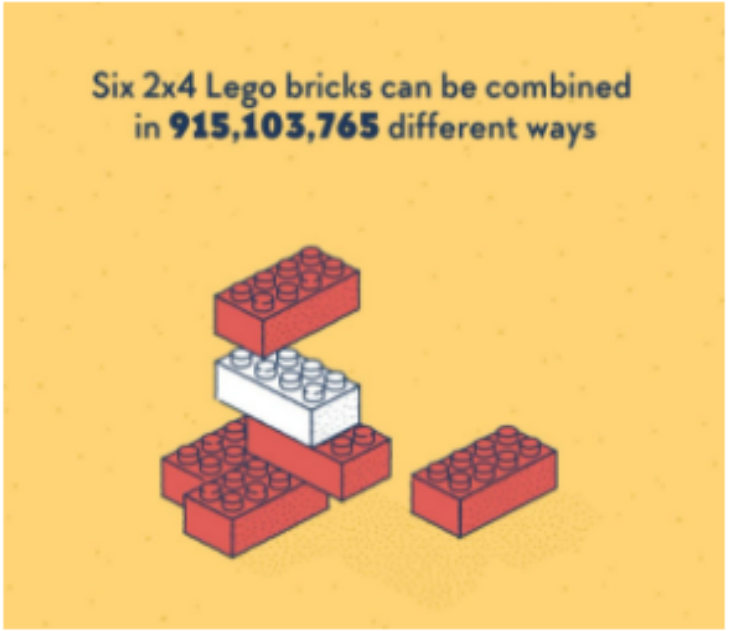
- DfMA is a design methodology that focuses on prioritizing both the ***ease of manufacture*** for the product's parts and the ***simplified assembly*** of those parts into the final product.
- Manufacturers go through an arduous New Product Introduction (NPI) and stabilization stage that involves ***high volume repetition and fine tuning***.
- The best manufacturers produce products based on the ***optimum methods***, tooling, equipment, manpower, materials, and factory environments available to them.
- They strive to ***standardize and reduce the complexity*** and number of parts within a component or system to efficiently produce their products.

Scott

Design For Manufacture and Assembly

A new approach to design

- The AEC industry has historically focused on the uniqueness of each project instead of the common factors.
- A focus on the commonalities enables projects to hone and refine repeated elements improving performance and predictability in delivery.
- This in turn frees time and capacity to address unique and more complex conditions.



The focus on repeated elements does NOT constrain creativity...

Scott

Timing to Integrate PCS into Design

Design for Manufacturing and Assembly (DFMA) is a two-step approach to design.

- **Design for Manufacture** fine-tunes components or parts of a design to make them easier to fabricate, optimizing efficiency and effectiveness.

  e.g. the technical plastics and injection molds for manufacture

- **Design for Assembly** focuses on the simplicity and speed of assembly, benefitting from removing the detail required for manufacture and showing only what is needed for assembly

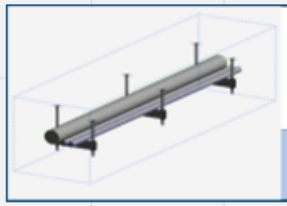
  e.g. the LEGO assembly instructions we all know

This supports consistency and predictability in execution, maximizing offsite fabrication and simplifying field assembly.

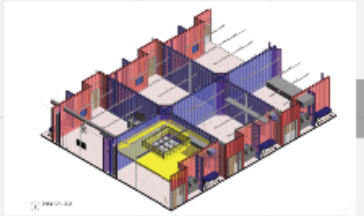
Scott

Timing to Integrate PCS into Design

Prefabrication?



Category	KPI's			
	Net Cost Savings	Hours On-Site	Overall Hour Reduction	Critical Path Reduction
Multi-Trade Racks	$ 11,000.00	35.00	180.00	10 days



Setting the Target			Design to Budget		Tracking Actuals
Pre-Work	Pursuit	SD	DD	CD	Construction

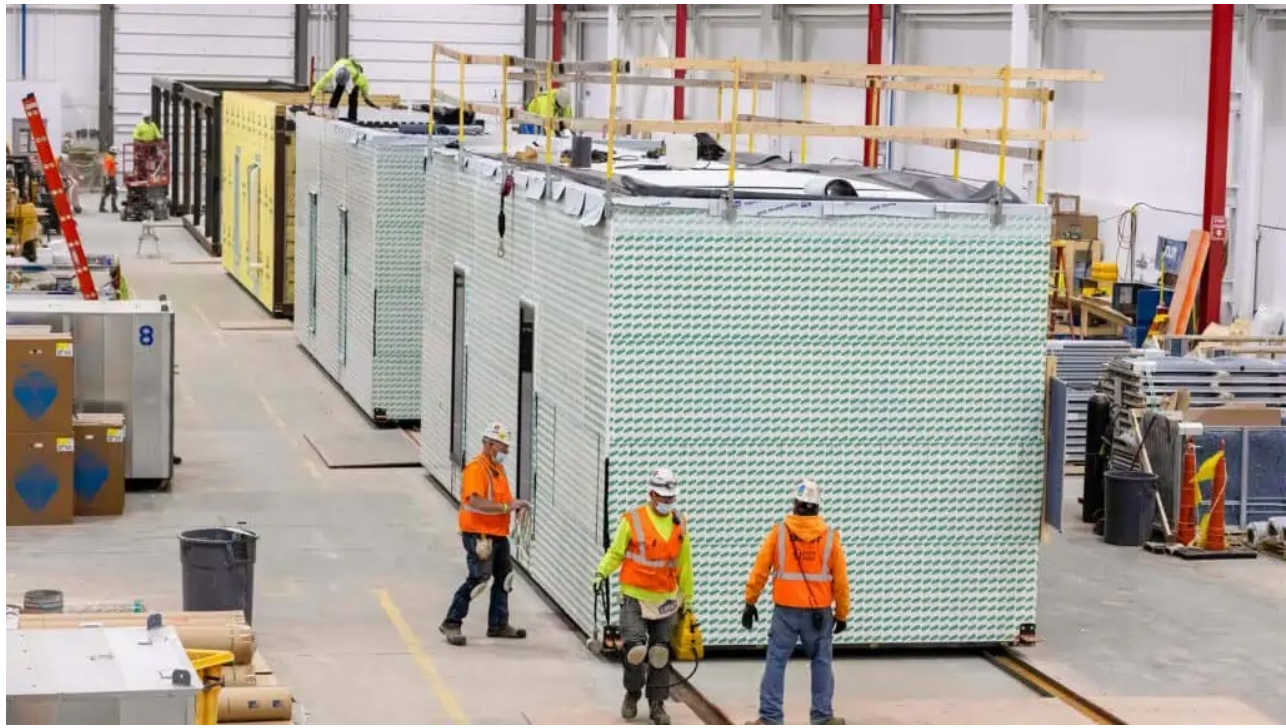
Scott/
Cody

Preassembled Units
Fire and Life Safety Considerations

Fire and life safety topics include but are not limited to those in the following slides.

Many variables exist due to specific site requirements, including construction type, location of unit within the building, allowable materials, fire alarm and sprinkler requirements, etc.

Please contact OSHPD for any questions and guidance.



Hussain

Materials

Provide materials permitted for the construction type of the building the unit is to be installed in per CBC 6, CBC 7 and applicable code sections.

Provide interior finish material requirements per CBC 8.

If any plastics are used, please comply with CBC 26 and other applicable code sections.

Verify piping type is that permitted per CBC, CMC, CPC.

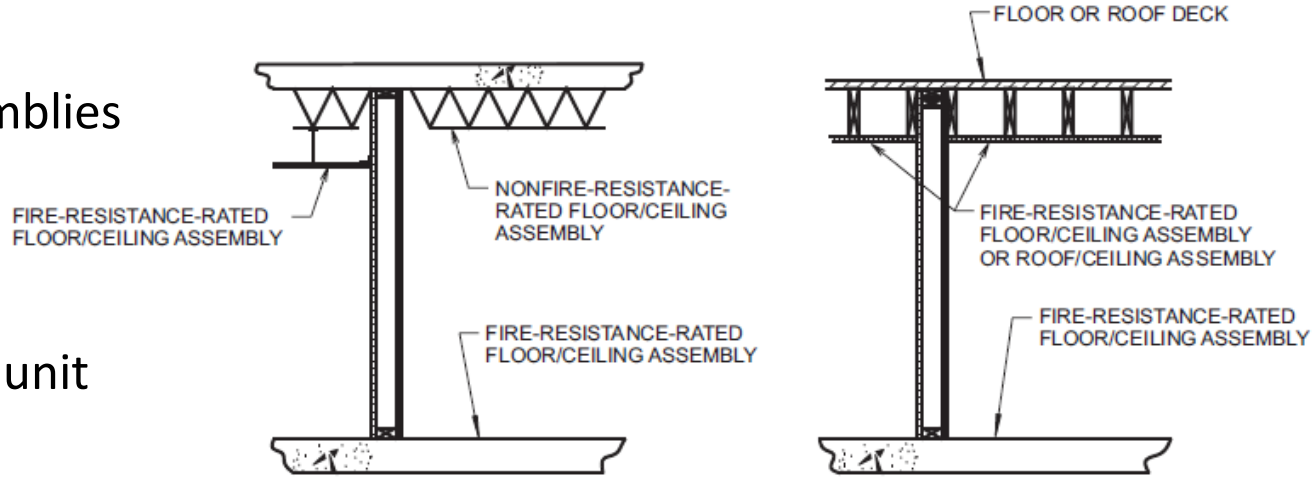
Protection of Fire Resistance Rated Assemblies

Please provide continuity of rated assemblies adjacent to the unit, per CBC 7.

Determine if unit will be installed after rated assemblies are constructed.

If rated assemblies will be constructed prior to installation of the unit, consider and plan how the unit will be placed in the space.

As an example, the unit will not fit through the door when walls are constructed. Will the unit be in the construction space prior to construction of rated assemblies?



Protection of Fire Resistance Rated Assemblies

Provide details indicating how penetrations from the units, through to the fire resistive rated assemblies will be provided, per CBC 7.

Provide continuity of the floor/ceiling assembly below at depressions cut into floor assemblies, CBC 711.

Consider timing of cored openings for piping for floor drains and alignment of drains .

Exiting

Provide code compliant location of the units regarding all requirements for means of egress, including but limited to; travel distance, intervening room requirements, door type, and hardware: free egress, anti-ligature, power, delayed egress, etc. location in relation to suites and corridors, and all other applicable code requirements, per CBC 10.

Fire Alarm

Provide details for fire alarm coverage.

Show location(s) of perforated opening.

Sprinklers

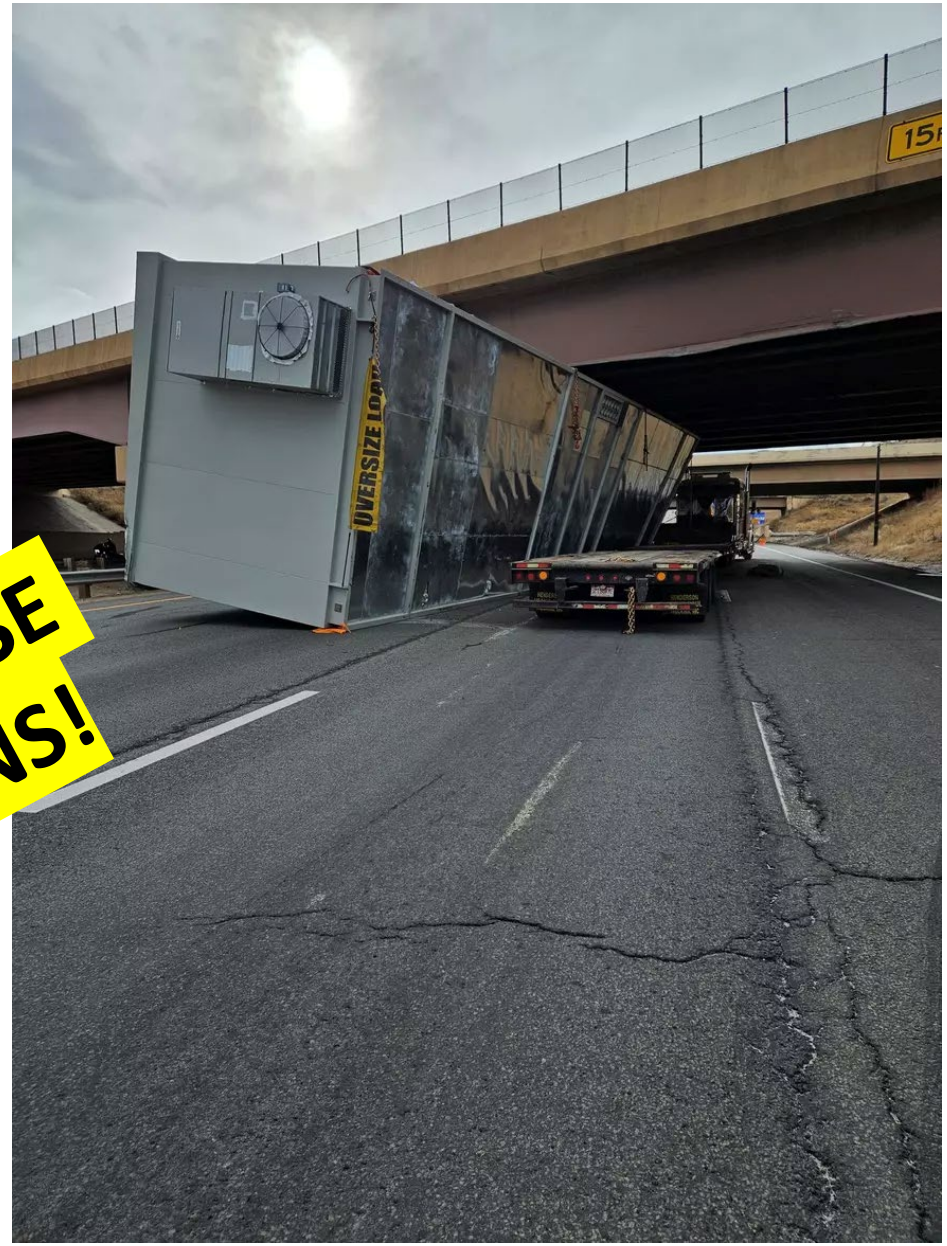
Provide details for sprinkler protection per CBC / CFC 903 and NFPA 13.

Provide dimensions of the concealed spaces beneath the raised floor, and above the ceiling of the unit and the fire resistance rated floor / ceiling, roof / ceiling assembly above, per CFC 903.2.6, and NFPA 13-8.5.

Other Considerations

- Shipping and delivery
- Preplan route and watch overpass height limitations

AVOID THESE SITUATIONS!



Cody

PPCS Application Submittal Requirements

PCS Application Submittal

Completed application.

Application filing fee of $250.00 .

Project billing will be done hourly, with the level of complexity determining the extent of review required.

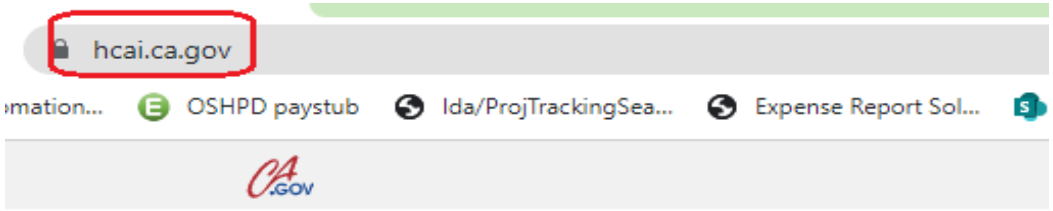
Supporting documents, test reports, drawings, product catalog, and calculations for review, and PCS to be approved.

Provided document shall include multi-discipline criteria.

Supporting document should be submitted by email or FTP site.

Alireza

HCAI.CA.GOV



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2. OSHPD Preapproval of Manufacturer's Certification (OPM)
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OSHPD Preapproved Prefabricated Components and Systems (PCS)

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If you have questions regarding the PCS program please send an email to PPCS@hcai.ca.gov

List of PCS

Submit an Application for PCS

Submit an Application for OSHPD Preapproved Prefabricated Components and Systems (PCS) by completing a PDF Application and submitting it via email

Application for PCS **Submit Application**

Alireza

DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR PREAPPROVED PREFABRICATED COMPONENTS AND SYSTEMS

OFFICE USE ONLY

APPLICATION #: PCS-

HCAI Preapproved Prefabricated Components and Systems (PCS)

Type: ☐ New ☐ Renewal

Manufacturer Information

Manufacturer:

Manufacturer's Technical Representative:

Mailing Address:

Telephone: Email:

Product Information

Product Name:

Product Type:

General Description:

Applicant Information

Applicant Company Name:

Contact Person:

Mailing Address:

Telephone: Email:

I hereby agree to reimburse the Department of Health Care Access and Information review fees in accordance with the 2019 California Administrative Code.

Signature of Applicant: Date:

Title: Company Name:

Registered Design Professional Preparing Engineering Report

Company Name:

Name: California License Number:

Mailing Address:

Telephone: Email:

DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

OFFICE USE ONLY

APPLICATION #: PCS-

Disciplines Involved

☐ Structural ☐ Architectural ☐ Mechanical ☐ Electrical ☐ Plumbing ☐ Fire Life Safety

OFFICE USE ONLY – HCAI APPROVAL

Signature: Date:

Print Name:

Title:

Approved Version Number

Version History

Alireza

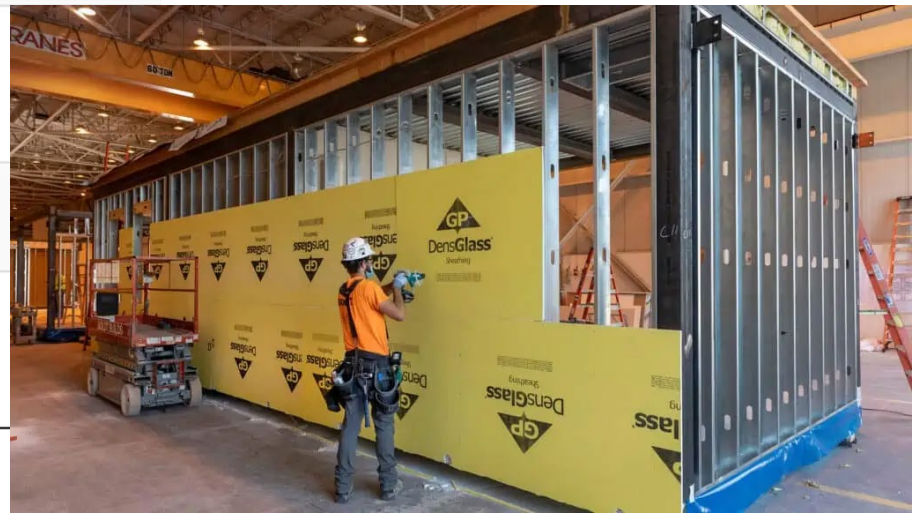
Department of Health Care Access and Information

OSHPD Preapproved Prefabricated Components Systems (PCS)

PCS Number	Manufacturer	Product Name	Approval Date	Version Number	Comments
PCS-0002	Simpson Strong-Tie	Simpson Strong-Tie Yield Link Moment Connection	6/15/2022	v1.0	See Attachment
PCS-0003	SurePods	SurePods Preafabricated Bathroom Pods	3/21/2022	v1.0	See Attachment
PCS-0004	DuraFuse Frames, LLC	DuraFuse Frames	In Review		
PCS-0005	FyfeFRP, LLC	Tyfo FRP Systems	In Review		
PCS-0006	Taylor Devices, Inc.	Taylor Damped Moment Frame	In Review		

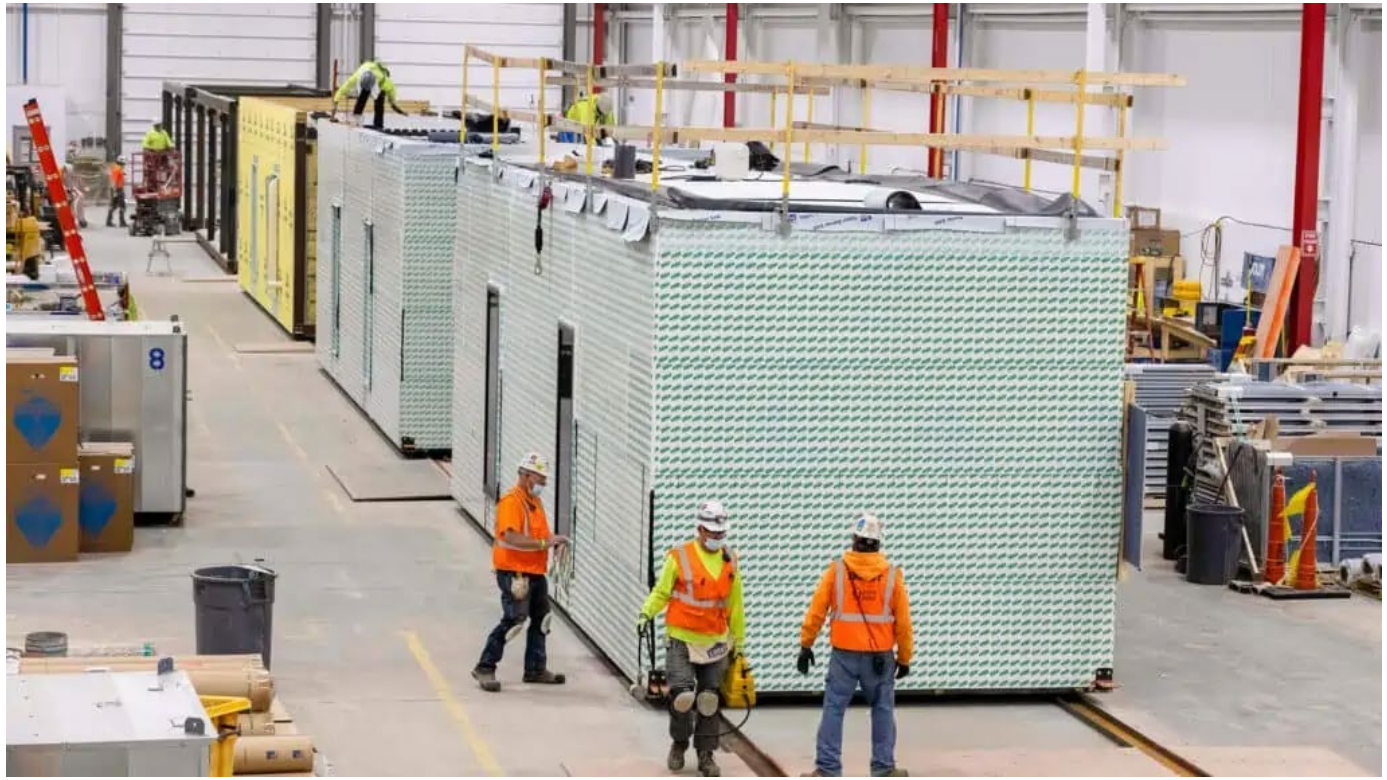
Showing 1 to 5 of 5 entries

Previous



Alireza

PPCS Approval Process



PCS Application Submittal

OSHPD PCS multi-discipline Review

- Structural
- Architectural
- MEP
- Fire and life safety

Potential Coordination meeting between design professional and manufacturer/Consultant

Consultant Review of the comments and response to comments

OSHPD PCS multi-discipline Review of comment response

Final Approval by OSHPD

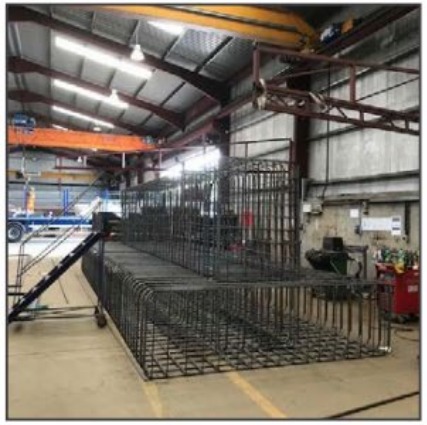
Alireza

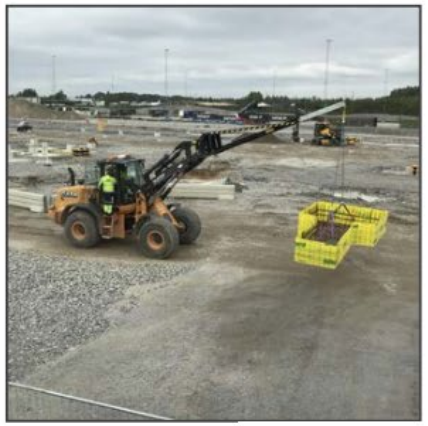
What Should Documents Show?

- The document must adhere to California Building codes and standards.
- Include a table of contents for easy navigation.
- Ensure that calculations are presented in a clear and easily understandable manner.
- Include relevant testing data where applicable.
- Incorporate Testing Inspection Observation (TIO) reports.
- Include General notes and typical notes for clarity and reference.
- Provide common case scenarios and sizes rather than overly complex data.
- Coordinate between disciplines before submittal.

Alireza

Offsite Project Specific Prefabrication





Cody

Who Inspects Off-Site Prefabrication?

Think through inspections that would need to be done onsite, the same components needs to be inspected for compliance offsite.

Inspections will be done at the point of fabrication including material identification.

Product needs to be inspected when it arrives onsite and verification that damage did not occur during shipping.

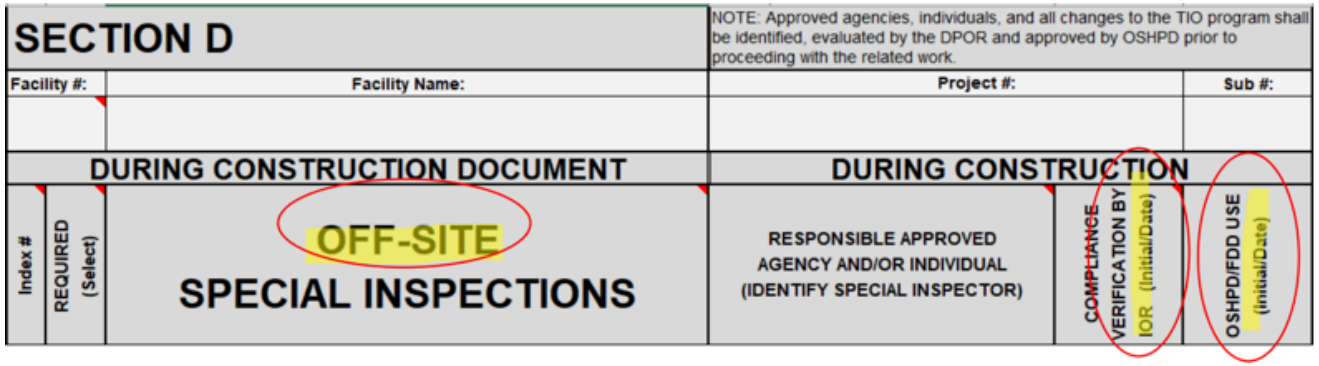
Product needs to be inspected once installed onsite .

Hussain

Inspection / Off-Site

Off-site fabrication of structural parts CBC 1704A.2.5 “Where fabrication of structural, loadbearing or lateral load-resisting members or assemblies is being conducted on the premises of a fabricator’s shop, special inspections of the fabricated items shall be performed during fabrication.”

The DPOR should consult with the contractor and prior to commencement of related fabrication/construction and, shall identify all special inspections to be performed off-site.



SECTION D		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by OSHPD prior to proceeding with the related work.		
Facility #:	Facility Name:		Project #:	Sub #:
DURING CONSTRUCTION DOCUMENT			DURING CONSTRUCTION	
Index # / REQUIRED (Select)	OFF-SITE SPECIAL INSPECTIONS		RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)	COMPLIANCE VERIFICATION BY IOR (Initial/Date) / OSHPD/FDD USE (Initial/Date)

Changes to the TIO Form
Tab D
Off-site Special Inspections (new)

General areas of special inspection:

Concrete	Nonstructural Components, Supports and Attachments
Masonry	Mechanical Special Inspections
Steel	Plumbing Special Inspections
Wood	Fire Protection Special Inspections
Other Structural Materials	Other Special Inspections
Alternative Systems	

Note: the project may contain additional special inspections other than those listed above

Hussain

Off-Site Inspections at Prefabrication Site

- IOR to verify with Contractor the prefab-assembly matches the correct increment and approved construction documents, along with related TIO references.
- Assign unit number on TIO (through inspection software) for each prefab-assembly for tracking.
- All trades: Coordinate with IOR to identify all materials to be used.
- IOR, Contractor, and responsible 3rd parties to execute TIO process for all framing, mechanical, electrical, and plumbing elements that can be inspected independent of and prior to connection to on-site utilities.
- Contractor to cap applicable elements (such as medical gas piping) in prefab-assembly as appropriate for transportation to the construction site.
- IOR to provide inspections during Prefabrication process.
- IOR and AOR to schedule OSHPD Field Staff visit to the prefabrication site as needed to review TIO milestone progress.
- IOR to complete final inspection prior to acceptance for job site delivery.
- Populate final tracking and related paperwork for delivery.
- IOR to verify with Contractor the prefabricated components delivered to the site are in conformance with the identification system and tracking paperwork established at the prefabrication site.

Hussain

On-Site Inspections

- IOR to verify with Contractor the prefabricated components delivered to the site are in conformance with the identification system and tracking paperwork established at the prefabrication site. IOR to verify components are checked for damage due to transportation.
- Once prefabricated components are moved into place, they can connect to building utilities and complete all remaining TIO processes, with IOR inspection and OSHPD Field Staff observation at the appropriate milestones.

Hussain

Weatherization

If the intent is to install completed prefab-assembly inside of the building prior to the building being “weathered-in” :

- In accordance with CAC, CBC, and OSHPD CAN 2-2508.21, Construction Documents will clearly delineate the material, location, and extents of weather protection so that the prefab-assembly are protected until the building roof and enclosure are completed.
- An Alternate Method of Compliance (AMC) shall be submitted for these conditions as required by OSHPD.

Hussain

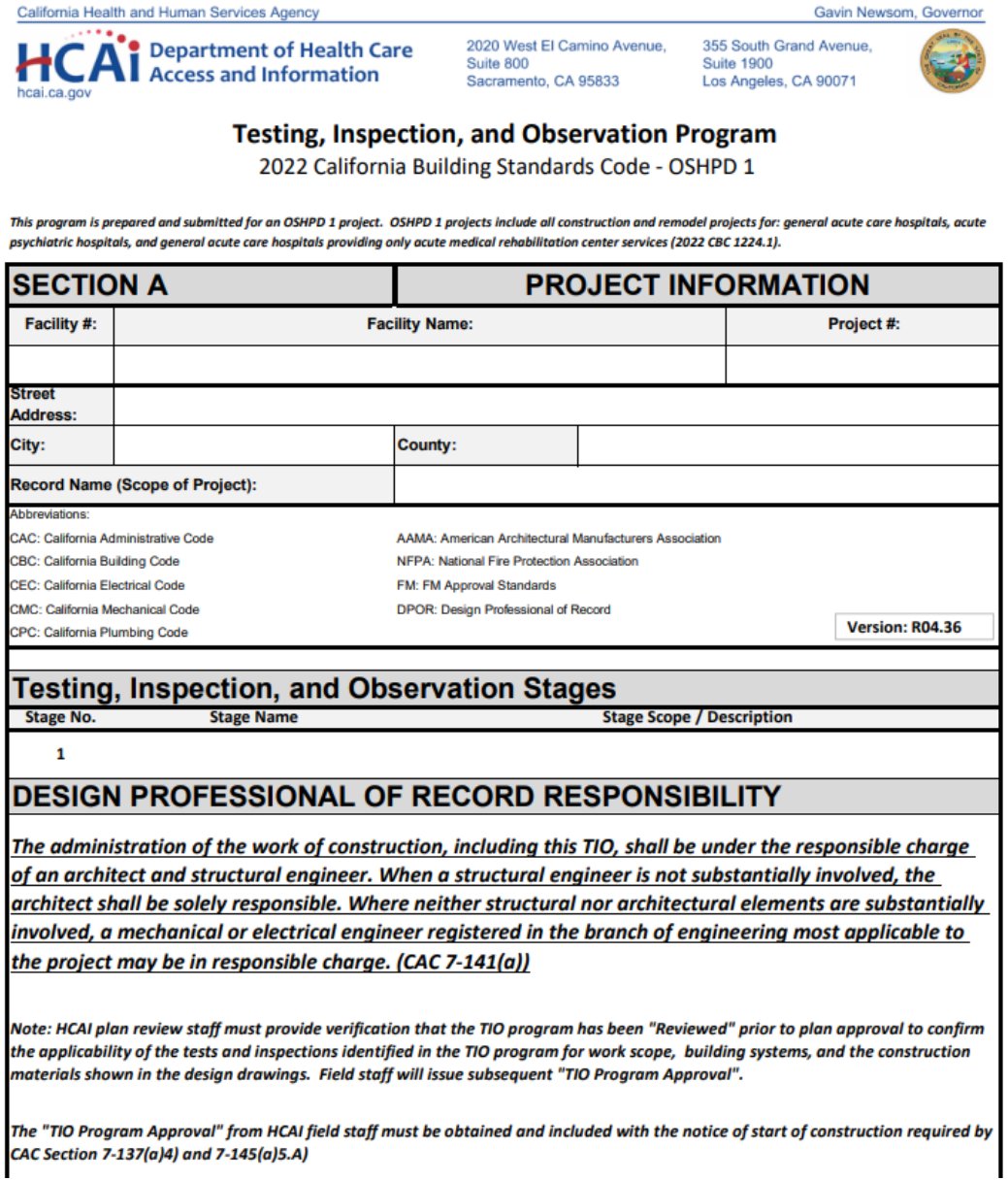
Change Management

- Any changes to the panel construction shall be documented through revisions to the Contract Documents.
- Revisions will be submitted to OSHPD following conventional Non-Material Alteration (NMA) and Architectural Change Directive (ACD) processes. Approved revisions shall be issued to the construction team, both off-site and on-site, for project records.

Hussain

TIO Program

- Project teams need to use standard TIO as starting point and think through what inspections will need to be done offsite.
- Same inspections need to be done offsite that would have been done onsite.
- Inspections needs to be done when delivered to site to verify that damage did not occur during transportation.
- Inspections need to be done at final point of install to verify compliance with details.



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
CBC: California Building Code
CEC: California Electrical Code
CMC: California Mechanical Code
CPC: California Plumbing Code
AAMA: American Architectural Manufacturers Association
NFPA: National Fire Protection Association
FM: FM Approval Standards
DPOR: Design Professional of Record

Version: R04.36

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".

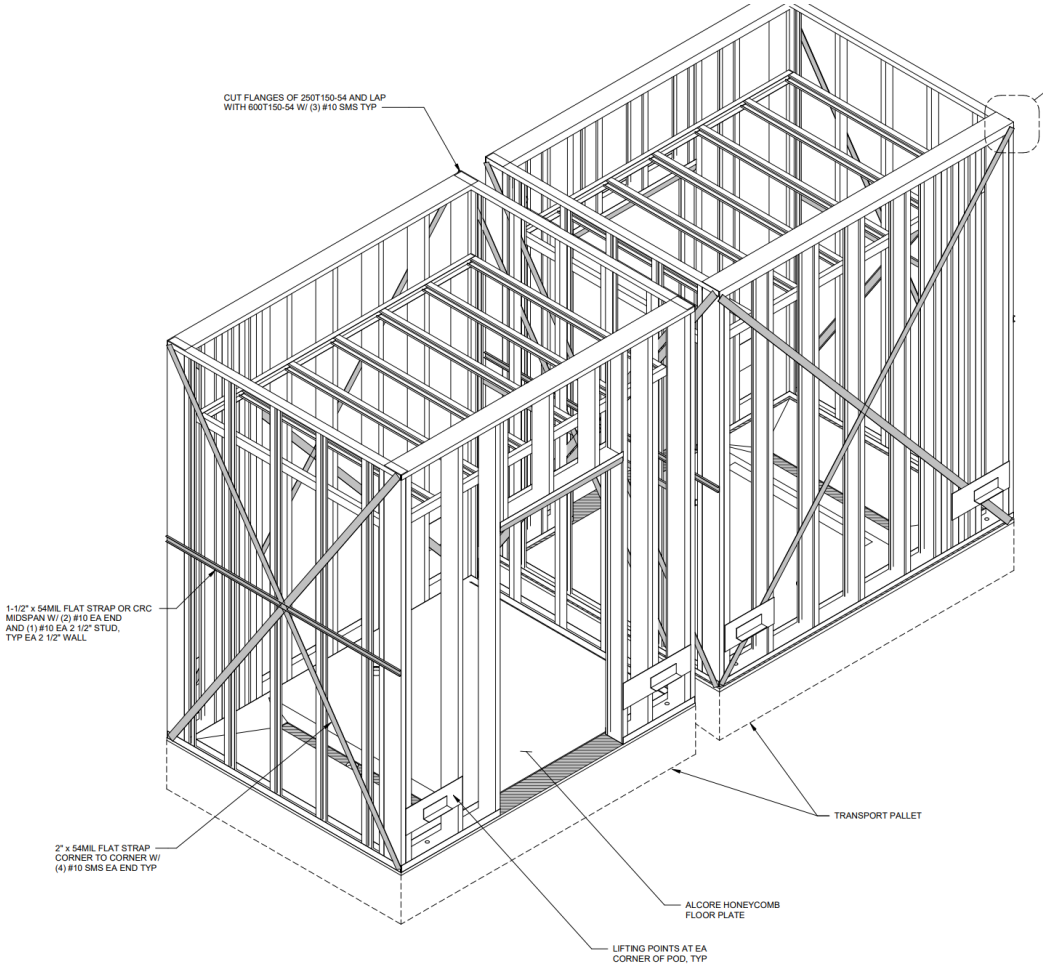
The "TIO Program Approval" from HCAI field staff must be obtained and included with the notice of start of construction required by CAC Section 7-137(a)4) and 7-145(a)5.A)

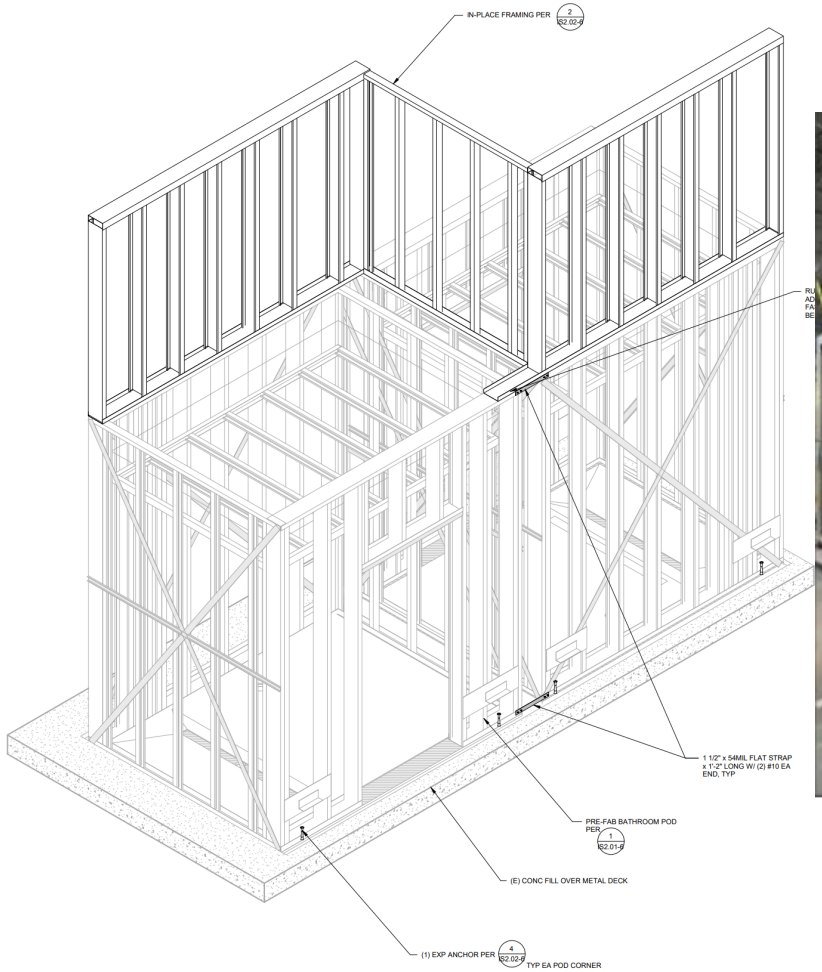
Hussain

OSHPD PCS Project Examples

Cody

UCSF – Proposed Offsite Fabricated Bathroom Pod*



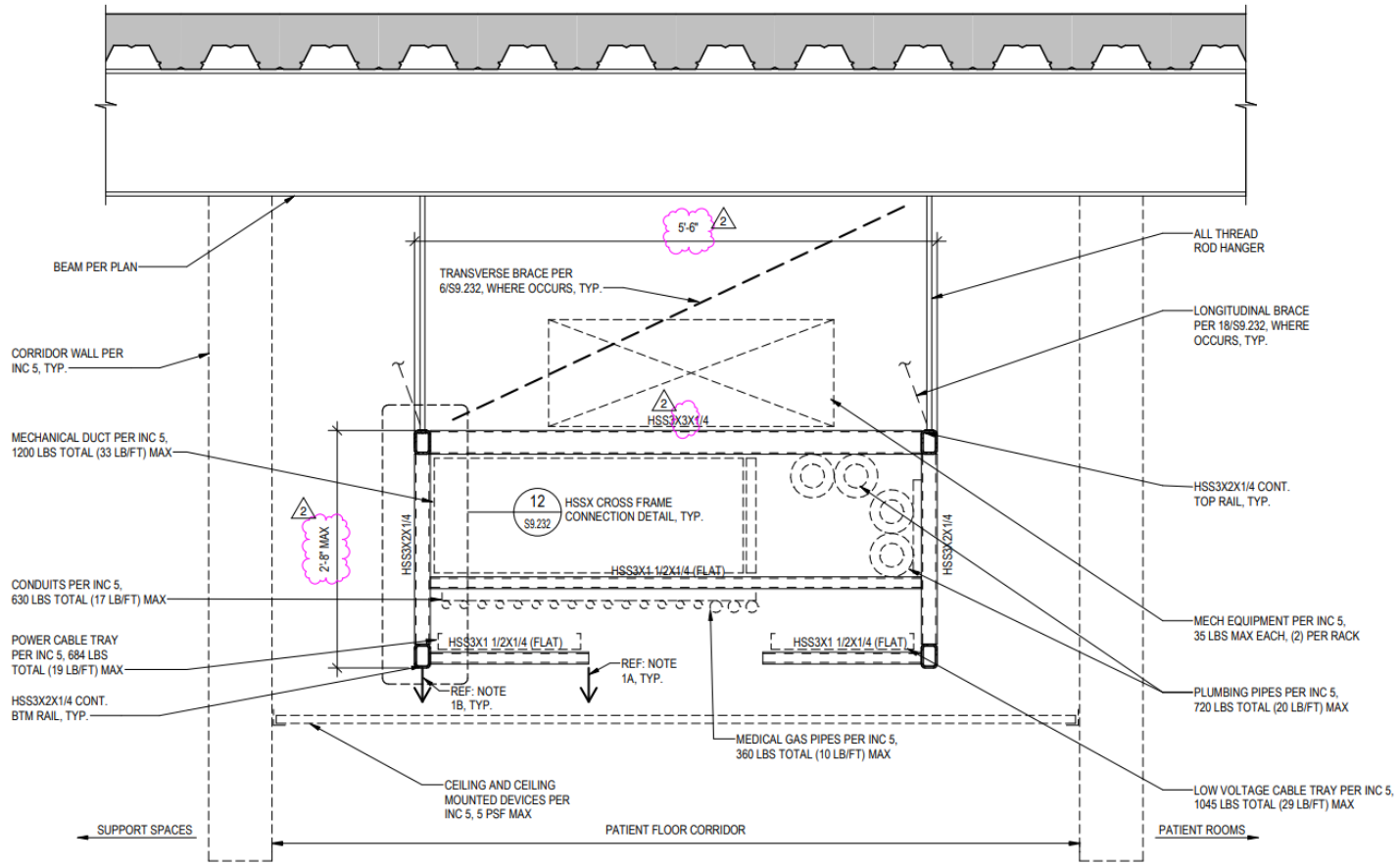


SurePods

Cody

*Still in Review

UCSF – Proposed Offsite Fabricated Overhead Corridor Utility Frame*



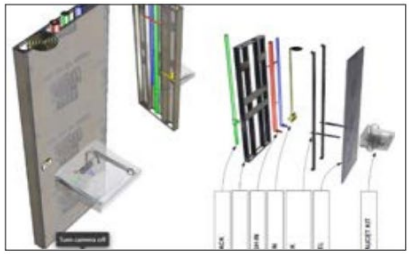
NOTES:
1. THE RACK IS DESIGNED TO SUPPORT THE CEILING AND CEILING MOUNTED DEVICES VERTICAL AND LATERAL LOADS. TWO CONNECTION OPTIONS ARE STRUCTURALLY ACCEPTABLE (FINAL CEILING DETAILS WILL BE PER INC 5):
1A. CONCRENTRATE THE CEILING VERTICAL AND LATERAL LOADS AT THE HSS CANTILEVER TIP.
1B. CONTINUOUSLY SUPPORT ALONG THE BOTTOM RAILS.

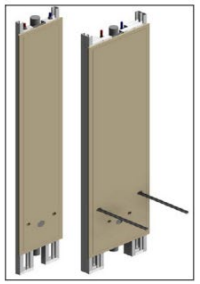
Cody

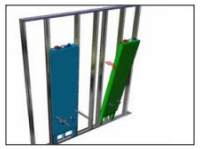
*Still in Review

OSHPD 3 Project Components in Sacramento

- Prefabricated Bathroom Pods
- Exterior Skin
- Prefabricated Walls
- Integrated Ceilings
- Stainless Steel Gasketed Operating Room Wall System
- In Wall MEP Cartridges







Cody

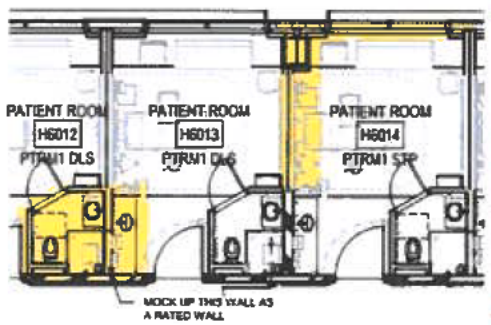
OSHPD 1 Project in San Jose

- Preassembled modular chiller plant
- Onsite constraints, need for future flexibility
- Fabricated in Kingstown, Ontario, Canada
- Remaining chiller plant construction was completed in 20 working days

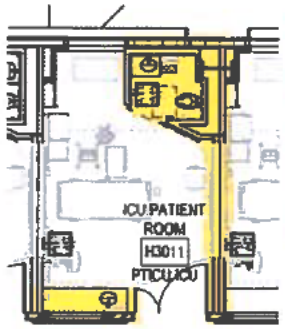
Cody

Kaiser Permanente - Roseville

*ALL MOCK-UP ROOMS SHALL BE CONSTRUCTED WITH DRYWALL (ONE-SIDED) DOWN TO THE FINISH & TRIM

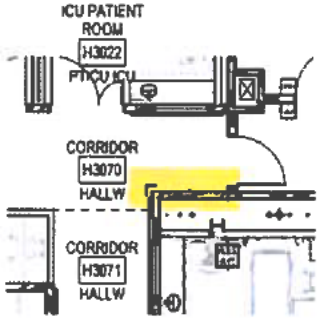


- New template. Dimensions different from previously constructed San Marco headwalls
- Selected headwall at the most restricted location w/ moment frame and rated wall
- New patient toilet sloping requirement & floor transition
- Tolerance with finishes
- Sink change back to back sink condition
- New casework design & supports
- Confirm wall thickness
- IOR review & concurrence prior to construction



- New template. Dimensions different from previously constructed San Marco headwalls
- Tolerance with finishes
- New casework design & supports window dialysis
- New bathroom counter sink
- IOR review & concurrence prior to construction

- New template not yet constructed
- fine tune technical backing details
- validate routing in wall for conflicts
- headwall & overhead coiling door
- verify and coordinate breakaway door large header with wall devices lights on the corridor side
- IOR review & concurrence prior to construction



1 MEDSURG PATIENT ROOM (108)

HEADWALL/FOOTWALL
COMPLETE TOILET/SHOWER ROOM

2 ICU PATIENT ROOM (30)

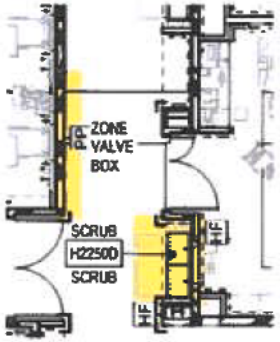
HEADWALL/FOOTWALL
TOILET ROOM SINK WALL
HANDWASH/WINDOW/DOOR SINK WALL

3 ED TREATMENT BAY (36) /SECURED HOLDING ROOMS (9)

HEADWALL +
OVERHEAD COILING DOOR

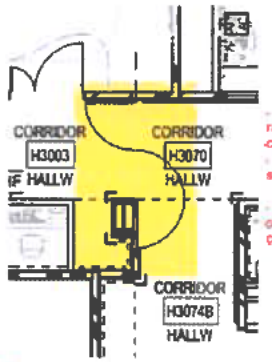
4A ZONE VALVE BOX @ 1 HOUR RATED WALL

- New template, not yet constructed. Previously constructed COE projects have manufactured headwall
- same headwall as PACU
- occurs at rated wall condition
- IOR review & concurrence prior to construction



- Prefab sink under window opportunity
- Special devices on the back side of the sink wall for OR
- Consolidate plumbing on 1 side of sink
- IOR review & concurrence prior to construction

- Improvement from prior installation - prefab modular frame with smaller frame
- potential installation efficiency
- IOR review & concurrence prior to construction



- Framing, rating, raceway, inspection challenges
- Verify hardware selections
- IOR review & concurrence prior to construction

- Reoccuring door condition
- Verify framing, rating, hardware selections
- IOR review & concurrence prior to construction

5 PRE/POST OP BAY (14) PACU BAY (9)

HEADWALL

6 SCRUB SINK (6)

SINK WALL

4B ZONE VALVE BOX

2 HOUR RATED WALL

7 HANDWASH STATION

SINK WALL

8 CORRIDOR

RATED CROSS CORRIDOR DOOR, CONDITION AT 8'-2" CLR HALLWAY WITH COLUMN

9 TYP. CORRIDOR DOOR

TYPICAL RATED CROSS CORRIDOR DOOR, CONDITION AT 8'-2" CLR HALLWAY

Hussain

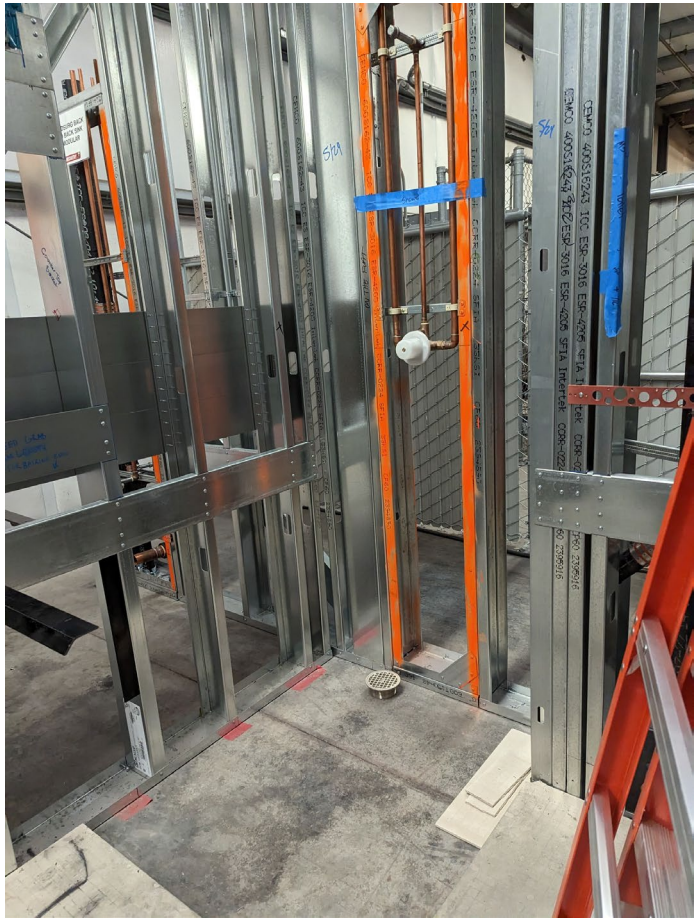
Kaiser Permanente - Roseville

- Prototypes/mock-up created in a warehouse in Loomis.
- Design team has made many improvements in prototypes to make fabrication and fit-up easier at site.
- Prototypes will be included in the design documents (still in review). TIO will detail inspections performed at fabrication site vs. those performed at the building site.
- Actual fabrication will be in a warehouse in Roseville.

Hussain

Kaiser Permanente - Roseville

Prototypes = areas marked in orange are the prefab-assemblies



Hussain

ICU Room Shower

Zone Valve Box

Handwash Stations

Kaiser Permanente – Roseville (cont.)

Prototypes = areas marked in orange are the prefab-assemblies

Head Wall

Foot Wall Units

Handwash Stations

Hussain

Kaiser Permanente - Riverside

- Headwall and footwall pre-fabrication
- IORs involved to help create an inspection plan
- Warehouse MEP equipment
- “Spindless” working racks

Scott

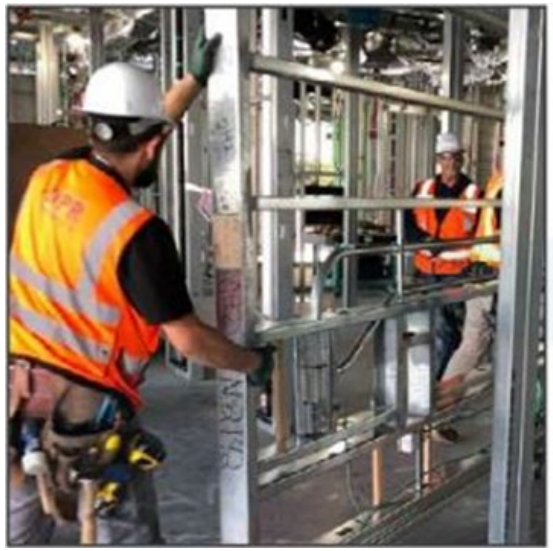
Kaiser Permanente - Riverside

- Headwall and footwall pre-fabrication
- IORs involved to help create an inspection plan
- MEP equipment racks

Scott

In Summary

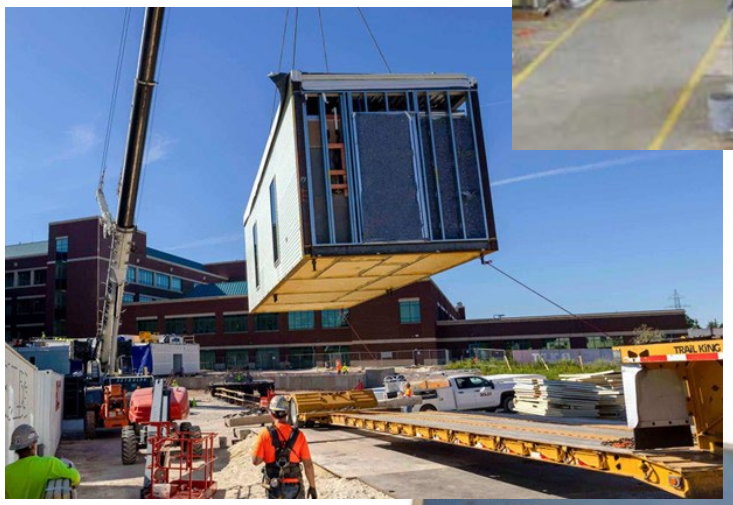
- Prefabrication enhances quality, speed and safety in delivery
- Preassembly allows for continuous workflow during construction
- Determine volume, scope and scale of components early on
- Compare cost benefit between offsite and onsite assembly
- Secure approval from owner, design team, and OSHPD prior to committing to process



Hussain

The Ask

- Work with design teams early to evaluate opportunities for prefabrication.
- Encourage manufacturers to pursue Preapproved Prefabricated Components and System Approval (PCS).
- Talk to OSHPD early on to get feedback on cost efficient ways of getting approval.



Hussain

QUESTIONS?

Submit via Chat

Hussain

Sutter Santa Rosa

Sutter Santa Rosa

- Chris or Carl
  - Exterior Skin

Kaiser Permanente – San Marcos

- Cody and Chris
  - Fabricated close to site
  - Headwalls
  - Plumbing Fittings
  - Exterior System

Item #5 Practice-run for the webinar

- Discussion and public input

Facilitator: Cody Bartley (or designee)

Item #6 Comments from the Public/Committee Members on Issues not on this Agenda

The Committee will receive comments from the Public/Committee Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.

Facilitator: Cody Bartley (or designee)

Item #7 Adjournment