HGA

California State Association of Counties Programming Report

March 14, 2025

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PROGRAMMING PHASE SUMMARY

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1.1 Project Charter

PROJECT CHARTER
1100 K STREET, SACRAMENTO RENOVATION

The Project Charter is a framework to capture the key drivers and guardrails for the project that incorporates input from the project stakeholders. This document is intended to guide the project and remind the stakeholders of the agreed vision, guiding principles, project goals, sustainability commitments, project scope, budget, and schedule milestones. The Project Charter should be shared with any new stakeholders joining the project throughout its lifespan.

Project Vision

The renovation of this historical building seeks to preserve and celebrate the building's rich history while adapting it to meet the modern demands of a professional corporate office environment. The project will blend the traditional elements of the existing building with contemporary design concepts to create a functional, dynamic, and efficient workspace that fosters collaboration, productivity, and creativity.

Guiding Principles

Collaboration
Designed to facilitate collaboration; collaboration is everywhere

Employee Experience
People want to work here! Creates a healthy and safe workspace for staff. Highly functional spaces that are a mix of open/private and meets the needs of everyone who works here.

Connection to Counties
A home that pays homage to the counties. A modernized place that can support all counties.

Community Connection
Integration with the local community

K Street Connection
Defining presence on K Street, reflecting a move to a more vibrant downtown, shaping the K Street corridor

History & Modernity
Building on the history of the capital corridor, modern with a nod to history

Fiscal Responsibility
Maximize value and efficiency, on time and under budget, inclusive space for members that doesn't feel fancier than other public buildings

Budget

$36,021,976 (Assumed)
(Based on 6D Conceptual Design Estimate)

Scope

Tenant Improvement of 1100 K Street including the basement, 1st, Mezzanine (2nd), 3rd, 4th and 5th Floors. Addition of new 6th floor level that will include a conference room.

Schedule Milestones

— Programming: 12/09/2024—3/20/2025

Package 1: Interior Demolition
— Construction Docs: 4/2025—7/2025
— Agency Review: 7/2025—10/2025
— Construction: 10/2025—6/2026

Package 2: Interior Renovation, Exterior Improvements, 6th Floor Addition
— Schematic Design: 4/2025—6/2025
— *Entitlements: 6/2025—12/2025*
— Design Development: 6/2025—9/2025
— Construction Docs: 9/2025—12/2025
— *Agency Review: 1/2026—6/2026*
— Construction: 6/2026—6/2027

*All dates noted above are currently tentative and in process of being validated with CSAC, City of Sacramento, Construction Management Team and Design Team

Sustainability

•Aim for 80% reduction of EUI (Energy Use Intensity)
•SMUD Integrated Design Solutions incentive program
•Explore how to reduce carbon- strategies to reduce carbon from building systems and materials
•SMUD Incentives for project systems going all electric
•Climate Risk Analysis- analysis that looks at future climate predictions and assessing if any of the building systems should be designed to show adjustments for future conditions.
• Consideration for SMUD renewable shares to achieve Net Zero Energy (NZE)

1.2 Programming Deliverable Matrix

CSAC Renovation

Programming Phase Deliverables

Item	Deliverable	Notes
a.	Perform 3D Scan of existing conditions (interior and exterior including roof).	Scanned occurred on 11/20-21/2024 Matterport Link https://my.matterport.com/show/?m=y6JbttfgKUT
b.	Develop Revit Model background.	TEE provided 2025 Revit model from scan HGA formatting to standards in preparation for
c.	Provide Project Charter documenting major goals and vision of the project.	Goals and Visions gathered at meeting on 12/09/2024.
d.	Provide detailed space program and adjacencies by floor.	
e.	Determine sustainable design goals and define design	
f.	Develop conceptual planning and design concepts (up to two (2) concepts included) (BLOCK DIAGRAMS)	Reviewed with CSAC on 1/27/25. CSAC comments received on 2/7/25. Revised Black Diagrams sent to 6D to forward to CSAC on 2/13/25
g.	Develop one (1) conceptual phasing plan with up to two (2) revisions.	
h.	Establish/verify project budget and provide conceptual cost estimate.	Reconciling HGA/6D Estimates. Met with Client on 2/11/25 to review.
i.	Establish project schedule and milestones.	HGA advised and coordinated with CM on this. 6D to provide project schedule and milestones.
j.	Conduct two (2) in person Client/Stakeholders Workshop Meetings (2	Meeting minutes included in the Appendix from
k.	Conduct and attend up to three (3) Virtual bi-weekly Core Team Meetings.	Design Team completed 5 meetings with CSAC in addition to workshops (virtual and
l.	Attend preliminary review meetings with regulatory agencies, including Planning Building Department and Fire Department, to obtain buy-in on key design	Planning & Building Department declined to meet with Design Team until application is submitted.
m.	Provide building systems space requirements, systems definition and	
n.	Provide Preliminary Code Analysis.	
o.	Provide comprehensive program and design narratives.	
p.	Perform a site visit to determine existing geometry of structural systems. If existing drawings cannot be obtained, potential isolated locations of demolition to determine as-built capacity of structural elements (including columns, beams, floor/roof slabs, walls, etc.) will be identified.	Site visit occurred on 11/20-21/2024
q.	Develop material testing program, that can be utilized by a demolition contractor	
r.	Perform ASCE 41 Tier 1 and Tier 2 assessments of the existing structure.	
s.	Develop a preliminary analytical structural model that accounts for existing structural conditions, as well as new openings required for egress, and the additional 6th floor.	
t.	Attend site investigation visits and provide systems assessment report for Mechanical, Plumbing, and Fire Sprinkler system for updates/ confirmation of published Assessment report.	Site visit occurred on 11/20-21/2024
u.	Prepare analysis of the electrical systems (power, lighting, fire alarm, telecom, security, and AV) as related to the program requirements and offer recommendations.	
v.	Prepare conceptual design descriptions of alternative electrical systems that will	
w.	Survey the property with representatives of the design team to assess existing	Site visit occurred on 11/20-21/2024
x.	Identify the vertical transportation needs of the building based on occupancy, use,	
y.	Develop a preliminary elevator system selection, including type, capacity, and speed	
z.	Historical Field notes and photographs from Site Visit	
zz.	Bullet point matrix on CHBC/Financial Incentives	

--End of Section 1—

2.0

ARCHITECTURAL & PROGRAMMING

2.0 ARCHITECTURAL & PROGRAMMING

2.1 Programming Design Narrative

Interior Design Narrative

The renovation of this historical building seeks to preserve and celebrate the building's rich history while adapting it to meet the modern demands of a professional corporate office environment. The project will blend the traditional elements of the existing building with contemporary design concepts to create a functional, dynamic, and efficient workspace that fosters collaboration, productivity, and creativity.

The interior layout will be reimagined to support an efficient corporate environment. Workspaces, private offices, meeting rooms, and communal areas will be carefully arranged to foster collaboration, flexibility, and privacy when necessary. The design of the workspaces will emphasize creating an efficient, bright, and inviting environment that prioritizes user comfort and well-being through thoughtful and practical features.

Balancing functionality and aesthetics, the workspaces will maintain a professional and modern look, blending timeless, modern, and refined colors to achieve a clean, airy, and spacious feel. Practical durable finishes will be used throughout the building promoting a healthier and more productive work atmosphere. Executive spaces will feature an elevated level of finishes. The choice of furnishings throughout the building will promote ergonomics and comfort while supporting the functionality required of the space.

This project will create a work environment that resonates with the CSAC's personality while maintaining the historic integrity of the space. The project aims to create an office that not only meets the needs of today's workforce but also celebrates the timeless beauty of the past, offering a workplace that is both grounded in history and poised for the future.

Exterior Design Narrative| 1100 K Street – Historically PG&E Company

Built in 1913 as a Class A office building for the PG&E Company, 1100 K Street embodies the architectural language of the Cathedral Historic District and the era it was built in. Proportionally the building takes queues from the Italian renaissance palazzo style, with the building being broken into three distinct tiers. In traditional palazzo style, the lower tier emphasizes a durable and highly ornate natural stone base, alluding to visual strength that traditionally supports the aesthetically lighter bands above. The second band reflects a lighter construction assembly, finished with pressed brick, creating the transition to a more clean and refined design language. Straying from tradition, this renaissance revival-style approach repeats a similar heavy and ornate stone application for the upper most tier, which in turn, alludes to the more modern structural systems of the early 20th century, as opposed to the structural exterior masonry walls of the original palazzos. While this building has seen some modernization and renovations over the last hundred years, the exterior is still defined by its original, historic aesthetic. The approach for this renovation project is to limit the impact to the originally established façade as much as possible. The exterior scope of work includes; relocating and updating the K Street entrance, modifying the Bishop Gallegos Entry, and providing a level 6 addition.

Ground Level Entry Renovations:

In its current state, the first two levels maintain the historic stone pilasters and the original lower stone entablature capping the pilasters, however, the original two-story storefront was replaced in a 1980's renovation, which infilled that space with modern entry storefronts and a metal assembly with protruding window alcoves at each column bay. This renovation also relocated the K street entrance from one that was centered along the north façade, to one that is offset to the east. This project will look to return the primary entry to the center column bay, while infilling current entry with respect for the historic design and material language. Along the west side of the building (fronting Bishop Gallegos Square) the entry to far south will be slightly modified to accommodate our exiting path of travel, but will result in minimal impacts to the exterior condition.

Level 6 Addition:

In the interest of maximizing the potential of this building, one of CSAC's goals for this project is to include an addition to the 6th level. This added level will be set back along the west (Bishop Gallegos Square) and north (K Street) sides of the building to prioritize the existing historic conditions, while the south and east sides would be an extension of the existing blank exterior walls below. Although it is intended to be a nonhistorical addition, it will be sensitive to the existing historic design and material language to ensure that it properly assimilates into the overall composition. The intent of the exterior façade along the west and north sides will be to have expansive windows spanning between short sections of shear walls with exterior finishes that are historically analogous. The proposed large areas of glazing will maximize views of Blessed Sacrament to the North, the urban fabric of downtown Sacramento to the west, and angled views to the south that will capture the State Capitol and Mall. There is the potential to possibly introduce a small outdoor terrace space as well, which would be enclosed by a transparent or translucent guardrail, which would be set back from the existing cornice extension. This will reduce the visibility of this life safety element relative to the historic context. The project will include replacing the existing mechanical systems serving this building, and the new units will be located on the roof of this new addition. In response a rooftop screen will be provided to conceal these roof top units. The screen will speak to the historical district and potentially draw material connections to the roofing of the neighboring Cathedral of the Blessed Sacrament which was also designed with a renaissance-revival style approach.

2.2 Code Analysis

APPLICABLE STATE CODES

As part of the programming phase of the project, HGA has conducted a preliminary code review of the building and proposed design. The information below is a summary of our findings.

In general, when the existing interior improvements are removed, all new construction will need to comply with the current code edition, unless there is a specific case where the Historic Building Code will apply. Refer to the Historic narrative of this report for additional information.

The new work will address accessibility barriers within the existing conditions such as non-compliant restrooms and elevators. Additionally, the new work will seek to rectify the various fire and life safety deficiencies in the building.

Subsequent design phases may introduce additional information that require application of code sections not yet considered. More formal code implementation will be undertaken during the SD, DD, and CD phases that follow.

At the time of this report, the building is subject to the following codes as amended by the City of Sacramento:

1. 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC):
   PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
2. 2022 CALIFORNIA BUILDING CODE (CBC):
   PART 2, TITLE 24, CCR; BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC
3. 2022 CALIFORNIA ELECTRICAL CODE (CEC):
   PART 3, TITLE 24, CCR; BASED ON THE 2020 NATIONAL ELECTRICAL CODE (NEC
4. 2022 CALIFORNIA MECHANICAL CODE (CMC):
   PART 4, TITLE 24, CCR;BASED ON THE 2021 UNIFORM MECHANICAL CODE (UMC)
5. 2022 CALIFORNIA PLUMBING CODE:
   PART 5, TITLE 24, CCR; BASED ON THE 2021 UNIFORM PLUMBING CODE (UPC)
6. 2022 CALIFORNIA ENERGY CODE:
   PART 6, TITLE 24, CCR;
7. 2022 CALIFORNIA HSTORICAL BUILDING CODE (CHBC):
   PART 8, TITLE 24, CCR;
8. 2022 CALIFORNIA FIRE CODE(CFC):
   PART 9, TITLE 24, CCR, BASED ON THE 2021 INTERNATIONAL FIRE CODE (IFC)
9. 2022 CALIFORNIA GREEN BUILDING CODE:
   PART 11, TITLE 24, CCR;
10. AMERICANS WITH DISABILITIES ACT, 2010 ADA STANDARDS

Note: Projects submitted to the local building department after January 1, 2026 will fall under a new code cycle. The code provisions of the 2025 Building Code cycle will not be published until July 1, 2025.

APPLICABLE LOCAL CODES

In addition to California Building Codes, the project is subject to local planning and zoning requirements. Additions to the buildings, exterior alterations, changes in use, or proposed improvements that change the character of the building will require approval from the local Planning Department prior to obtaining a construction permit.

The property has the following characteristics and land use designations:

Address		**1100 K Street**
APN		**006-0106-002**
Square Feet		+/- 4,000
Acres		+/- 0.073
Other		--
General Plan	**Designation**	Residential Mixed Use (RMU)
	Density (min)	61
	FAR	0.3 to 15.0
	Community Plan	Central City
	Housing Element	No
Specific Plan		No
Zoning		Central Business District (C-3-SPD)
Overlay		No
Special Planning District (SPD)		Central City
Planned Unit Development (PUD)		No
Parking District		Central Business District
Design Review District		Central Core
Historic	**Landmark**	Yes
	District	Cathedral (contributor)
Light Rail Proximity	**Shortest Route (mi)**	<0.25
	Straight Line (mi)	<0.25
AB 2097		Yes

The site is listed individually as a historic landmark. Additionally, the site is located within the Cathedral Square historic district (as a contributing property). Any development would be subject to the Historic District Plan. Please note that there are two components:

- Guidelines applicable to all districts [Section 1], and
- Guidelines specific to individual districts [Section 2] [link specifically to Cathedral Square]

Alterations to a landmark and contributing resource will require director-level site plan & design review (SPDR).

- Final action will be taken at a public hearing with the Preservation Director.
- The potential timeline for planning-related approvals varies based on a variety of factors that include the development proposal, the entitlements requested, the level of review required for those entitlements, completeness and quality of an application, and responsiveness of applicant.
- Planning Division forms can be found on the following website. On the Planning Entitlement Application (Form CDD-0063) (revised 10.17.2024) and review the submittal requirements under the column "Site Plan and Design Review" (page 2) and see descriptions (pages 3 to 6).
- The Planning Department has recommended pushing the sixth-floor addition back from the existing historic exterior walls.
    - An example of this was Bauen's addition to 1130 K Street

HISTORIC BUILDING CODE

Refer to the Historic Preservation portion of this report for additional information.

Consistent with CHBC purpose as defined in Section 8-101.2 the project aims to preserve, restore, rehabilitate, and reuse the existing building which is designated as a qualified historical building. The project proposes to use the CHBC were appropriate in providing reasonably equivalent solutions to the standard code requirements to promote sustainability, provide accessibility improvements, mitigate costs associated with preservation, and provide reasonable safety for the building occupants.

The sixth floor addition is a nonhistorical addition and is allowed, provided the local planning department approves the design, but the addition is subject to the requirements of the standard building code adopted for new structures or alterations.

The Historic Building Code provides some relief for buildings equipped with fire sprinklers throughout from these rated requirements which reduces costs and special detailing. Per CHBC 8-302.3 the required occupancy separation rating of more than 1-hour may be reduced to 1-hour construction provide all openings are self-closing and are protected by no less than 45 min assemblies. Furthermore, it allows the standard 1-hour required rated separation to be omitted when the building is equipped with fire sprinklers.

Construction Date	1912
Construction Renovation	1982
Number of Stories	(5) plus basement
Construction Type (Original)	Type II-FR (Fire Rated)
Current Use	Professional Office
Occupancy Group	B & A-3
Fire Sprinklers	Partial | Basement Only
Elevator	Yes (2)
Stairs	(2) Interior Stairs

CODE SUMMARY

The following paragraphs represent a high level overview and application of relevant code sections based on record data, content from the 2024 Feasibility Study, field investigations, and review of proposed improvements. Due to the extensive nature of the building code this report is not exhaustive in analysis and application. Subsequent phases of the project will provide additional opportunity to review and apply code to the project.

The proposed improvements continue the professional office functions. Along with office use, the building program proposes retaining the print shop area, a media production room, conference rooms, and a conference center. Office function uses are defined a Group B occupancy. Conference room functions under 49 occupants as calculated by the building code are also considered Group B occupancies. However once conference rooms exceed 49 occupants the occupancy group changes to Group A-3 (CBC 303).

The California Building Code requires rated separation between occupancy groups of different classifications. Normally, the code requires Group A and Group B occupancies separated by 1 hour fire protection when the building is equipped throughout with fire sprinklers. A 2-hour separation is required when the building does not have a fire sprinkler system throughout.

NAME:	CSAC
PROJECT DESCRIPTION:	Renovation of existing historic building to support new tenant improvements, new MEP systems, structural seismic upgrades, and an addition of a new floor.
SQUARE FOOTAGE (SF).	21,526 USF existing
TOTAL PROJECT SCOPE SF:	23,800 USF proposed
ADDRESS:	1100 K Street, Sacramento, CA
FACILITY USE:	Existing Building: Office space
	Addition: Conference space
OCCUPANCY:	Group B, A-3 Separated
	Small assembly spaces less than 49 occupants are Group B
CONSTRUCTION TYPE:	TYPE II-FR existing
	TYPE II-A existing building with Type I-B Addition
SEISMIC ZONE:	See Structural
REQ'D FIRE SEPARATION:	1-HR between B and A-3
	1-HR at property lines
SPRINKLER SYSTEM:	Upgrade to fully sprinklered.
	Fire pump required.
ALLOWABLE AREA:	Group B in Type II-A 37,500 SF (NS)
Per Story (CBC TABLE 506.2)	Group A-3 in Type I-B Unlimited (NS)
MAX. ALLOWED HEIGHT	Group B in Type II-A: 85 FT
(CBC TABLE 504.3)	Group A-3 in Type I-B. 180 FT
IS THIS A HIGH RISE ?	No. 6th Floor addition finish floor is less than 75' AFG
(CBC 202)	
MAX. NUMBER OF STORIES:	Group B in Type II-A: 6
(CBC TABLE 504.4)	Group A in Type I-B: 12 (Group A limited to 4stories in Type II-A)
NUMBER OF STORIES :	Existing 5 plus basement
	Proposed 6 plus basement.

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

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1[b,c]	0

OTHER RATING REQUIREMENTS

- EXIT ACCESS CORRIDORS: NON-RATED (CBC TABLE 1020.2)
- SHAFT ENCLOSURES: 2-HR
- STAIR SHAFTS: 2-HR (CBC 1023.2)
- ELEVATOR SHAFTS: 2-HR

- EXTERIOR OPENINGS: Refer to CBC Table 705.8 for requirements.

OCCUPANT LOAD:

- GROUP B AREAS: 1 occupant per 150 sf
- GROUP A-3 AREAS: 1 occupant per 15 sf (tables and chairs)
  1 occupant PER 7 SF (Chairs only)
  1 Occupant per 5 SF (Standing only)

EXITS – NUMBER, CAPACITY, AND ARRANGEMENT

- EXITS REQUIRED PER STORY: 2 Per Story
- EXITS REQUIRED PER ROOM: More than 49 occupants requires 2 exits
- EXIT SEPARATION: 1/3 of maximum diagonal.
- STAIRWAYS WIDTH: 0.3 In. Clear per occupant (existing stairs do not comply)
- EGRESS WIDTH : 0.2 In. Clear per occupant
- EXIT STAIRS: Exit discharge to the exterior (or use rated passageways)
- DOOR SWING: Spaces with 50+ people swing in the direction of egress.

- TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250
B	200	300

- COMMON PATH OF TRAVEL: Group B: 100 Feet
  Group A-3: 75 Feet

MIN. EGRESS CORRIDOR WIDTH (CBC TABLE 1020.2):

- MORE THAN 50 OCC: 44" minimum clear
- LESS THAN 50 OCC: 36" minimum clear
- DEAD END CORRIDOR: Group B: 50 Feet
  Group A-3: 20 Feet

Note that the existing stairs do not meet the width requirement for the proposed occupancy of the 6th floor. The project proposes to remove the existing non historic stair tower at the South end of the building and built a new interior exit stair full height. The historic stair is also non-conforming due to width, and winding treads. However, due to its historic nature we are hoping the City of Sacramento will allow it to remain with the determination that it is not a distinct hazard. A new extension to the 6th floor will be required to accommodate exiting requirements.

Additionally, the historic stair does not exit directly to the exterior as required. The proposed design incorporates a fire rated lobby construction to continue the exit path to the exterior. It is not known if the City of Sacramento will accept this extension of the rated interior exit stair.

The City of Sacramento was not willing to meet with the design team prior to this report's development. As a result, there is some risk associated with the proposed approach to reusing the existing historic stair. Subsequent phases may afford the design team and opportunity to meet with the City to discuss code application. While we believe the approach to reuse the historic stair is consistent with code intent, the city may not agree, and a new stair will be needed.

PLUMBING FIXTURES REUQIREMENTS (CBC TABLE 422.1)

Occupancy Function	Occ	SF	OLF TABLE 4-1	# OCC	WC REQ'D	UR REQ'D	LAV REQ'D	SERVICE SINK REQ'D	DF REQ'D
GROUP B-Office	B	8,358	150	55.72					
GROUP B-Assembly	B	2,099	30	69.97					
GROUP B-Storage	B	1,428	4,000	0.36					
TOTAL GROUP B				127.00					
GROUP B MEN				63.50	2	1	1	1	1
GROUP B WOMEN				63.50	4		2		
GROUP A3 - Assembly	A-3	1,328	30	44.27					
TOTAL GROUP A3				45.00					
GROUP A3 MEN				22.50	1	1	1	1	1
GROUP A3 WOMEN				22.50	2		1		
TOTAL FIXTURES					**9**	**2**	**5**	**2**	**2**

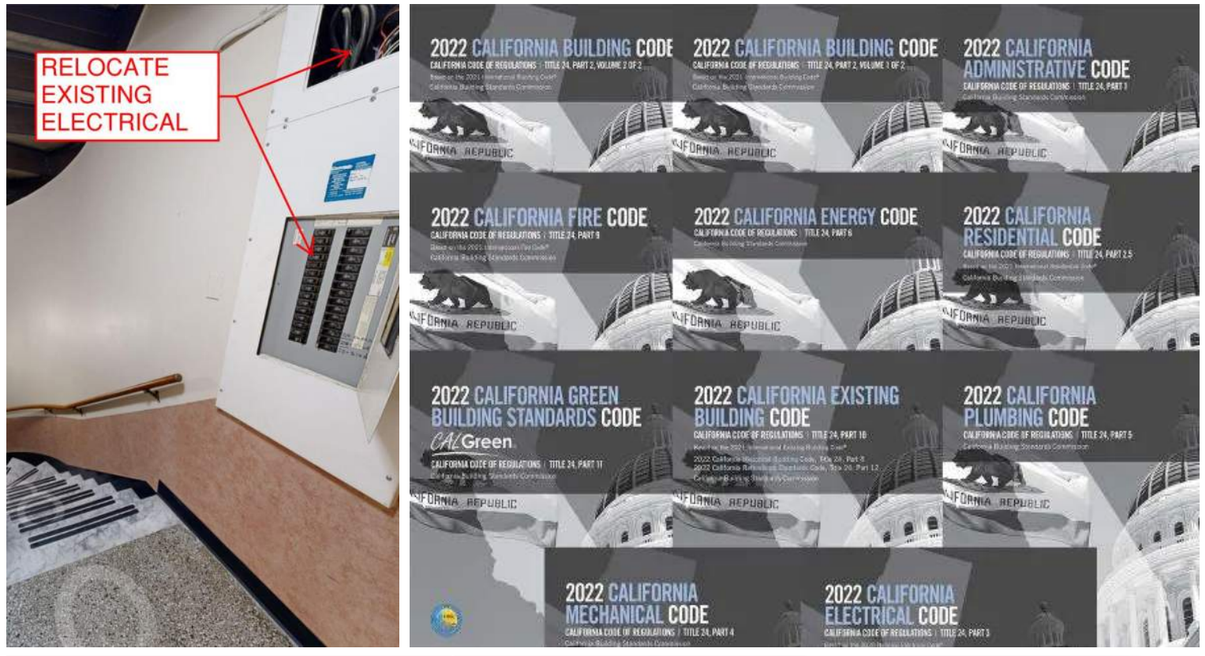
Note: All single occupancy restrooms are classified as All Gender

Note: Plumbing fixture counts based on a 50%-50% ratio of Men and Women per code.

Note: The proposed design includes restrooms on each floor.

BUILDING CODE IMPACTS

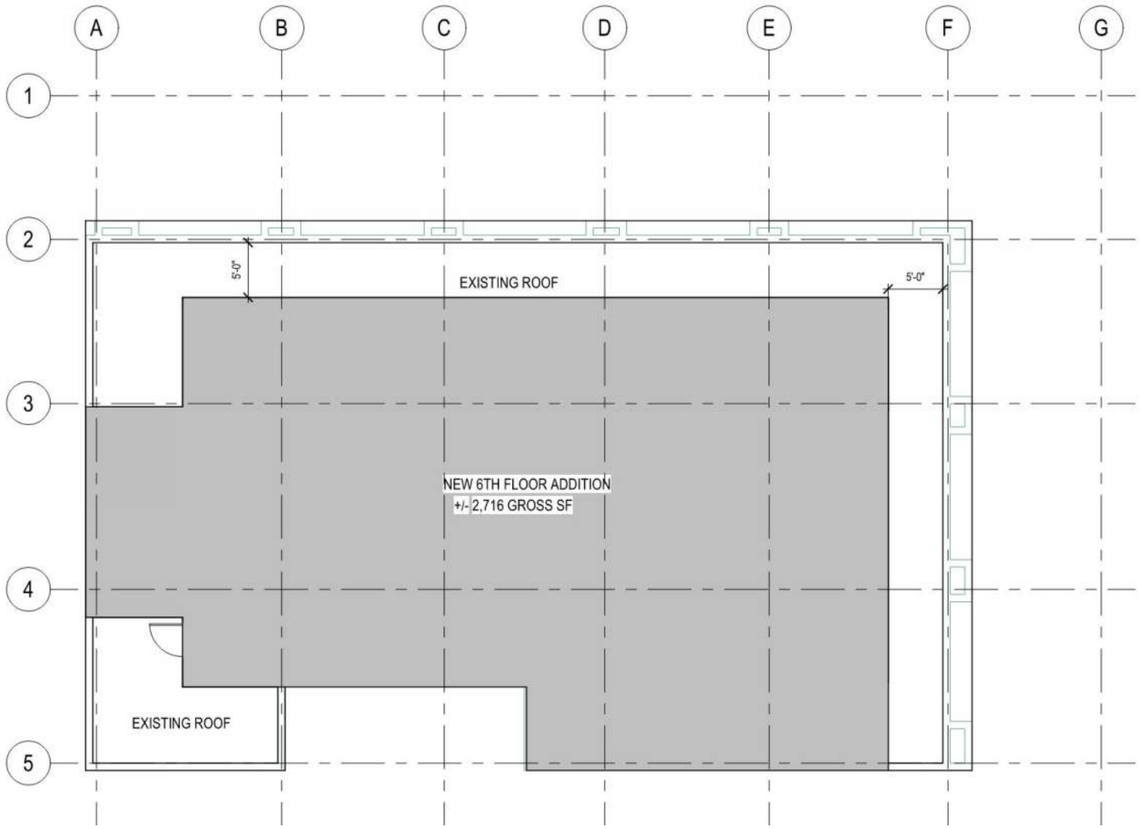
1. Accessibility requirements increase size of rooms
2. Elevator must be upsized to accommodate additional floors and a medical gurney
   a. Standby power required
3. (2) exits/exit stairways are required from each floor. Existing stairs sizes do not accommodate egress/access to 6th floor.
   a. Stairs are not code compliant
4. Electrical panels and equipment need to be relocated out of stairwells
5. Fire sprinklers will be required on each floor
   a. Fire pump required.



PLANNING CONSIDERATIONS

1. Setback 5'-0" from the street facing facades

2. Respecting existing building features



2. Additions & Accessory Structures for Contributing Resources

2.1 Minimize the effect of additions on symmetrical building facades or compositions.

- Where rooftop additions are desired, consider using step backs in order to maintain the existing street façade height of adjacent contributing buildings.

2.2 Design additions such that the primacy of the Capitol building and Cathedral of the Blessed Sacrament is maintained.

2.3 Use durable, high-quality materials that are compatible with the materials of adjacent contributing buildings in the district such as brick, stone, terracotta, or stucco.

3. New (Infill) Construction & Alterations to Non-Contributing Resources

3.1 Preserve the historic pattern of siting new buildings with a zero-lot-line setback from the street.

3.2 Design new buildings such that the primacy of the Capitol building and Cathedral of the Blessed Sacrament is maintained.

3.3 Step down taller buildings to maintain the existing street façade height of adjacent contributing buildings,

3.4 Align windows, doors, and variations in façade treatments to the extent feasible with that of adjacent contributing buildings in order to maintain the pattern of Two- and Three-Part Block buildings in the district.

- When not possible, utilize the average datum lines of contributing properties.
- Refer to definition of Two-Part and Three-Part Commercial Block buildings in Appendix C.

3.5 Use materials that are compatible with the materials of contributing buildings in the district, such as brick, stone, terracotta, or stucco.

Figure 132. The Cathedral of the Blessed Sacramento is the visual centerpiece of the district.

Figure 133. Wide overhanging eaves are a common feature of many contributing buildings in the district.

HGA

CSAC

CLIENT PROGRAM MATRIX

	SPACE TYPE	EXISTING AREA (SF)	AREA (SF)	SEATS	COUNT		SQUARE FEET	COUNT	SQUARE FEET	ADJACENCIES / NOTES
					EXISTING DESIGN	REQUESTED NEW DESIGN	REQUESTED NEW DESIGN	RECOMMENDED NEW DESIGN (TEST FITS)	RECOMMENDED NEW DESIGN (TEST FITS)	
EXECUTIVE MANAGEMENT	Large Private Office		200		3	3	600	2	400	COO, CEO, Finance Offices - COO adjacent to CEO and Finance is preferred. Existing Area number listed is based off of Graham's office size which creates the precedent for large office size.
	Med Private Office		140					1	140	Jacqueline on level 2 with Legislative Services
	Small Private Office		100					1	100	
	8' x 10' Workstation		80		2	2	160	1	80	
	SUBTOTAL				5	5	760	5	720	
LEGISLATIVE SERVICES	Small Private Office		100		8	8	800	12	1,200	Lobbyists. 8 offices reduced to small offices in 1/13/2025 meeting. 4 more offices reduced to small per markups received 2/7/2025
	Med Private Office		140		8	8	1,120	4	560	Jacqueline will want to be with her team. 17 members including Jacqueline. As an exec, Jacqueline office to be listed under exec management large PO
	SUBTOTAL				16	16	1,920	16	1,760	
PUBLIC AFFAIRS & MEMBER SERVICES	Small Private Office		100		5	5	500	6	500	Acceptable to be spread out among floors. HGA to consider 2 PA members to be next to leg team.
	Med Private Office		140		2	2	280	3	280	Requested 1-2 offices for meeting of three (to include office owner)
	SUBTOTAL				7	7	780	9	780	
ADMINISTRATIVE SERVICES	Small Private Office		100		9	5	500	5	500	(1) for Kevin (Facilities); (4) for Accounting (Three plus one future financial controller (position currently vacant)/or Suzy who is currently mostly remote and shares an office if needed.)
	8' x 10' Workstation		80		0	5	400	3	240	(2) for Print Shop ; (1) for Front Desk, (2) for IT in Basement
	SUBTOTAL				9	10	900	8	740	
CALIFORNIA COUNTIES FOUNDATION	Small Private Office		100		4	4	400	4	400	4 members with possible growth to 5, needs receptionist space. CSAC to confirm the need for 5 offices in new design. Reduced to 4 in 1/13/2025 meeting
	Large Private Office		200		0	1	200	1	200	1 large office added in 1/13/2025 meeting
	8' x 10' Workstation		80		1	1	80	1	80	Reception workstation
	SUBTOTAL				5	6	680	6	680	
CSAC FINANCE CORPORATION	Small Private Office		100		7	6	600	5	500	reduced to 6 small offices in 1/13/2025 meeting. 1 Small change to Medium per markups received 2/7/2025
	Med Private Office		140		0	0	-	2	280	1 Large & 1 Small change to Medium per markups received 2/7/2025
	Large Private Office		200		0	1	200		-	1 large office added in 1/13/2025 meeting. 1 Large changed to Medium per markups received 2/7/2025
	8' x 10' Workstation		80		1	1	80	1	80	Reception workstation
	SUBTOTAL				8	8	880	8	860	
LITIGATION COORDINATION COUNTY COUNSEL	Small Private Office		100			1	100	1	100	Reduced to 1 in 1/13/2025 meeting
	Large Private Office		200			1	200	1	200	Added 1 large office in 1/13/2025 meeting
	8' x 10' Workstation		80			2	160	2	160	With one in reception and one in another workstation
	SUBTOTAL				0	4	460	4	460	Moving from space next door to CSAC building
LA COUNTY	SUBTOTAL				12	0	-	0	-	Moving out of CSAC building
SANTA CLARA COUNTY	Small Private Office		100			2	200	2	200	
	Med Private Office		140			1	140	1	140	
	8' x 10' Workstation		80			1	80	1	80	
	SUBTOTAL				0	4	420	4	420	Staying in CSAC building per 1/13/2025 meeting
SAN DIEGO COUNTY	SUBTOTAL				2	0	-	0	-	Moving out of CSAC building. Quantity changed to 2 in 1/13/2025 meeting
	SUBTOTAL DEPARTMENTS	6,954			64	60	6,800	60	6,420	Note: These counts do not accommodate 10% room for growth
	CIRCULATION FACTOR		35%				3,662			In order to accommodate a 45% circulation factor, a .8182 circulation multiplier is used on the subtotal.
	TOTAL DEPARTMENTS						10,462			

See page 2 for more program information

HGA

CSAC

CLIENT PROGRAM MATRIX

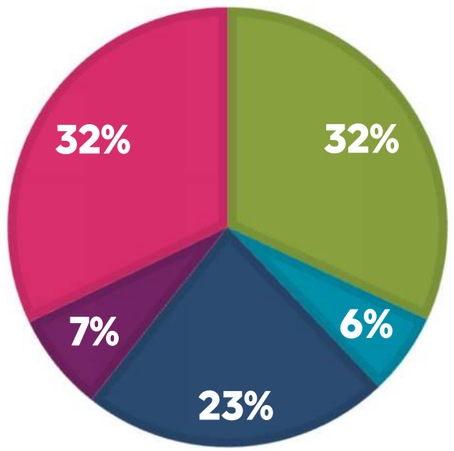
	SPACE TYPE	EXISTING AREA (SF)	AREA (SF)	SEATS	COUNT: EXISTING DESIGN	COUNT: REQUESTED NEW DESIGN	SQUARE FEET: REQUESTED NEW DESIGN	COUNT: RECOMMENDED NEW DESIGN (TEST FITS)	SQUARE FEET: RECOMMENDED NEW DESIGN (TEST FITS)	ADJACENCIES / NOTES
MEETING / ENCLOSED COLLABORATIVE	XL CONFERENCE		450	16	1	1	450	1	410	Existing Area based on 1st floor conference room. Would be nice to have conf room on first floor for outside guests. CSC to follow up if this can be removed.
	LARGE CONFERENCE		345	12	1	0	-	0	-	Removed, 6th floor Board Room will be used
	MEDIUM CONFERENCE		216	8	1	1	216	1	216	Finance(1)
	SMALL CONFERENCE		150	6	0	5	750	7	1,050	Foundation (1), Legal (1)
	HUDDLE ROOM		120	4	0	0	-	0	-	Accounting(1), removed from program. Small Conf rooms will be used
	MEDIA VIDEO STUDIO		450	8	0	1	450	1	400	CSAC must have, do not remove
	BOARD ROOM 68 SEATS (90 TOTAL) (CONFERENCE CENTER)		2000	60	0	1	2,000	1	1,444	Goals is to accommodates a hollow square for 68 seats with 22 seats at perimeter. To be the 6th floor. Include moveable partitions to allow for three separate large meeting spaces. Reduce to 2,000 sf to fit on level 6 per 1/13/2025 meeting
	SPACE SUBTOTAL	1,316			3	9	3,866	11	3,520	
	CIRCULATION FACTOR		35%				2,082			In order to accommodate a 35% circulation factor, a .5385 circulation multiplier is used on the subtotal.
	TOTAL MEETING / COLLAB						5,948			
COMMON/OPEN COLLABORATIVE	RECEPTION		200		1	3	600	2	400	Reduce down to 3 per 1/13/2025 meeting. Level 1, Exec, and Litigation
	BREAK ROOM		400	20	7	1	400	1	400	Break room will be included instead of Town Hall. To accommodate around 20 seats.
	CATERING KITCHEN		120		0	0	-	0	-	
	COFFEE/PRINT BAR		200		0	5	1,000	5	520	
	TOWN HALL		740	40	0	0	-	0	-	Ground floor public space to include communal kitchen/breakroom space. In 1/13/2025 meeting it was identified this can be breakroom for internal staff only. "Town Hall" is internal all staff and will be held on level 6.
	COPY / PRINT		120		3	0	-	0	-	
	PRINT SHOP	1,316	1217		1	1	1,217	1	1,200	
	IT WORKROOM/EQUIPMENT	351			1	1	200			(2) Workstations for IT to be adjacent to Workroom (See Admin Services Above)
	STORAGE (SAFE)		120		4	4	480	5	600	
	LOCKED STORAGE	1262	200		1	3	600	4	800	
	COAT CLOSET		40		0	1	40		-	Only on level 6 per 1/13/2025 meeting
	MAIL ROOM		120		1	1	120	1	70	
	SHOWER -SINGLE	51	50		1	1	50	1	50	
	JANITORIAL	50	64			2	128	2	128	
	EXTERIOR PATIO		300		0	1	300	0	-	To be apart of 6th floor build out
	OTHER						-		-	
	SPACE SUBTOTAL	4,947			20	24	5,135	22	4,168	
	CIRCULATION FACTOR		35%				2,765			In order to accommodate a 35% circulation factor, a .5385 circulation multiplier is used on the subtotal.
	TOTAL COMMON						7,900			
UTILITY/CODE REQUIRED SPACES	IDF ROOM - LEVELS 2,4,6		80		4	3	240	3	240	3 required - validated by EEOR
	BASEMENT MDF		192		2	1	192	1	200	1 required - validated by EEOR
	ELECTRICAL ROOM - LEVELS 1,3,5		80			3	240	3	240	Per meeting on1/6/2025, electrical & IDF rooms will alternate floors and stack vertically. 3 required - validated by EEOR
	BASEMENT ELECTRICAL ROOM	127	180		1	1	180	1	180	Validated as required by EEOR
	BASEMENT SMUD VAULT		432			1	432			Required 24'Lx18' Wx12'H SMUD vault with 2 equipment hatches to sidewalk. Update: Existing Service will be maintained (no upsize). SMUD confirmed Valut will not be require if not upsizing
	MRL ELEVATOR ROOM		120			1	120	1	64	
	FIRE PUMP ROOM						375	1	375	Single Pump Room for Fire Sprinkler 25'x15'
	GENERATOR ROOM						270	0		Either will be on the roof or need a 15'x18' room
	BIKE STORAGE		150		0	1	150	1	150	CSAC request to accommodate 3 bikes - Code will require 2 bike lockers and 2 racks due to the building expansion (6th Floor)- recommend putting on the public way (will require encroachment permits)
	MOTHER'S ROOM		120		0	1	120	1	80	
	RESTROOM - SINGLE	226	56			10	560	14	784	
	SPACE SUBTOTAL	1,583			7	22	2,879	26	2,313	(Note: Existing SF includes Basement Mech Room at 539SF)
	CIRCULATION FACTOR		35%				1,550			In order to accommodate a 35% circulation factor, a .5385 circulation multiplier is used on the subtotal.
	TOTAL COMMON						4,429			
	TOTAL PROGRAM SF	14,800					18,680		16,421	
	TOTAL CIRCULATION SF	7,000					10,058		7,379	
	TOTAL USABLE SQUARE FOOTAGE REQUIRMENTS (Program + Circulation)	21,800					28,738		23,800	
	TOTAL USABLE SQUARE FOOTAGE IN BUILDING(WITH 6TH FLOOR)	n/a					**23,800**		**23,800**	
	DELTA						**(4,938)**			

PROGRAM DESIGN

Percentage Breakdown

EXISTING DESIGN

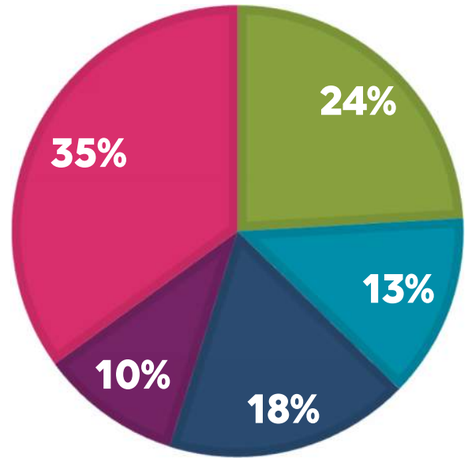
- Offices
- Meeting/Enclosed Collaborative
- Common/Open Collaborative
- Utility/Code Required Spaces
- Circulation



Offices	6,954
Meeting/Enclosed Collaborative	1,316
Common/Open Collaborative	4,947
Utility/Code Required Spaces	1,583
Circulation	7,000
TOTAL PROGRAM SF	14,800
TOTAL CIRCULATION SF	7,000
TOTAL USABLE SQUARE FOOTAGE REQUIRMENTS (Program + Circulation)	21,800

NEW REQUESTED DESIGN

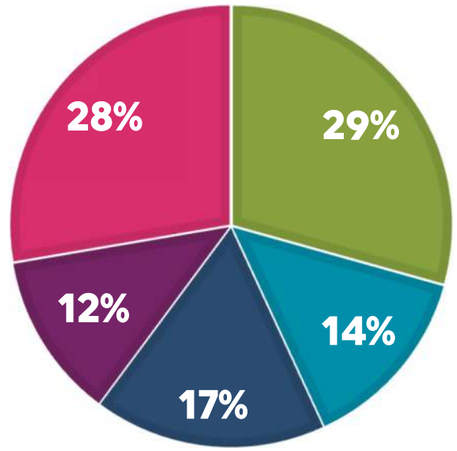
- Offices
- Meeting/Enclosed Collaborative
- Common/Open Collaborative
- Utility/Code Required Spaces
- Circulation



Offices	6,800
Meeting/Enclosed Collaborative	3,866
Common/Open Collaborative	5,135
Utility/Code Required Spaces	2,879
Circulation	10,058
TOTAL PROGRAM SF	18,680
TOTAL CIRCULATION SF	10,058
TOTAL USABLE SQUARE FOOTAGE REQUIRMENTS (Program + Circulation)	28,738
TOTAL USABLE SQUARE FOOTAGE IN BUILDING(WITH 6TH FLOOR)	**23,800**
DELTA	**(4,938)**

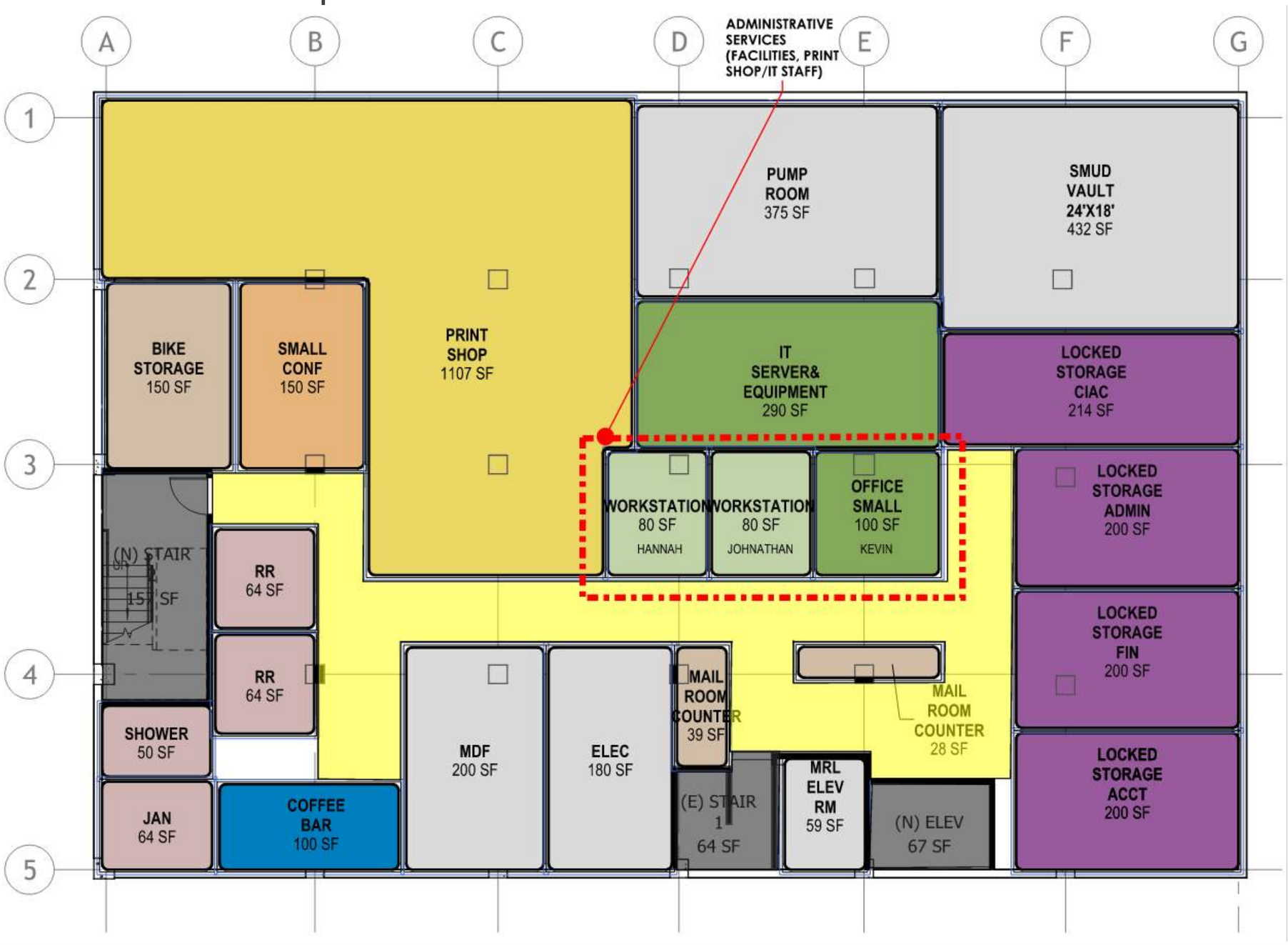
RECOMMENDED NEW DESIGN

- Offices
- Meeting/Enclosed Collaborative
- Common/Open Collaborative
- Utility/Code Required Spaces
- Circulation

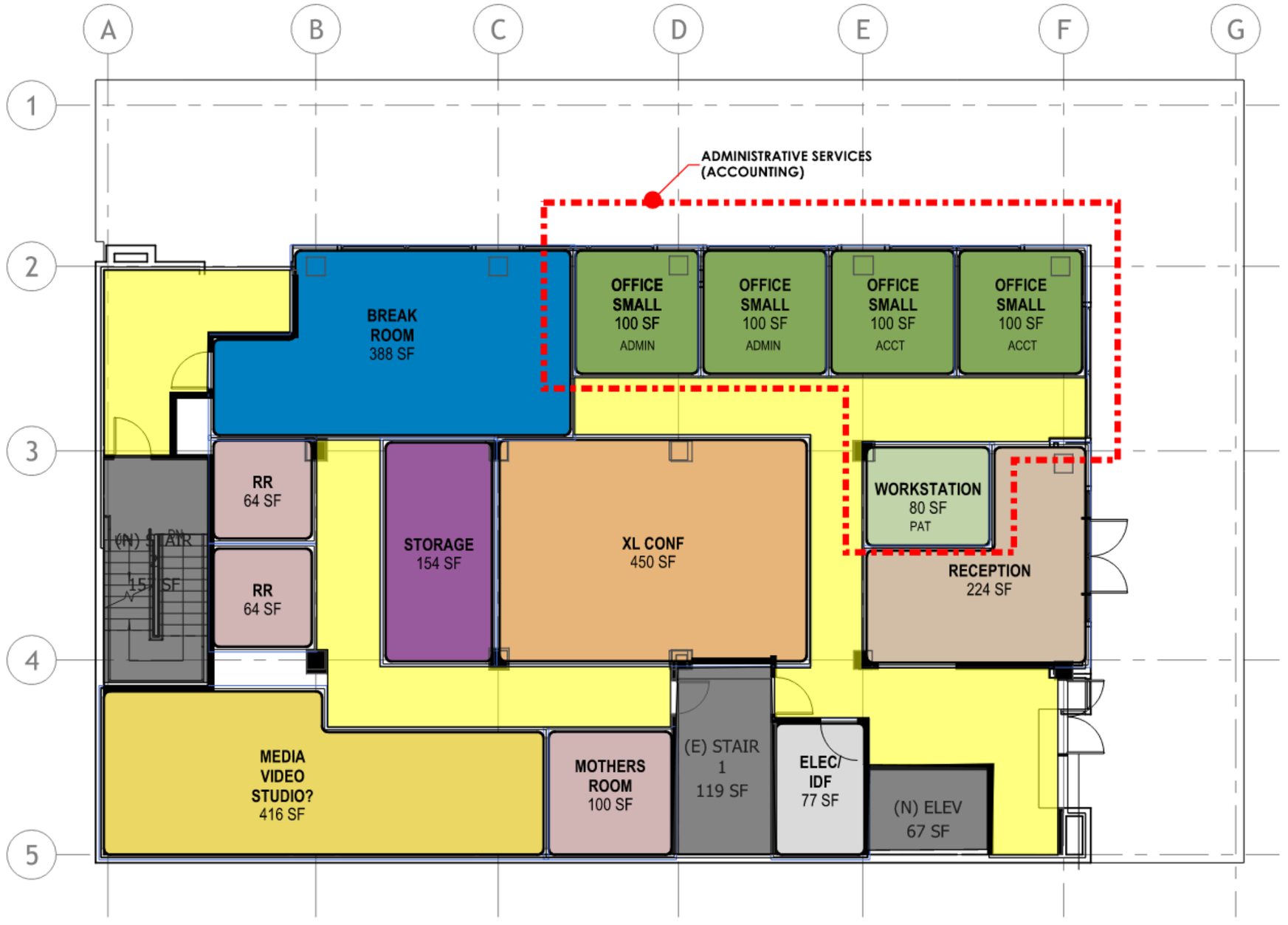


Offices	6,420
Meeting/Enclosed Collaborative	3,520
Common/Open Collaborative	4,168
Utility/Code Required Spaces	2,313
Circulation	7,379
TOTAL PROGRAM SF	16,421
TOTAL CIRCULATION SF	7,379
TOTAL USABLE SQUARE FOOTAGE REQUIRMENTS (Program + Circulation)	23,800
TOTAL USABLE SQUARE FOOTAGE IN BUILDING(WITH 6TH FLOOR)	**23,800**
DELTA	0

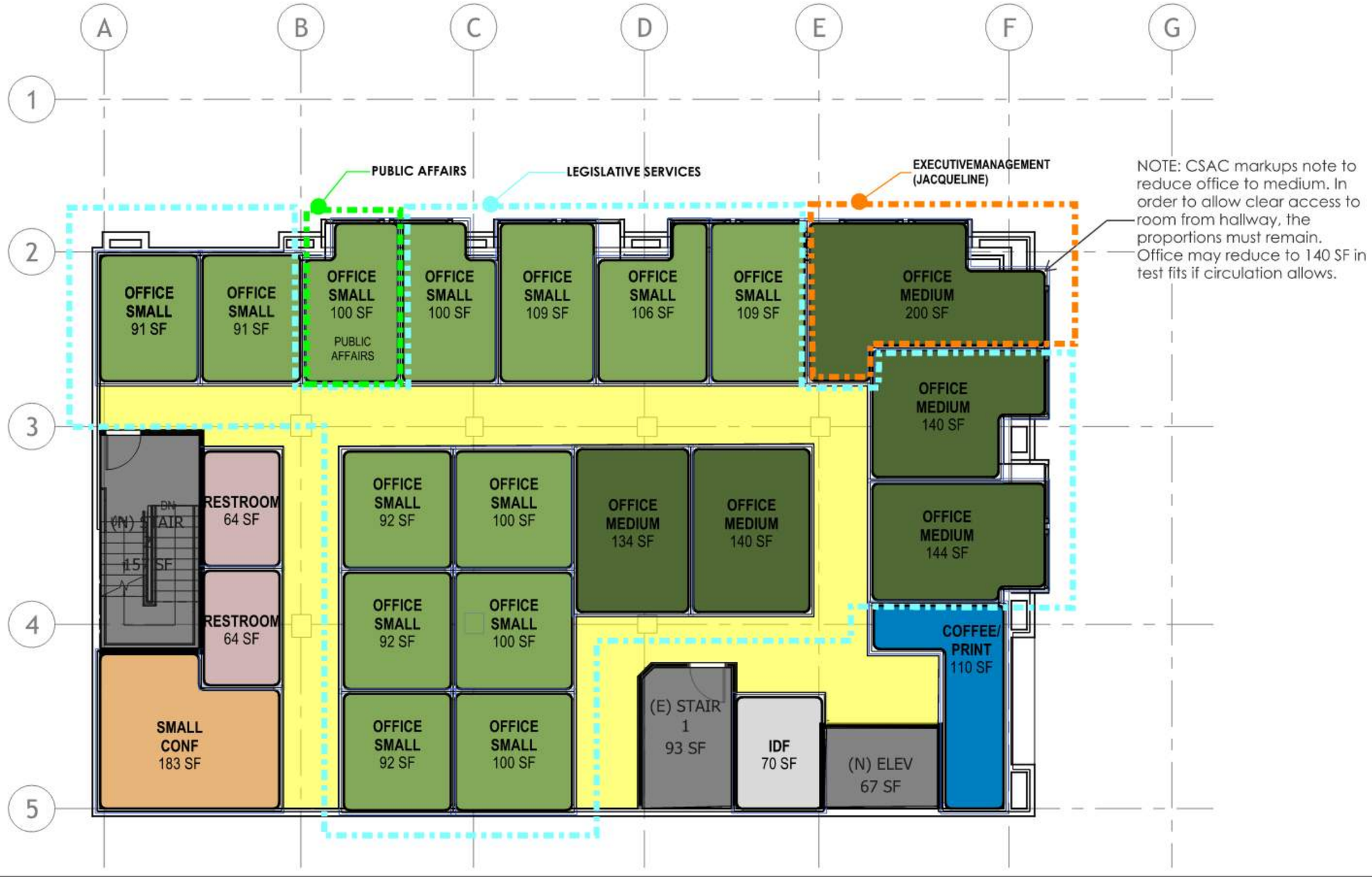
BASEMENT LEVEL | CONCEPTUAL BLOCKING PLAN



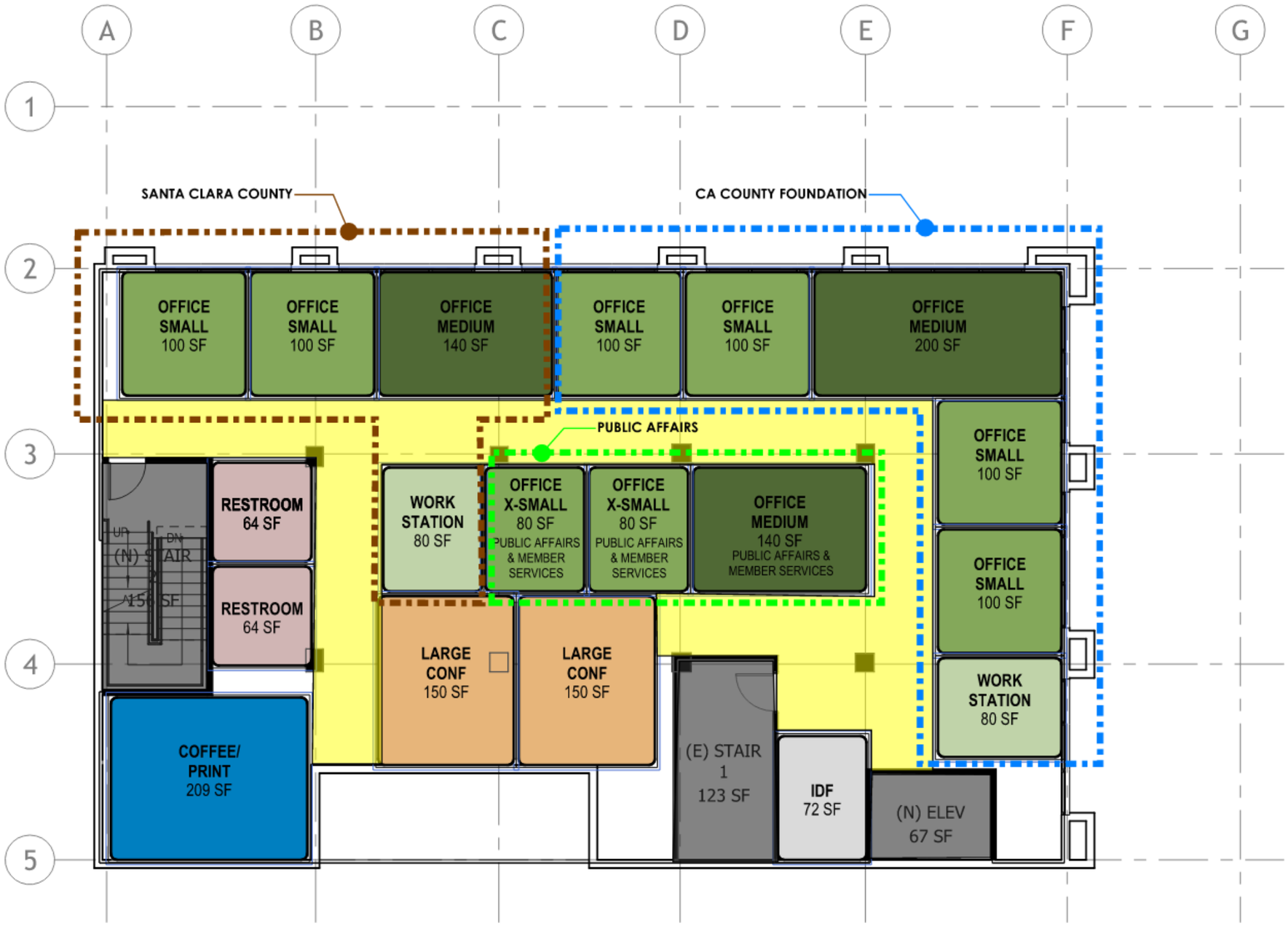
LEVEL 1 | CONCEPTUAL BLOCKING PLAN



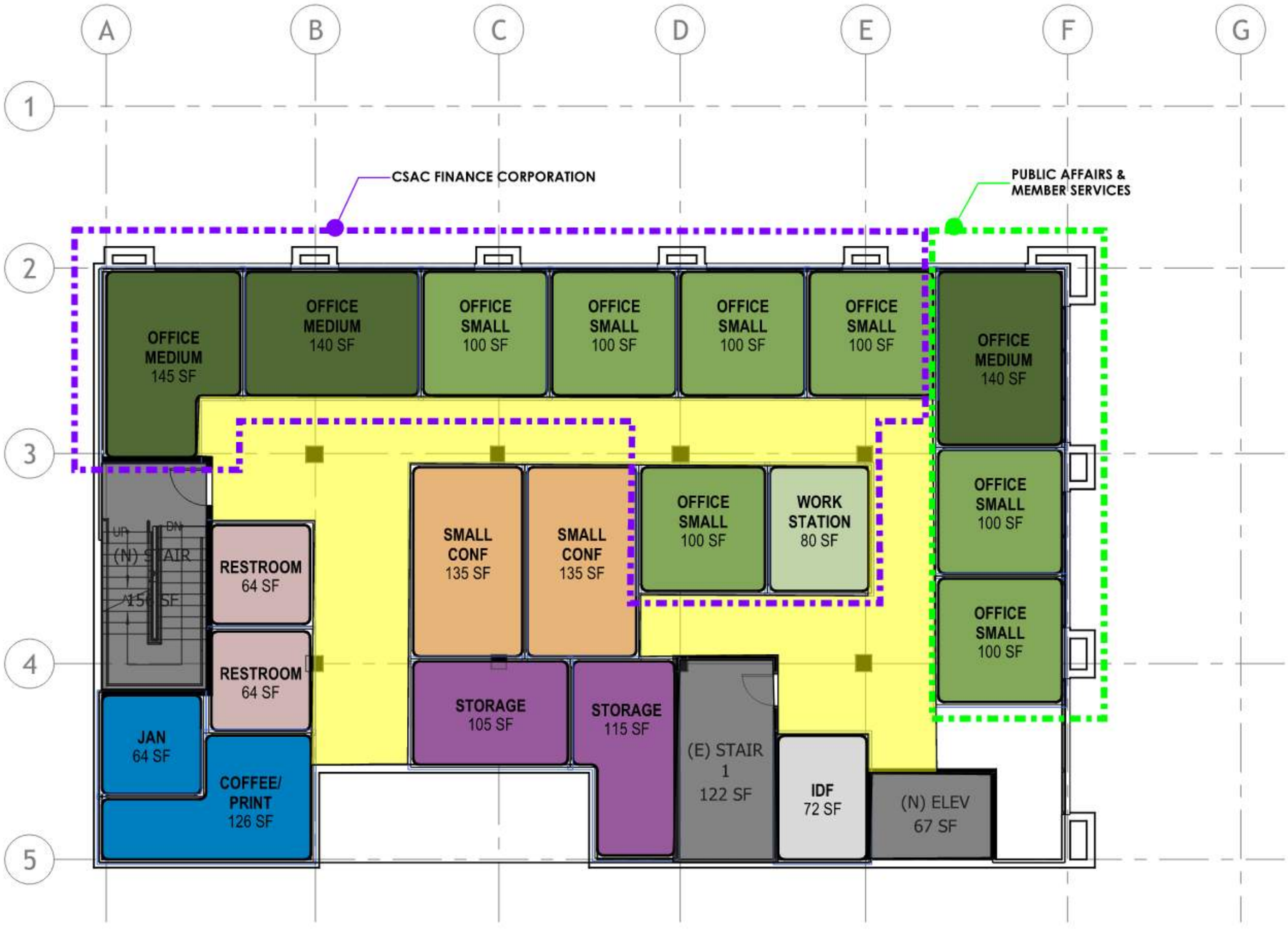
LEVEL 2 | CONCEPTUAL BLOCKING PLAN



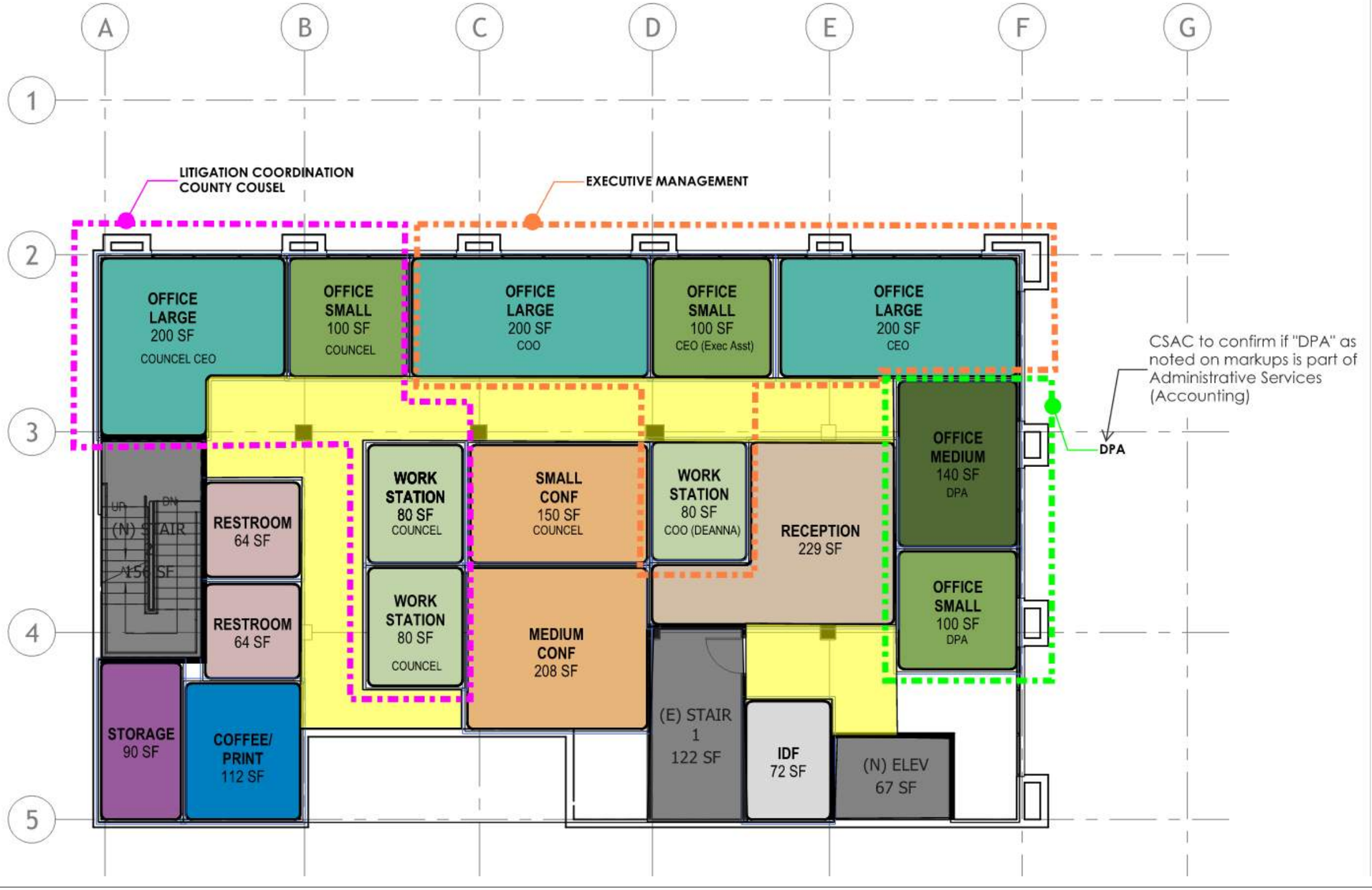
LEVEL 3 | CONCEPTUAL BLOCKING PLAN



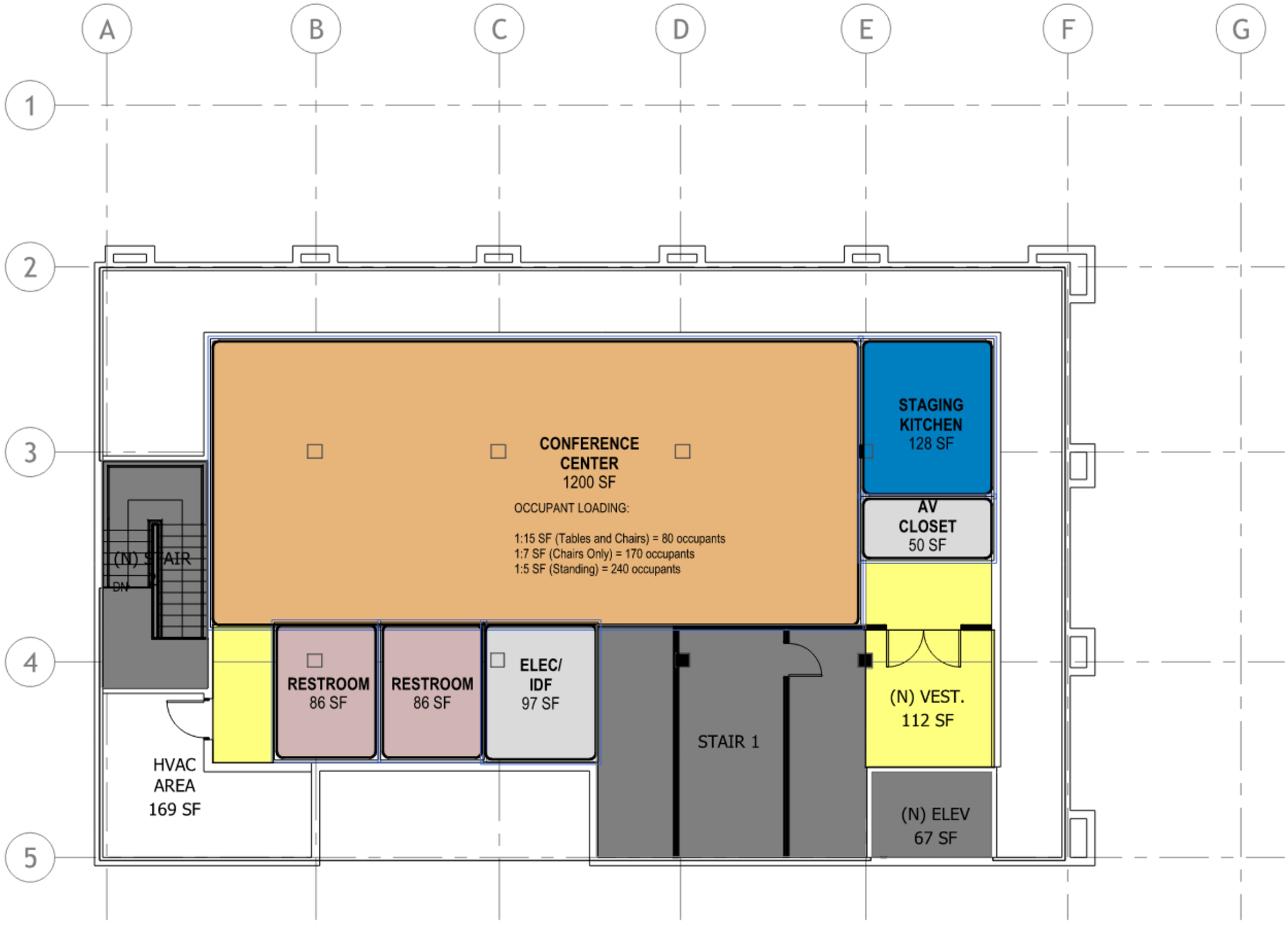
LEVEL 4 | CONCEPTUAL BLOCKING PLAN



LEVEL 5 | CONCEPTUAL BLOCKING PLAN

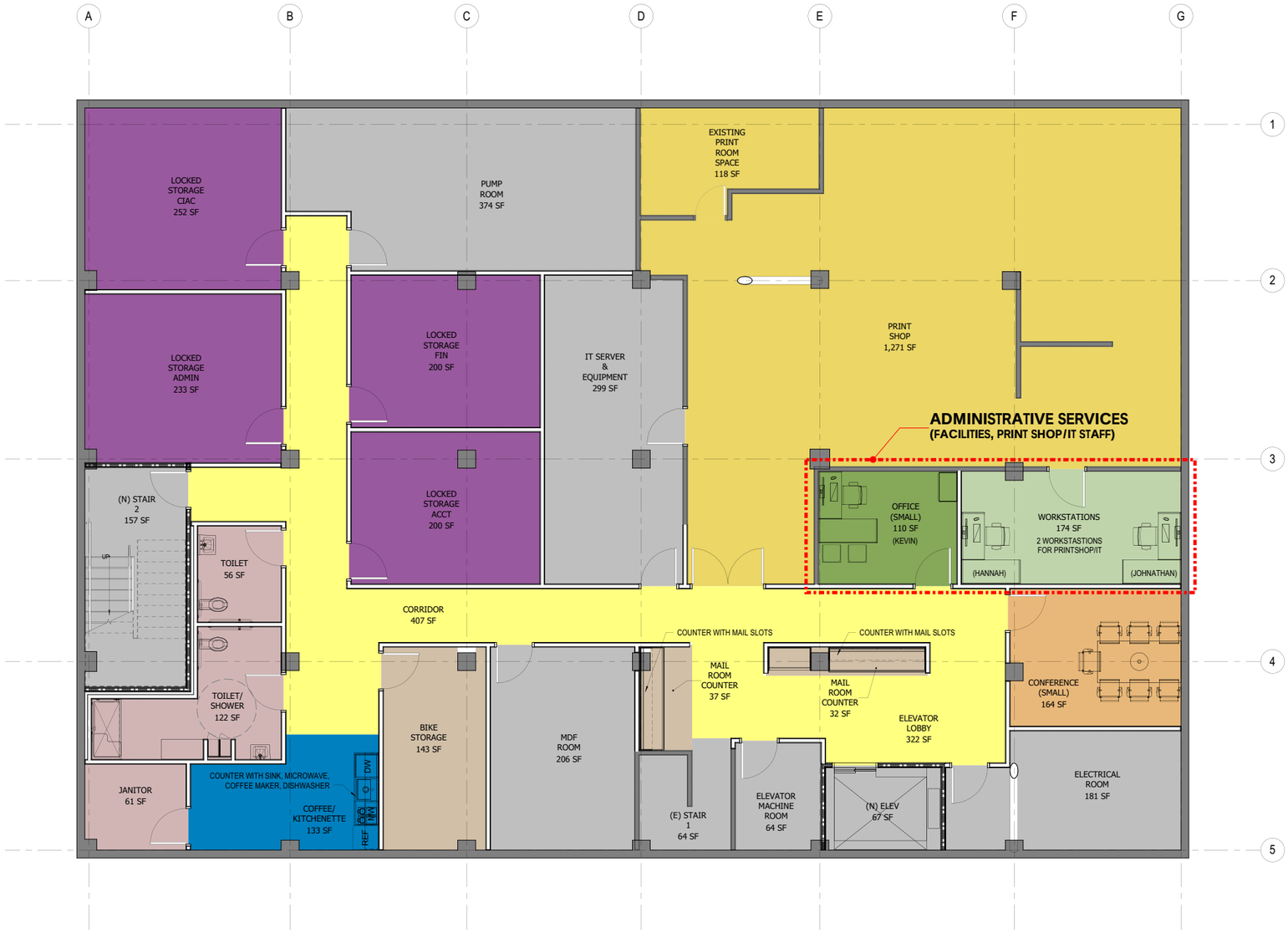


LEVEL 6 | CONCEPTUAL BLOCKING PLAN



CSAC BUILDING RENOVATION
5380-001-00

BASEMENT



Department Summary

Administrative Services

- Office Small: 1
- Workstation: 2

Block Diagram Revisions

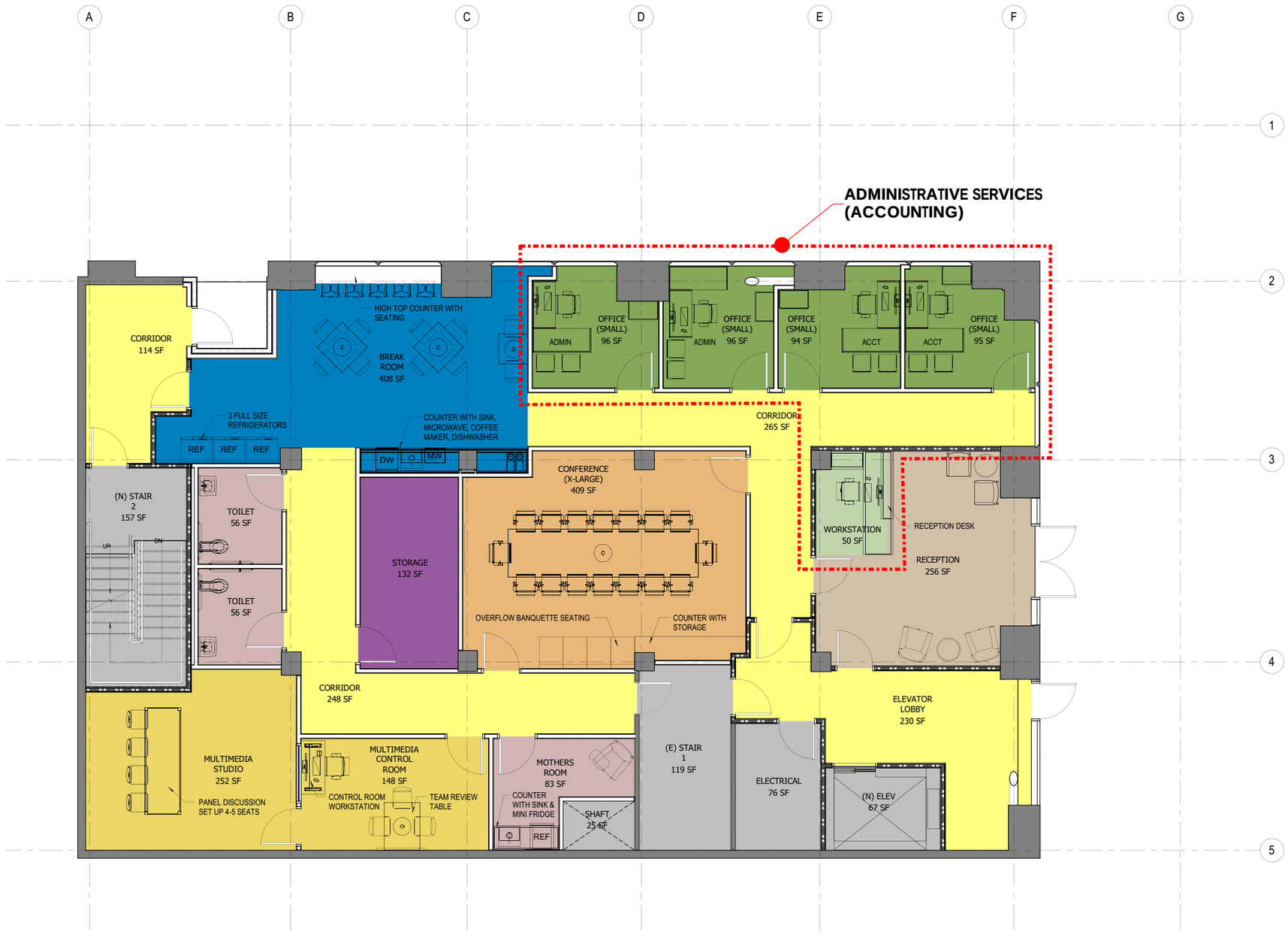
- As a result of keeping the Electrical Service the same, the proposed new enlarged SMUD vault in the Block Diagrams was removed. It allowed for the the Print Shop to stay in its current location, and rearrange the ancillary and back of house spaces to be more efficient.

- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.

HGA

Reception / Amentities
Circulation
Workstation
Office (small)
Office (medium)
Office (large)
Conference
Storage
Buisness / Break Room
Toilet / Private
Print Shop / Media Space
Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Administrative Services

- **Office Small: 4**
- **Workstation: 1**

Block Diagram Revisions

- **Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.**
- **Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.**
- **Proposed shaft location added for mechanical systems.**

HGA

Reception / Amenities | **Circulation** | **Workstation** | **Office (small)** | **Office (medium)** | **Office (large)** | **Conference** | **Storage** | **Buisness / Break Room** | **Toilet / Private** | **Print Shop / Media Space** | **Systems / Vertical Circulation**

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Executive Management

- **Office Medium: 1**

Legislative Services

- **Office Medium: 4**
- **Office Small: 12**

Public Affairs

- **Office Small: 1**

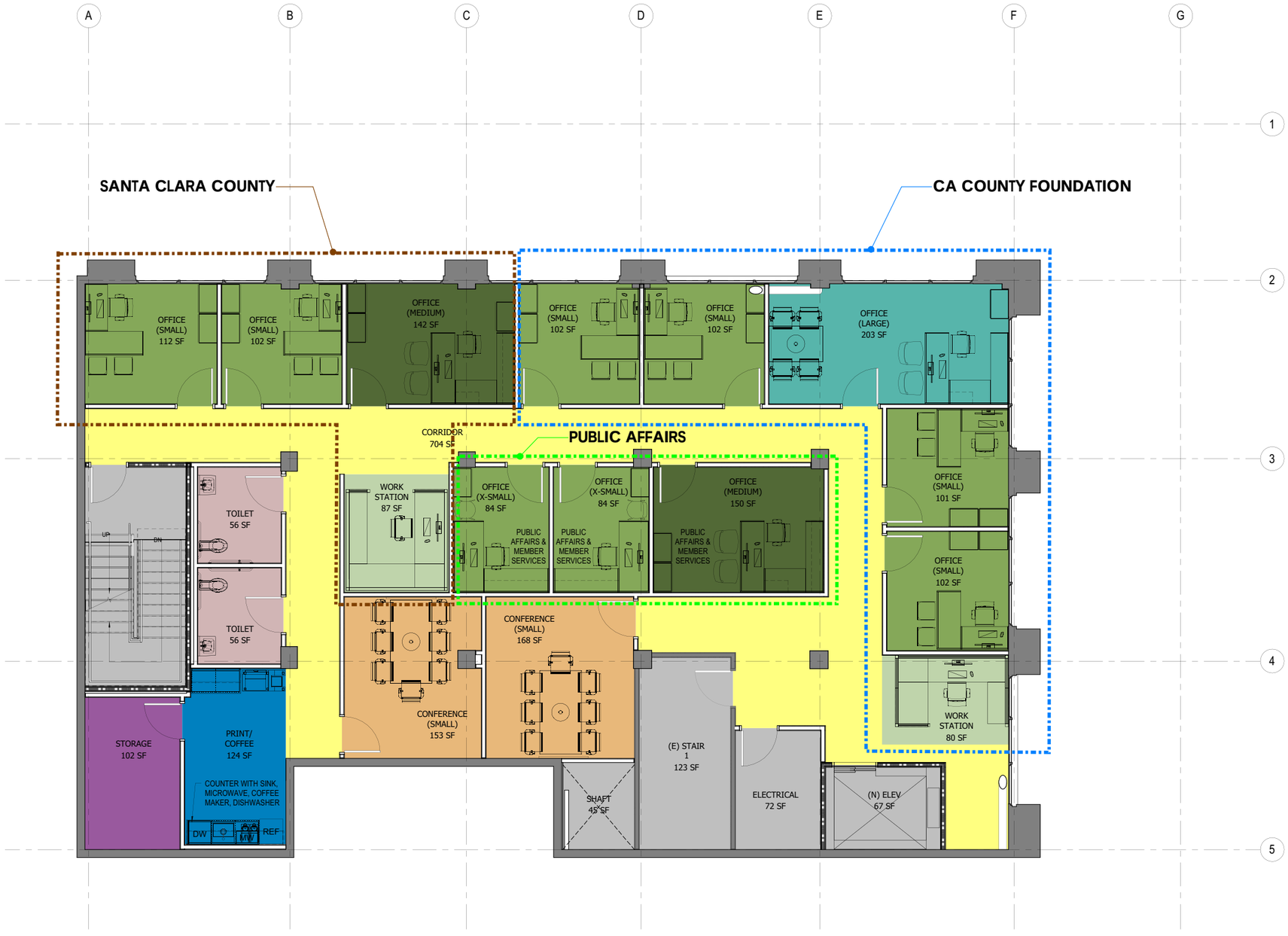
Block Diagram Revisions

- **A central corridor was added to accommodate code compliant accessible path of travel**
- **The Print/Coffee area was shifted to the other side of the building to allow the infrastructure to efficiently stack, resulting in a larger elevator lobby space or potential break-out space.**
- **Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.**
- **Proposed shaft location added for mechanical systems.**

HGA

Reception / Amentities	Office (small)	Conference	Toilet / Private
Circulation	Office (medium)	Storage	Print Shop / Media Space
Workstation	Office (large)	Buisness / Break Room	Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

CA County Foundation

- **Office Large: 1**
- **Office Small: 4**
- **Workstation: 1**

Santa Clara County

- **Office Medium: 1**
- **Office Small: 2**
- **Workstation: 1**

Public Affairs

- **Office Medium: 1**
- **Office Small: 2**

Block Diagram Revisions

- **Storage was added adjacent to the Print/Coffee space as opposed to it being entirely Print/Coffee space. If desired this could be a larger Print/Coffee room per the block diagrams.**

- **Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.**

- **Proposed shaft location added for mechanical systems.**

HGA

- **Reception / Amentities**
- **Circulation**
- **Workstation**
- **Office (small)**
- **Office (medium)**
- **Office (large)**
- **Conference**
- **Storage**
- **Buisness / Break Room**
- **Toilet / Private**
- **Print Shop / Media Space**
- **Systems / Vertical Circulation**

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Public Affairs & Member Services

- Office Medium: 1
- Office Small: 2

CSAC Finance Corporation

- Office Medium: 2
- Office Small: 5
- Workstation: 1

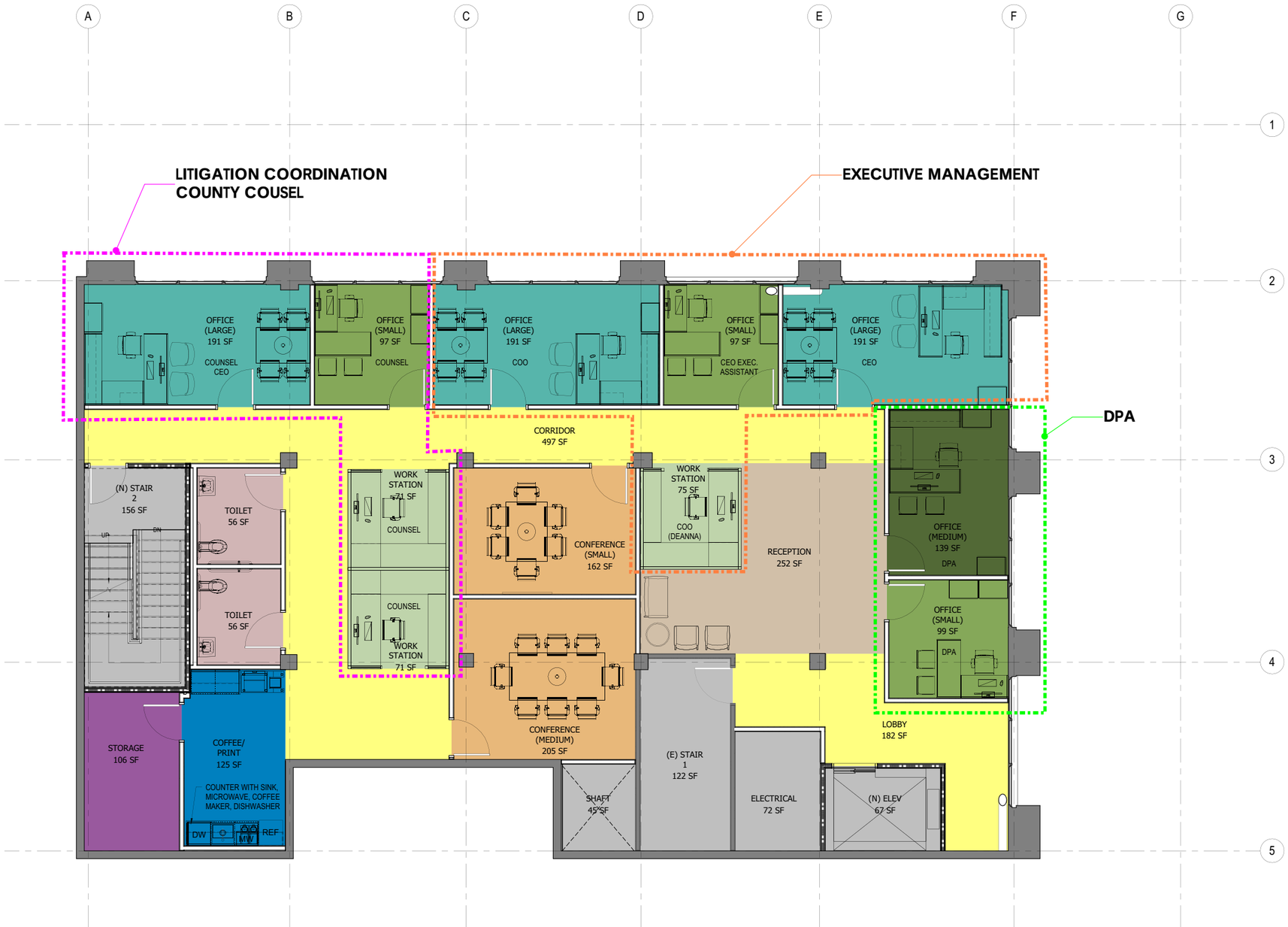
Block Diagram Revisions

- Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.
- One of the medium offices had to change from the original L-shape to accommodate the path of travel to the new stairs, but the square footage remained close to the block diagrams
- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.
- Proposed shaft location added for mechanical systems.

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Executive Management

- Office Large: 2
- Office Small: 1
- Workstation: 1

DPA

- Office Medium: 1
- Office Small: 1

Litigation Coordination County Counsel

- Office Large: 1
- Office Small: 1
- Workstation: 2

Block Diagram Revisions

- Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.
- One of the large offices had to change from the original L-shape to accommodate our path of travel to the new stairs, but the square footage remained close to the block diagrams
- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.
- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities
Circulation
Workstation
Office (small)
Office (medium)
Office (large)
Conference
Storage
Buisness / Break Room
Toilet / Private
Print Shop / Media Space
Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Conference Center - Open Square Table Option

- 44 Conference Chairs
- 20 Conference Tables
- 16+ Overflow Seating

Block Diagram Revisions

- The removal of the HVAC area, shown in the Block Diagrams, in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities	Office (small)	Conference	Toilet / Private
Circulation	Office (medium)	Storage	Print Shop / Media Space
Workstation	Office (large)	Buisness / Break Room	Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Conference Center Event - 6' Round Table Option

- 6' diameter tables : 10
- Dining Chairs: 90

Block Diagram Revisions

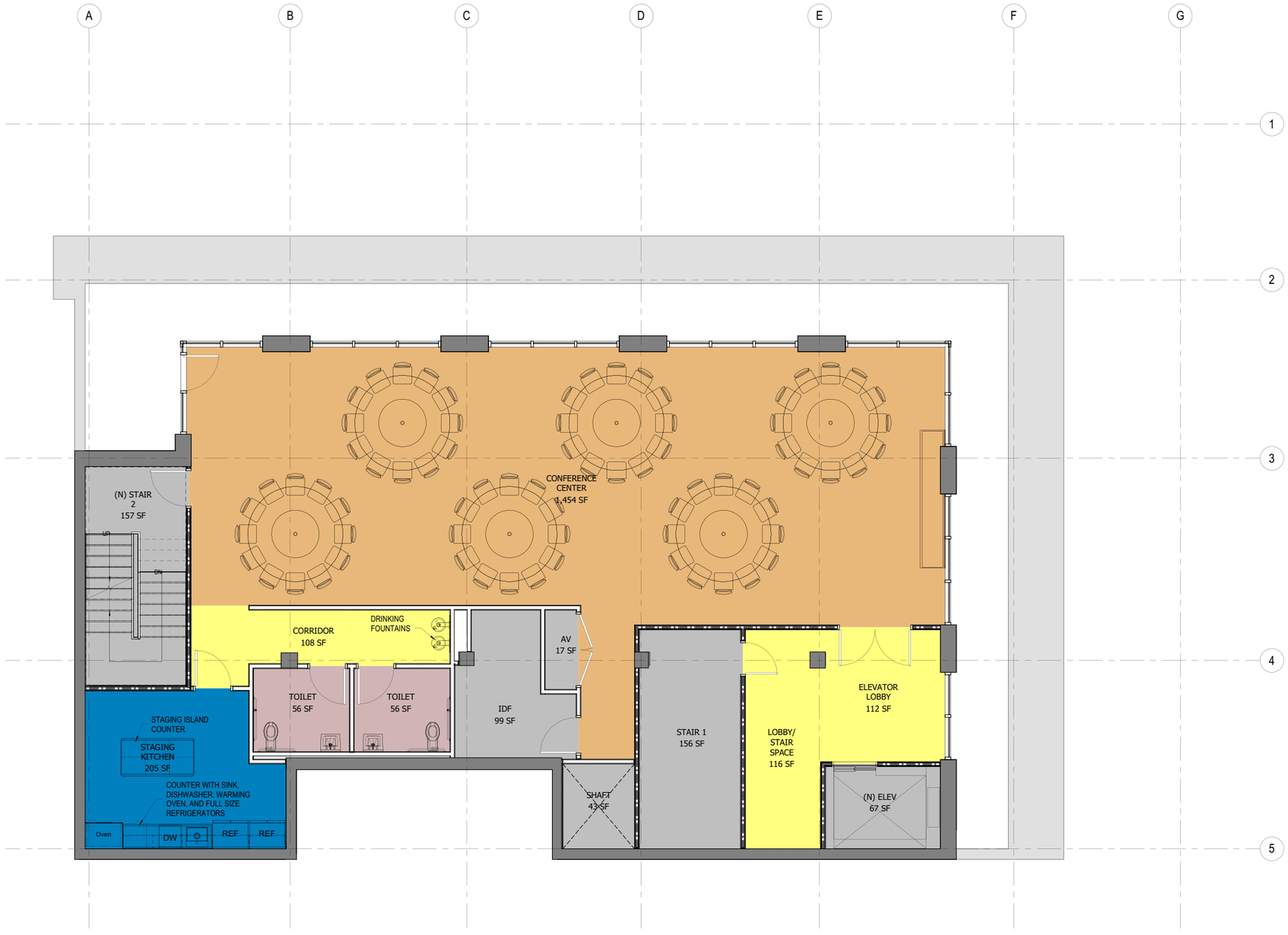
- The removal of the HVAC area, shown in the Block Diagrams, in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Conference Center Event - 8' Round Table Option

- 8' diameter tables : 6
- Dining Chairs: 72

Block Diagram Revisions

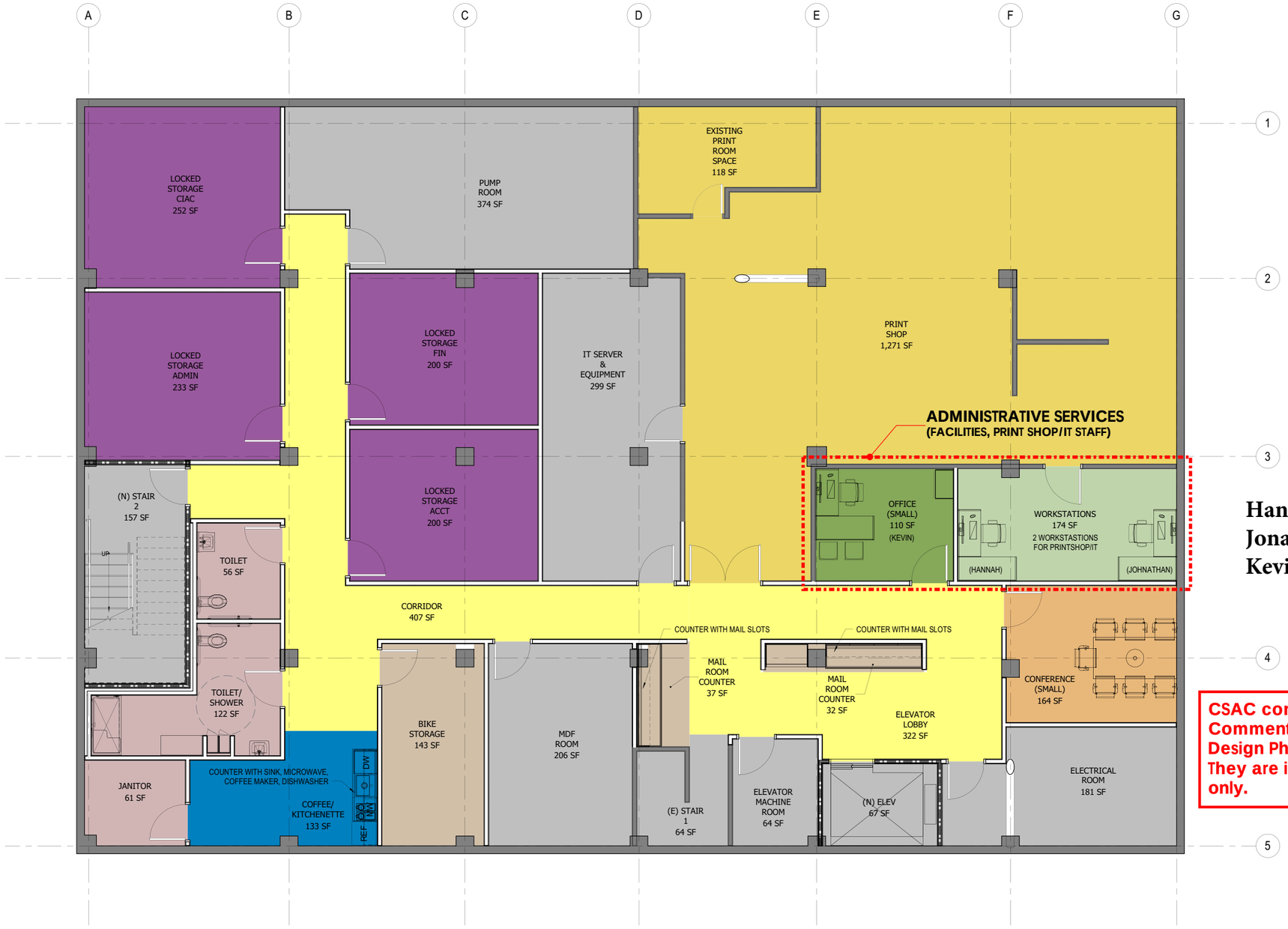
- The removal of the HVAC area in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Administrative Services

- **Office Small: 1**
- **Workstation: 2**

Block Diagram Revisions

- **As a result of keeping the Electrical Service the same, the proposed new enlarged SMUD vault in the Block Diagrams was removed. It allowed for the the Print Shop to stay in its current location, and rearrange the ancillary and back of house spaces to be more efficient.**

- **Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.**

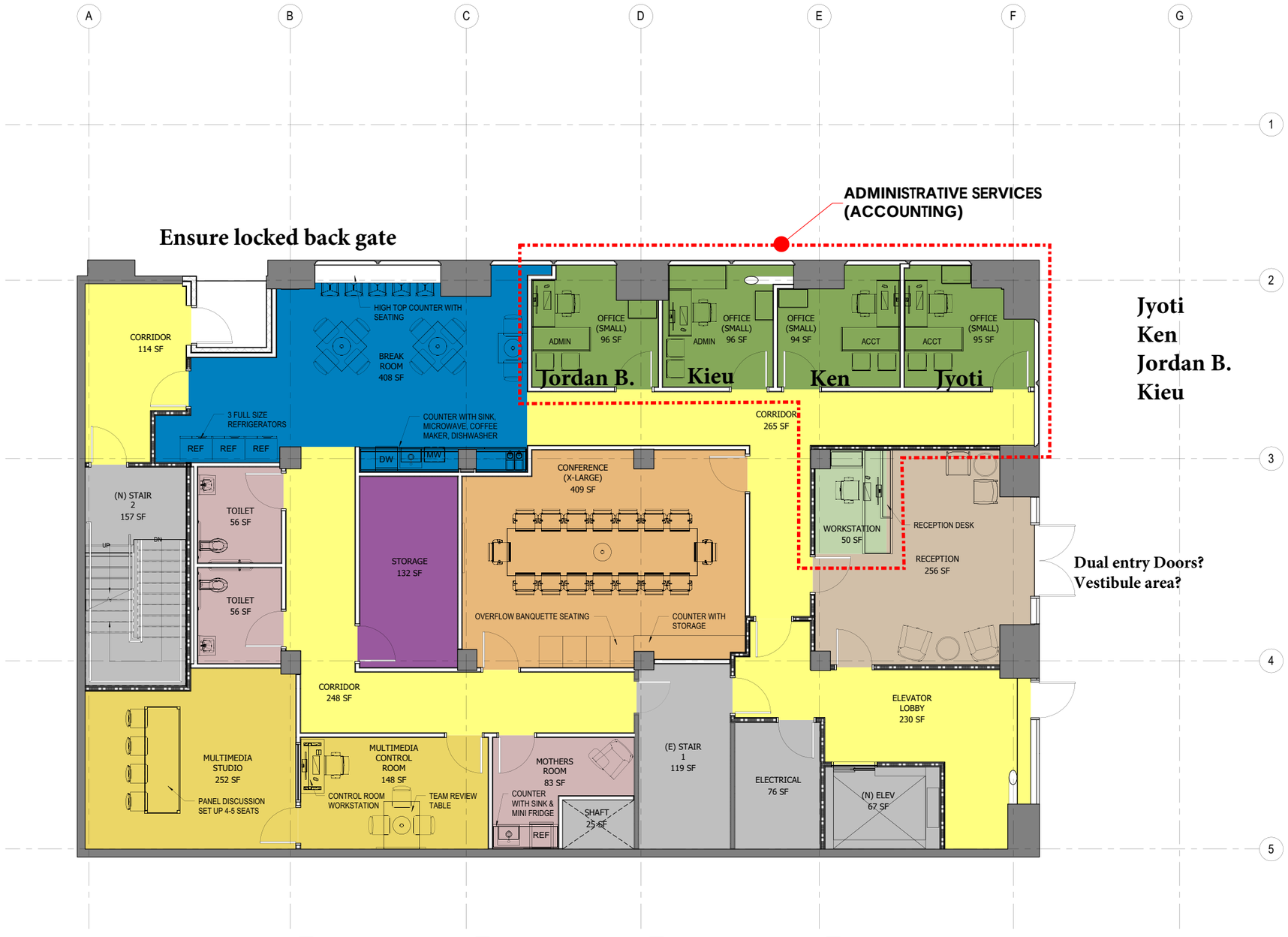
Hannah
Jonathon
Kevin

CSAC comments received on 4/3/25.
Comments will be incorporated in Schematic Design Phase.
They are included in this report for reference only.

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Administrative Services

- Office Small: 4
- Workstation: 1

Block Diagram Revisions

- Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.
- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.
- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities
Circulation
Workstation
Office (small)
Office (medium)
Office (large)
Conference
Storage
Buisness / Break Room
Toilet / Private
Print Shop / Media Space
Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Executive Management

- **Office Medium: 1**

Legislative Services

- **Office Medium: 4**
- **Office Small: 12**

Public Affairs

- **Office Small: 1**

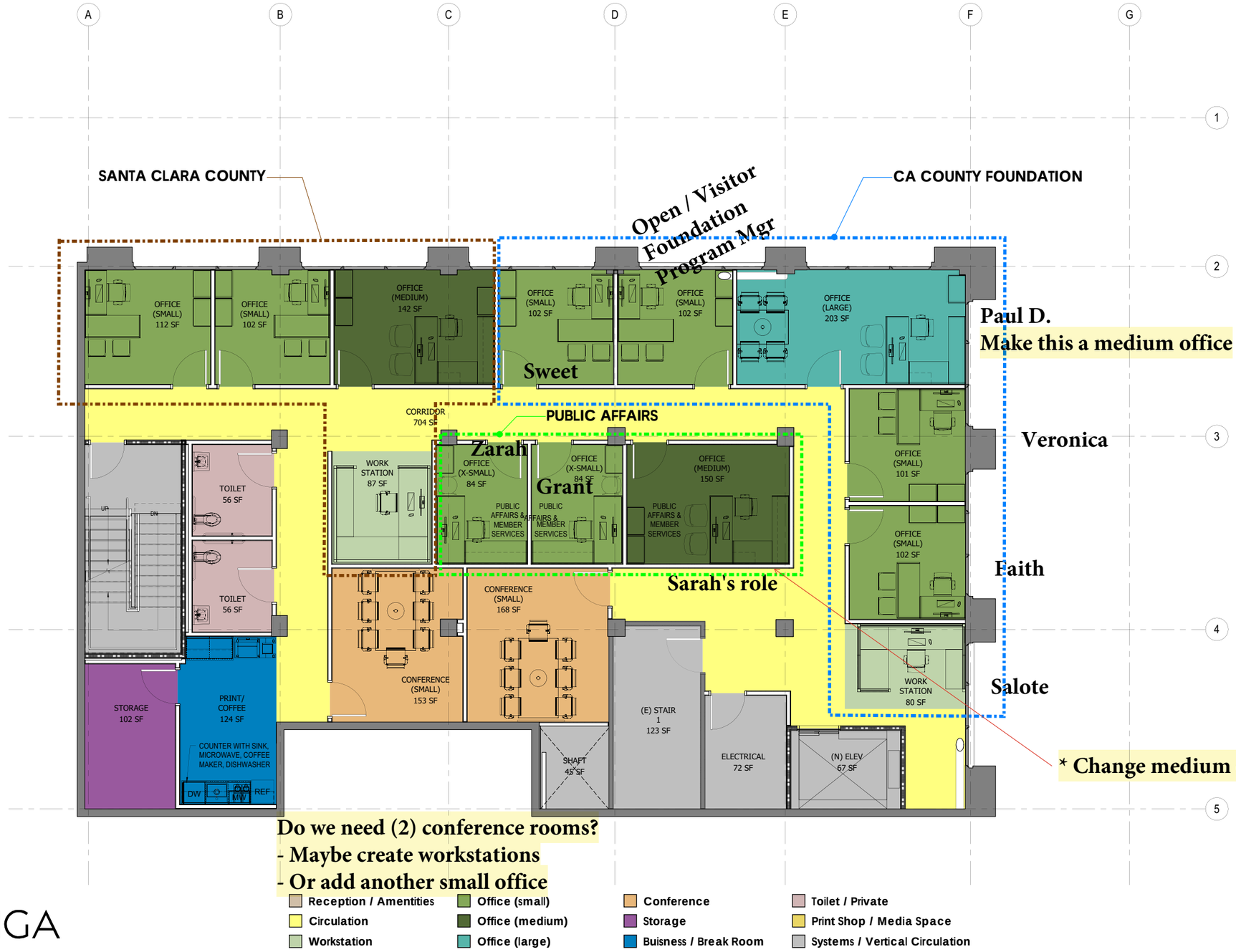
Block Diagram Revisions

- **A central corridor was added to accommodate code compliant accessible path of travel**
- **The Print/Coffee area was shifted to the other side of the building to allow the infrastructure to efficiently stack, resulting in a larger elevator lobby space or potential break-out space.**
- **Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.**
- **Proposed shaft location added for mechanical systems.**

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

CA County Foundation

- Office Large: 1
- Office Small: 4
- Workstation: 1

Santa Clara County

- Office Medium: 1
- Office Small: 2
- Workstation: 1

Public Affairs

- Office Medium: 1
- Office Small: 2

Block Diagram Revisions

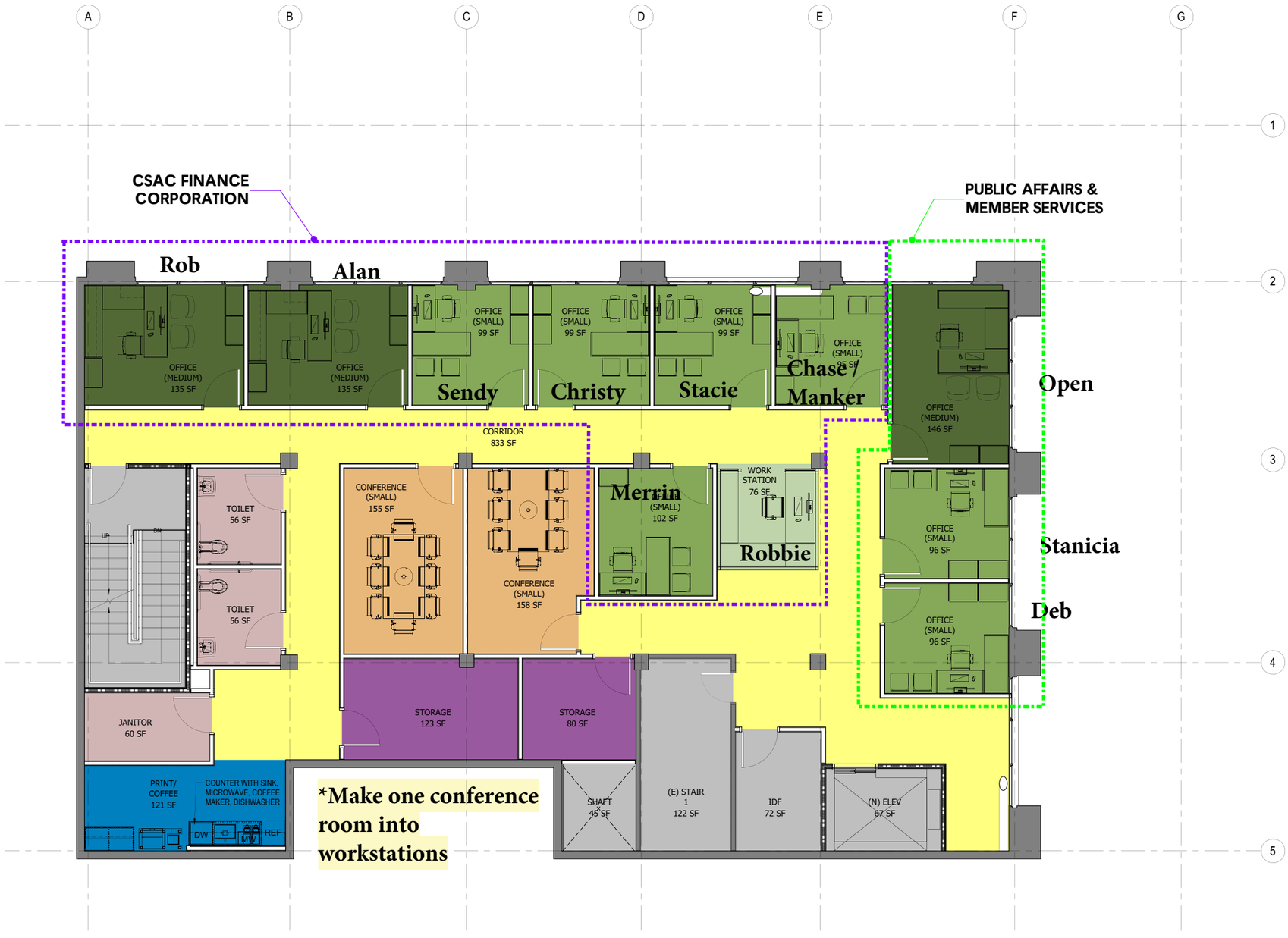
- Storage was added adjacent to the Print/Coffee space as opposed to it being entirely Print/Coffee space. If desired this could be a larger Print/Coffee room per the block diagrams.

- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.

- Proposed shaft location added for mechanical systems.

HGA

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Public Affairs & Member Services

- Office Medium: 1
- Office Small: 2

CSAC Finance Corporation

- Office Medium: 2
- Office Small: 5
- Workstation: 1

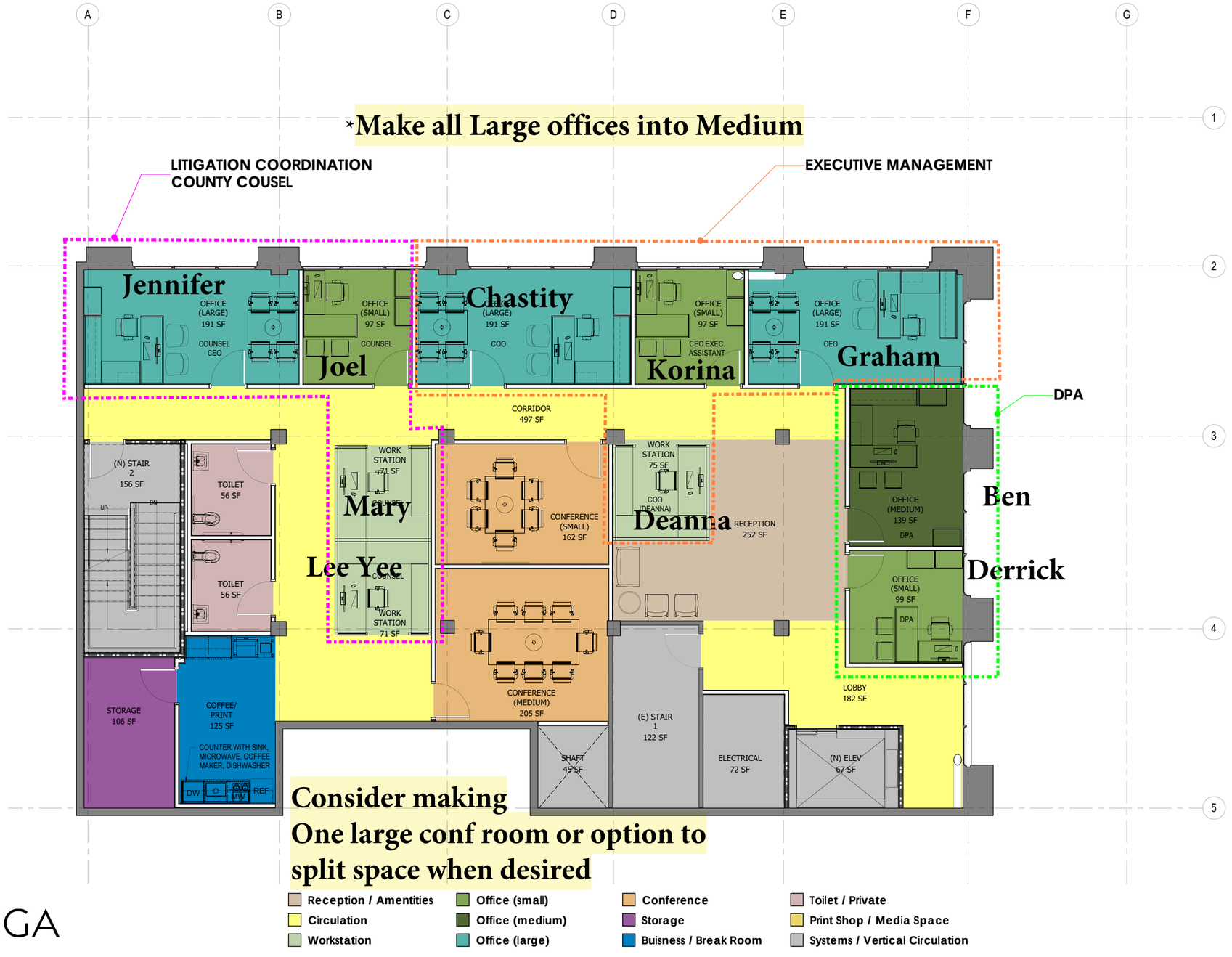
Block Diagram Revisions

- Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.
- One of the medium offices had to change from the original L-shape to accommodate the path of travel to the new stairs, but the square footage remained close to the block diagrams
- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.
- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities
Circulation
Workstation
Office (small)
Office (medium)
Office (large)
Conference
Storage
Buisness / Break Room
Toilet / Private
Print Shop / Media Space
Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Executive Management

- Office Large: 2
- Office Small: 1
- Workstation: 1

DPA

- Office Medium: 1
- Office Small: 1

Litigation Coordination County Counsel

- Office Large: 1
- Office Small: 1
- Workstation: 2

Block Diagram Revisions

- Floor Plan layout generally stayed the same, with relatively minor shifts from the Block Diagrams.

- One of the large offices had to change from the original L-shape to accommodate our path of travel to the new stairs, but the square footage remained close to the block diagrams

- Diagonal braces were added, as part of the seismic retrofit, along grid line 2 between grid lines D & E, and along grid line F between grid lines 4 & 5.

- Proposed shaft location added for mechanical systems.

HGA

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Conference Center - Open Square Table Option

- 44 Conference Chairs
- 20 Conference Tables
- 16+ Overflow Seating

Block Diagram Revisions

- The removal of the HVAC area, shown in the Block Diagrams, in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities	Office (small)	Conference	Toilet / Private
Circulation	Office (medium)	Storage	Print Shop / Media Space
Workstation	Office (large)	Buisness / Break Room	Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"

Department Summary

Conference Center Event - 6' Round Table Option

- 6' diameter tables : 10
- Dining Chairs: 90

Block Diagram Revisions

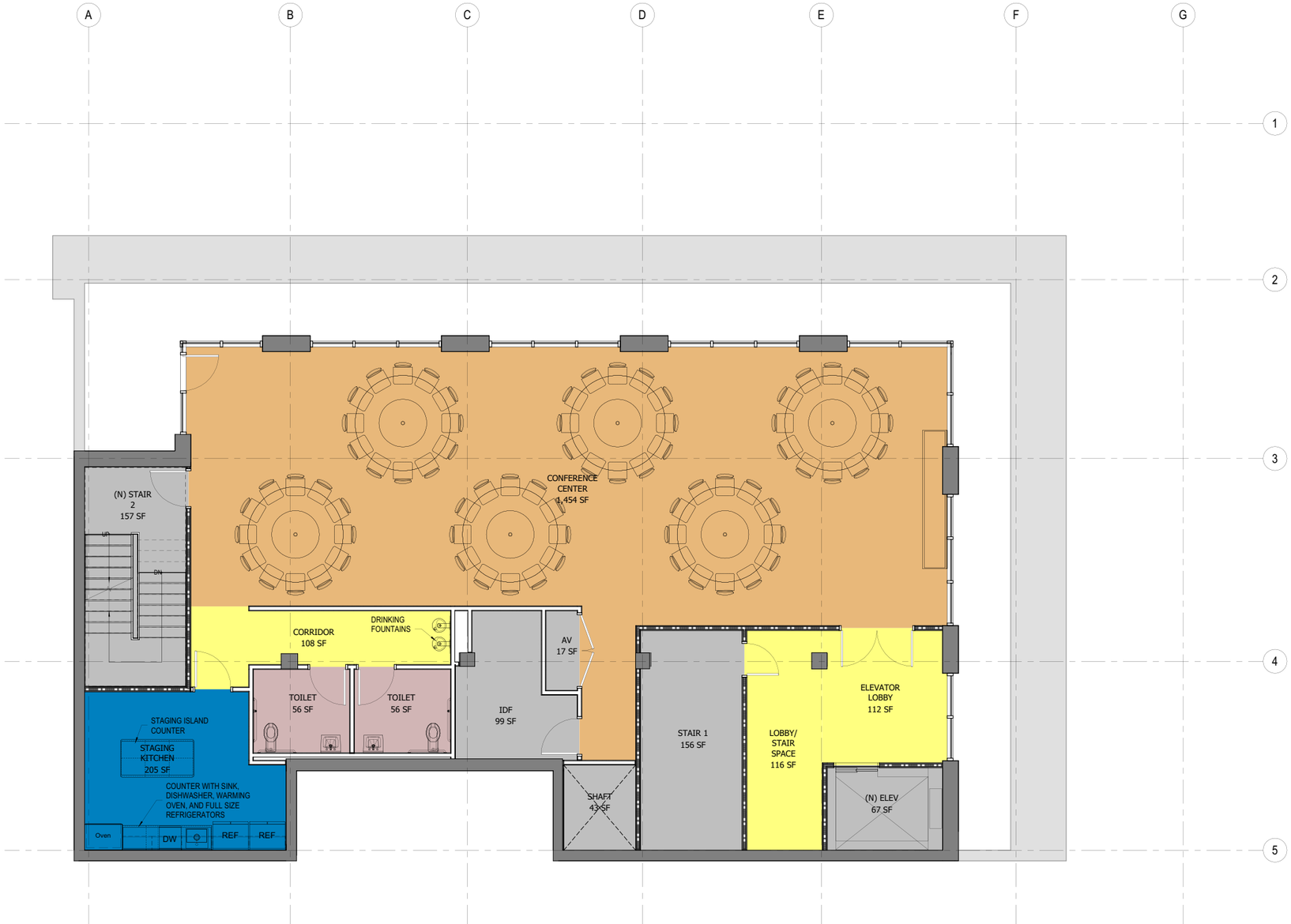
- The removal of the HVAC area, shown in the Block Diagrams, in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

- Reception / Amentities
- Circulation
- Workstation
- Office (small)
- Office (medium)
- Office (large)
- Conference
- Storage
- Buisness / Break Room
- Toilet / Private
- Print Shop / Media Space
- Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"



Department Summary

Conference Center Event - 8' Round Table Option

- 8' diameter tables : 6
- Dining Chairs: 72

Block Diagram Revisions

- The removal of the HVAC area in favor of units that will be mounted on the new roof provided an opportunity to shift the staging kitchen where it can stack with the Print/Coffee spaces to maximize efficiency, and prioritize the usable conference/event space.

- Proposed shaft location added for mechanical systems.

HGA

Reception / Amentities	Office (small)	Conference	Toilet / Private
Circulation	Office (medium)	Storage	Print Shop / Media Space
Workstation	Office (large)	Buisness / Break Room	Systems / Vertical Circulation

MARCH 14, 2025 1/4" = 1'-0"

3.0

STRUCTURAL

BUEHLER

600 Q Street, Suit 200
Sacramento, CA 95811
P 916 444 0303

Sacramento
Los Angeles
Phoenix
San Francisco
Silicon Valley

buehlerengineering.com

ASCE 41-17 TIER 1 and 2 EVALUATION

for

CSAC
Sacramento

Project Number: 2024-0385

March 13, 2025

ideas engineered | visions realized

180 Montgomery Street
Suite 1500
San Francisco, CA 94104

P 415 495 1635

Sacramento
Los Angeles
Phoenix
San Francisco
San Luis Obispo
Silicon Valley

buehlerengineering.com

CALIFORNIA STATE ASSOCIATION OF COUNTIES
ASCE 41 TIER 1 AND 2 EVALUATION REPORT NARRATIVE

1100 K Street, Sacramento, California
2024-038500
March 13, 2025

SCOPE OF STUDY

The scope of this study was to perform a seismic evaluation and assess which structural and non-structural aspects of the building are noncompliant or deficient as identified by an ASCE 41-17 Tier 1 and 2 Procedure. ASCE 41 (American Society of Civil Engineers, Seismic Evaluation and Retrofit of Existing Buildings) is the national standard for the seismic evaluations and retrofit of existing buildings and the Tier 1 procedure is the customary first step for identifying potential seismic vulnerabilities. As part of this scope, certain potential deficiencies were identified. Identification of a potential deficiency at the Tier 1 level means that further, more detailed study is recommended to determine if that deficiency does exist and to what degree of severity. For selected items that were noted in the Tier 1 evaluation, Tier 2 checks were performed to further investigate these items. Conceptual solutions presented are based on the results of the Tier 1 and 2 evaluations. Existing structural drawings detailing as-built conditions could not be located, so extensive data collection and material testing will be required to determine existing conditions of the structural components, including member dimensions and locations and material strengths. The City of Sacramento has also adopted sections of the CEBC that will require a Tier 3 analysis to analyze all the components of the building's load path, not just the ones flagged in the Tier 1 checklists. The Tier 3 analysis is not included in the scope of this study.

This review is based on the following available information:

- A site visit was conducted by Charis Leong, SE, of Buehler on November 20, 2024. Site observations were limited to elements that could be readily observed without removal of finishes. Limited above-ceiling access was available.

- Architectural and Structural drawings for "1100 K Street Remodel", C1, A1 through A10, and S-1 through S-3, dated 1982.

- "1100 K Street Feasibility Study" dated February 23, 2024 prepared by Vanir Construction Management Inc, including Attachment 1 "Structural Report" prepared by CYS Structural Engineers.

SEISMIC HAZARD LEVEL & PERFORMANCE OBJECTIVES

We have evaluated this building under the seismic hazard level of Basic Safety Earthquake-2 (BSE-2E), for use with the Basic Performance Objectives of Existing Buildings, taken with a seismic hazard with a 5% probability of exceedance in 50 years.

This building is classified as a Risk Category II building. Per ASCE 41, with conditions of a RCII, Tier 1, BSE-2E building, we have evaluated the building with a Performance Objective of Collapse Prevention (CP).

SOIL CONDITIONS

A soils report was not available for this building at the time of evaluation. We have assumed code minimum values for a soil classification of “D”.

SEISMICITY OF THE SITE

The location (Sacramento, CA) is generally regarded as a region of high seismic activity.

DESCRIPTION OF THE STRUCTURE

The structure is a five-story building, with a basement that extends below the sidewalk and a mezzanine addition from 1966. It was constructed in 1912 as the PG&E headquarters, and sold in 1966 to become Grebitus and Sons, a jewelry store, at which time the mezzanine level was added between Levels 1 and 2. In 1981 the building was sold to CSAC and remodeled with architectural tenant improvements.

Configuration:
The building is rectangular in plan, about 79’ x 49’, and situated at the southeast corner of 11th and K Streets. A basement extends out below the sidewalks along 11th and K streets. The south end of the building has stacking concrete vaults at each level, stopping short of the roof. The main building entrance is on K Street at the ground level. The roof is sloped to drain and has a penthouse with stairs providing roof access, and an access panel to the roof framing above the ceiling framing of the floor below. Along 11th and K Streets, there is an ornamental cornice that extends out beyond the building footprint.

Gravity system:
The building’s roof and ground level framing consists of a concrete slab spanning to concrete beams and girders supported by concrete columns. The framing at 2nd-4th floors of the building was difficult to visually assess due to existing ceilings. However, from our limited observations the framing at these levels appears to consist of a two-way conc slab spanning to concrete girders which in

turn span between the concrete columns. The columns occur roughly on a grid with spacing varying from 14’10” to 17’11”.
At the added mezzanine level, concrete over metal deck spans between steel wide flange beams which frame into the concrete columns, except south of grid B, which has concrete framing similar to floors 2-4. Although existing drawings were not found at this time, the concrete mezzanine portion could be part of the original construction of the structure. At the transition between the steel and concrete framing, a steel beam runs parallel to a concrete beam with only inches between them, and the metal deck butts up against the concrete cast in place slab. The concrete columns increase in size toward the bottom of the building, from about 10” square at the roof up to 21” square in the basement. Along the two sides of the buildings which are not street facing, concrete walls run along the property lines and support the framing. These walls are continuous down to the foundation.

Lateral system:
The lateral system of the structure consists of cast in place concrete shear walls on the south and east sides of the building which run from the roof down to the basement. At the basement level, there are also concrete walls on the north and west sides below the sidewalks. The roof and floor diaphragms are rigid cast in place concrete, with the exception of the mezzanine level with is a rigid concrete over metal deck diaphragm. The reinforcing in the walls and slabs is unknown at this time, but our current design assumptions are based on other elements with exposed reinforcing. The seismic system would be classified as an ordinary reinforced concrete shear wall building, with an extreme torsional irregularity. The foundation system is unknown at this time.

SEISMIC EVALUATION METHODOLOGY

ASCE 41-17, Seismic Evaluation and Retrofit of Existing Buildings, which is the national standard for evaluating and retrofitting existing buildings, was used as the basis for this evaluation. ASCE 41-17 contains progressively more complex tiered evaluation procedures used to evaluate existing buildings. For this project, a Tier 1 Evaluation was provided, along with selected Tier 2 checks of items identified in the Tier 1 Evaluation as potential deficiencies. This included a basic screening of the building’s main seismic-resisting structural systems whereby these components were categorized as compliant, non-compliant, unknown, or not applicable. The project team completed the Tier 1 screenings using a combination of visual observation, review of applicable structural drawings, and limited engineering calculations where appropriate. Tier 2 checks involved additional structural calculations, but did not involve any additional existing conditions data collection.

SEISMIC EVALUATION RESULTS

Based upon our evaluation, we have found the following building elements to be non-compliant according to the ASCE 41 Tier 1 checklist in the following areas.

For Tier 2 checks, the building was input in ETABS and a linear dynamic analysis was performed to further evaluate the non-compliant items. Furthermore, a proposed retrofit and a new 6th floor were added to the model to ensure the building's compliance include impacts of the additions and changes.

Adjacent Buildings:
The clear distance to the adjacent buildings is 3 3/8" (to the east, Y direction) and 3" (to the south, X direction). This does not comply with the Tier 1 check requiring 1.5% clear between buildings. In our Tier 2 check, the maximum deflection at the 3rd floor (a few feet above the top of the taller adjacent buildings) is 3.89" in the Y direction and 2.30" in the X direction after running LDP. With the retrofit and additions added, model is showing a max deflection at the 3rd floor of 2.37" in the Y direction and 1.46" in the X direction. These numbers are less than the clear distances to adjacent buildings, but do not account for the movement of the adjacent buildings. This will be studied in more depth in future phases, as the design of the additional lines of resistance and data collection of material and section properties will heavily influence these numbers. Potential Repair: Add brace frames, FRP collector, and foundation elements along the North and West sides of the building to reduce drift. See repair plans in Appendix A.

Torsion:
Because the vertical components of the lateral system are along the perimeter at two sides of the building, the distance between the center of mass and center of rigidity of the building are more than 20% of the building width and does not comply with the Tier 1 check. Even after adding two lines of resistance in the ETABS model, the building is still torsionally irregular. However, the irregularity is not prohibited and the building elements will be analyzed for the higher loads due to torsion. Potential Repair: Add brace frames, FRP collector, and foundation elements along the North and West sides of the building to reduce torsion. See repair plans in Appendix A.

Redundancy:
There is only one shear wall in each direction above the ground level, along the perimeter on the east and south faces which does not pass the Tier 1 check. Potential Repair: Add brace frames, FRP collector, and foundation elements along the North and West sides of the building to increase redundancy and provide multiple lateral elements in each direction. See repair plans in Appendix A.

Shear Stress Check:
The shear stress in the concrete shear walls in the Tier 1 quick check procedure is a max of 172 psi, greater than 100 psi. After running the Tier 2 models with added lines of resistance, the shear wall along grid 1 and has a DCR of 1.24 and the shear wall along grid A has a DCR of 0.95. This is assuming a wall thickness of 6" for the entire height of the wall, and a concrete strength of only 1000 psi which is likely conservative but will be confirmed during the material testing phase. Potential Repair: Add brace frames, FRP collector, and foundation elements along the North and West sides of the building to take some lateral load

and reduce loading on shear walls. Strengthen concrete walls if necessary. See repair plans in Appendix A.

Unknown Items:
There were ten Tier 1 checklist items that were unknown.

- Two items (Liquefaction, Surface Fault Rupture) will require a geotechnical report to resolve but are unlikely to present a problem.

- Three items (Ties Between Foundation Elements, Foundation Dowels, Uplift at Pile Caps) relate to the foundation system, which is unknown at this time. The data collection program will include gathering information on the foundation system.

- The rest of the items are related to the detailing of the structure, especially reinforcing and member connections, which are unknown due to missing as-built drawings and are not readily visible. We anticipate that the detailing and foundation items will be resolved with the data collection program.

Potential Tenant Improvements:

- A new stair is proposed, which requires cutting openings in the existing slab. Potential repair: Add FRP collector around new openings. See drawings in Appendix A.

- A 6th floor conference room is proposed. Potential repair: Existing concrete beams at the roof level and columns for the height of the building may need to be strengthened for the additional gravity load. Foundations may also require strengthening and/or enlarging. Add brace frames, FRP collector, and foundation elements to provide lateral resistance for the new rooftop loads.

- The concrete vault walls are proposed to be removed, which is anticipated to improve the building's lateral system by reducing the load. However, gravity elements may need to be added to support the floor slab where walls below the slab are removed.

Data Collection:
Due to the lack of existing building drawings, an extensive data collection program will be required. This program will involve materials testing to determine the strengths and properties of the construction materials in the building, as well as collecting dimensional info on the sizes, dimensions, and locations of structural members. This program is described in further detail in Appendix B.

EXPERIENCE AND QUALIFICATIONS OF BUEHLER

Buehler was founded in 1946 under the original name of Walter A. Buehler, Structural Engineer. The firm has been engaged in structural design of a wide

variety of projects over the life of the firm. The firm currently has a total staff of 143, including 56 registered structural engineers. The firm maintains computer facilities for the analysis and design of engineered structures. Engineering services are provided for the design and analysis of building and other structures and for structural investigations.

LIMITATIONS

The services of Buehler performed for this project have been provided at a level that is consistent with the general level of skill and care ordinarily provided by engineers practicing in structural engineering. Sketches are schematic in nature for general cost estimating purposes. Work is necessarily done under the constraints of time and budget. Conclusions and information presented in this report are dependent on information provided by others. No warranty is expressed or implied.

BUEHLER

JOB CSAC

JOB NO. 2024-0385 DATE 2/21/2025

CLIENT BY CRL SHEET NO.

ASCE 41-17 Tier 1: SUMMARY DATA SHEET

PROJECT DATA

Project Name: CSAC
Project Number: 2024-0385
Project Address: 1100 K St.
Project City: Sacramento
Latitude: 38.5783871° N Longitude: 121.4911509° W

Documentation:	Yes				
Year Built:	1912	Year(s) Remodeled:	1966	Original Design Code:	Unknown
Area (sf):	19040.00	Length (ft):	78.5	Width (ft):	48.5
No. of Stories:	5	Story Height (ft):	12	Total Height (ft):	60.54

FACILITY USE Office Other: Risk Category: II *CBC Table 1604.5*

CONSTRUCTION DATA

Gravity Load Structural System: Concrete
Exterior Transverse Walls: Concrete Openings: Yes
Exterior Longitudinal Walls: Concrete Openings: Yes
Roof Materials/Framing: Concrete Slab, Beam, and Columns
Intermediate Floors/Framing: Concrete Slab, Beam, and Columns, Conc over Metal Deck and WF Beams at Mezz
Ground Floor: Concrete Slab, Beam, and Columns
Columns: Concrete Foundation: Unknown
Levels below grade:
Special Features and Comments:

LATERAL FORCE-RESISTING SYTSEM

	Longitudinal	Transverse
System:	Concrete Shear Wall	Concrete Shear Wall
Vertical Elements:	Concrete Shear Wall	Concrete Shear Wall
Roof Diaphragms:	Concrete Slab	Concrete Slab
Floor Diaphragms:	Concrete Slab	Concrete Slab
Connections:		

EVALUATION DATA

BSE-1E Spectral Response Accelerations: S_{DS} = 0.373 S_{D1} = 0.251
Soil Factors: Class = D F_a = 1.6 F_v = 2.39
BSE-2E Spectral Response Accelerations: S_{XS} = 0.618 S_{X1} = 0.427
Level of Seismicity: High Performance Level: CP (Collapse Prevention)
Building Period: T = 0.434
Spectral Acceleration: S_a = 0.618
Modification Factor: C = 1
Building Weight W = 3219 kips
Pseudo Lateral Force: $V = CS_aW$ = 0 kips

BUILDING CLASSIFICATION (N-S): Concrete Shear Walls (with Stiff Diaphragms) (C2)
(E-W): Concrete Shear Walls (with Stiff Diaphragms) (C2)

COMPLETED TIER 1 CHECKLISTS	Yes / No
Basic Configuration Checklist:	Yes
Structural Checklist:	Yes
Nonstructural Component Checklist:	No
Structural Checklist Required:	Table 17-24 CP

JOB CSAC

JOB NO. 2024-0385 DATE 2/21/2025

CLIENT BY CRL SHEET NO.

ASCE 41-17: TIER 1 SUMMARY OF RESULTS

FACILITY DATA

Facility Name: CSAC
Facility Code: 2024-0385
Facility Address: 1100 K St.
City: Sacramento

I. FIELD OBSERVATIONS

Site Visit Date: 20-Nov-24
General Condition of Structure: Good

Observations:

1 Beam layout at intermediate floors does not match drawings and needs to be verified.
2 Slab thickness at intermediate floors does not match drawings and needs to be verified.
3
4

II. TIER 1 CHECKLIST: NON-COMPLIANT ITEMS

1 Adjacent Buildings - Clear Distance
2 Torsion
3 Redundancy
4 Shear Stress Check

III. TIER 1 CHECKLIST: UNKNOWN ITEMS

1 Load Path
2 Mezzanines
3 Liquefaction
4 Surface Fault Rupture
5 Ties Between Foundation Elements
6 Reinforcing Steel
7 Transfer to Shear Walls
8 Foundation Dowels
9 Deflection Compatibility
10 Uplift at Pile Caps

IV. TIER 2 EVALUATION RECOMMENDATIONS

1 Evaluate concrete walls with LDP
2 Analyze building movement with LDP to determine actual drift requirements
3 Complete building survey to determine structural components and dimensions

V. TIER 2 OR TIER 3 RETROFIT RECOMMENDATIONS

1 Add lines of resistance to reduce torsional irregularity

Notes:

SECTION I includes those observations made during our initial site visits to the facility. These site visits were brief and only included visual observations of limited areas of the structures.

SECTION II includes items identified as deficient according to applicable ASCE Tier 1 checklists.

SECTION III includes items which are unknown either based on the available information or without ASCE 41 Tier 2 or 3 analysis.

SECTION IV includes identified items from Section II or III, where, in our professional opinion, further ASCE 41 Tier 2 analysis could potentially show the items to be compliant. Also included in this section are items that are not specifically included in the ASCE 41-13 checklists but, in our professional opinion, are potentially deficient and should be assessed.

SECTION V includes items identified in Section II or III as deficient or unknown, where, in our professional opinion, further ASCE 41 Tier 2 analysis will not show the items to be compliant. These items, in our professional opinion, would likely require seismic retrofitting to achieve compliance with ASCE 41 requirements. In general, these are items that are either not present, are significantly overstressed, or represent significant deficiencies in the basic lateral force resistant system. Also included in this section are items that are not specifically included in the ASCE 41-17 checklists but, in our professional opinion, are potentially deficient and should be addressed.

TIER 1 CHECKLISTS

Table 17-2 COLLAPSE PREVENTION BASIC CONFIGURATION CHECKLIST

Low Seismicity: Building System - General		**COMMENTS**
C NC N/A **U**	LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)	*Do not have detailing from diaphragm to shear walls.*
C **NC** N/A U	ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 0.25% of the height of the shorter building in low seismicity, 0.5% in moderate seismicity, and 1.5% in high seismicity. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)	*clear distance between adjacent bldg = 3 3/8". High seisicity. Thus, max adjacent building height = (3.375"/12)/0.015 = 18.75ft. Adjacent building height = 25ft > 18.75ft. Non-compliant.*
C NC N/A **U**	MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)	*Mezzanine level is attached to the main structure. Anchorage/detailing to SFRS is unclear.*
Low Seismicity: Building System - Building Configuration		
C NC N/A U	WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A2.2.2. Tier 2: Sec. 5.4.2.1)	*SFRS at all levels is identical.*
C NC N/A U	SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic- force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)	
C NC N/A U	VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)	
C NC N/A U	GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)	
C NC N/A U	MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)	
C **NC** N/A U	TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)	
Moderate Seismicity: Geologic Site Hazards (Complete the Following Items in Addition to the Items for Low Seismicity)		**COMMENTS**
C NC N/A **U**	LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)	
C NC N/A U	SLOPE FAILURE: The building site is located away from potential earthquake-	

	induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)	
C NC N/A U	SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)	

High Seismicity: Foundation Configuration

(Complete the Following Items in Addition to the Items for Moderate Seismicity)		**COMMENTS**
C NC N/A U	OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)	
C NC N/A U	TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)	

Table 17-24 COLLAPSE PREVENTION STRUCTURAL CHECKLIST FOR BUILDING TYPES C2 AND C2A

Low and Moderate Seismicity: Seismic-Force-Resisting System		**COMMENTS**
C NC N/A U	COMPLETE FRAMES: Steel or concrete frames classified as secondary components form a complete vertical-load-carrying system. (Commentary: Sec. A.3.1.6.1. Tier 2: Sec. 5.5.2.5.1)	
C NC N/A U	REDUNDANCY: The number lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)	
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the concrete shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the greater of 100 $lb/in.^2$ (0.69 MPa) or $2\sqrt{f'_c}$. (Commentary: Sec. A.3.2.2.1. Tier 2: Sec. 5.5.3.1.1)	
C NC N/A U	REINFORCING STEEL: The ratio of reinforcing steel area to gross concrete area is not less than 0.0012 in the vertical direction and 0.0020 in the horizontal direction. (Commentary: Sec. A.3.2.2.2. Tier 2: Sec. 5.5.3.1.3)	

Low and Moderate Seismicity: Connections

C NC N/A U	WALL ANCHORAGE AT FLEXIBLE DIAPHRAGMS: Exterior concrete or masonry walls that are dependent on flexible diaphragms for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections have strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)	
C NC N/A U	TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)	
C NC N/A U	FOUNDATION DOWELS: Wall reinforcement is dowels into the foundation with	

	vertical bars equal in size and spacing to the vertical wall reinforcing directly above the foundation. (Commentary: Sec. A.5.3.5. Tier 2: Sec. 5.7.3.4)	

High Seismicity: Seismic-Force-Resisting System

(Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)		COMMENTS
C NC N/A U	DEFLECTION COMPATIBILITY: Secondary components have the shear capacity to develop the flexural strength of the components. (Commentary: Sec. A.3.1.6.2. Tier 2: Sec. 5.5.2.5.2)	
C NC N/A U	FLAT SLABS: Flat slabs or plates not part of the seismic-force-resisting system have continuous bottom steel through the column joints. (Commentary: Sec. A.3.1.6.3. Tier 2: Sec. 5.5.2.5.3)	
C NC N/A U	COUPLING BEAMS: The ends of both walls to which the coupling beams is attached are supported at each end to resist vertical loads caused by overturning. (Commentary: Sec. A.3.2.2.3. Tier 2: Sec. 5.5.3.2.1)	

High Seismicity: Diaphragms (Stiff or Flexible)

C NC N/A U	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)	
C NC N/A U	OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)	*At grid A, vault opening = 9ft wide / 48ft shear wall = 0.19 < 0.25. OK.*

High Seismicity: Flexible Diaphragms

C NC N/A U	CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)	
C NC N/A U	STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)	
C NC N/A U	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)	
C NC N/A U	DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12.2 m) and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)	
C NC N/A U	OTHER DIAPHRAGMS: Diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)	

High Seismicity: Connections

C NC N/A U	UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps. (Commentary: Sec. A.5.3.8. Tier 2: Sec. 5.7.3.5)	*Foundation system unknown.*

11/19/24, 2:26 PM U.S. Seismic Design Maps

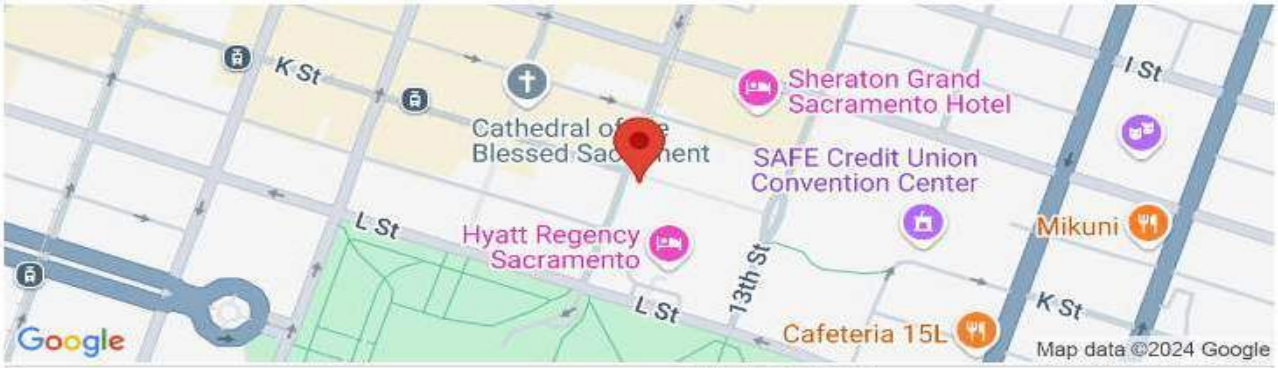
USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

OSHPD

CSAC

1100 K St, Sacramento, CA 95814, USA

Latitude, Longitude: 38.5783871, -121.4911509



Date	11/19/2024, 10:30:16 AM
Design Code Reference Document	ASCE41-17
Custom Probability	
Site Class	D - Default (See Section 11.4.3)

Type	Description	Value
Hazard Level		BSE-2N
S_S	spectral response (0.2 s)	0.566
S_1	spectral response (1.0 s)	0.253
S_{XS}	site-modified spectral response (0.2 s)	0.763
S_{X1}	site-modified spectral response (1.0 s)	0.529
F_a	site amplification factor (0.2 s)	1.347
F_v	site amplification factor (1.0 s)	2.095
ssuh	max direction uniform hazard (0.2 s)	0.595
crs	coefficient of risk (0.2 s)	0.951
ssrt	risk-targeted hazard (0.2 s)	0.566
ssd	deterministic hazard (0.2 s)	1.5
s1uh	max direction uniform hazard (1.0 s)	0.269
cr1	coefficient of risk (1.0 s)	0.941
s1rt	risk-targeted hazard (1.0 s)	0.253
s1d	deterministic hazard (1.0 s)	0.6

Type	Description	Value
Hazard Level		BSE-1N
S_{XS}	site-modified spectral response (0.2 s)	0.508
S_{X1}	site-modified spectral response (1.0 s)	0.353

https://www.seismicmaps.org 1/2

Type	Description	Value
Hazard Level		BSE-2E
S_S	spectral response (0.2 s)	0.423
S_1	spectral response (1.0 s)	0.193
S_{XS}	site-modified spectral response (0.2 s)	0.619
S_{X1}	site-modified spectral response (1.0 s)	0.427
f_a	site amplification factor (0.2 s)	1.461
f_v	site amplification factor (1.0 s)	2.214

Type	Description	Value
Hazard Level		BSE-1E
S_S	spectral response (0.2 s)	0.233
S_1	spectral response (1.0 s)	0.105
S_{XS}	site-modified spectral response (0.2 s)	0.373
S_{X1}	site-modified spectral response (1.0 s)	0.251
F_a	site amplification factor (0.2 s)	1.6
F_v	site amplification factor (1.0 s)	2.39

Type	Description	Value
Hazard Level		TL Data
T-Sub-L	Long-period transition period in seconds	12

JOB CSAC

JOB NO. 2024-0385 DATE 2/21/2025

CLIENT BY CRL SHEET NO.

LEVEL OF SEISMICITY

ASCE 41-17 Section 2.5

Location	Sacramento
Number of Stories	5
Building Height, h_n	60.54 ft
Site Class	D
Effective Viscous Damping Ratio	5 %
Risk Category	II

ASCE 41-17 Section 7.2.3.6

N-S Direction

Building Type: **Concrete Shear Walls (with Stiff Diaphragms) (C2)**

E-W Direction

Building Type: **Concrete Shear Walls (with Stiff Diaphragms) (C2)**

Seismic Hazard Level	BSE-1E	BSE-2E	BSE-1N	BSE-2N
Short period response acceleration, S_S	0.233 g	0.423 g	0.566g	0.566g
1-second period response acceleration, S_1	0.105 g	0.193 g	0.253g	0.253g
Adjusted Short period response acceleration, S_{XS}	0.3728 g	0.61826 g	0.50834 g	0.76252 g
Adjusted 1-second period response acceleration, S_{X1}	0.25095 g	0.4273 g	0.35319 g	0.52978 g

Design Spectral Response Acceleration Parameter — *Associated with BSE-2N & Table 2-4*

$S_{DS} = 2/3\ S_{XS} =$	0.508 g	---->	High	*ASCE 41-17 Eq 2-4*
$S_{D1} = 2/3\ S_{X1} =$	0.353 g	---->	High	*ASCE 41-17 Eq 2-5*

Level of Seismicity : High

JOB CSAC

JOB NO. 2024-0385 DATE 2/21/2025

CLIENT BY CRL SHEET NO.

PSEUDO SEISMIC FORCE - TIER 1

ASCE 41-17 Section 4.4.2

N-S Direction

Seismic Hazard Level		BSE-2E
Performance Level		CP (Collapse Prevention)
Location		Sacramento
Number of Stories		5
Building Height	h_n = 60.54 ft	(height above the base to the roof level)
Site Class		D
Building Type		Concrete Shear Walls (with Stiff Diaphragms) (C2)

Building Period *ASCE 41-17 Section 4.4.2.4*

C_t = 0.02 Modification Factor to Adjust Building Period

0.035 for steel moment frame (S1 & S1a)

0.018 for concrete moment frame (C1)

0.03 for eccentrically braced steel frame (S2 & S2a)

0.020 for all other framing systems

β = 0.75 (0.8 for steel moment frame; 0.9 for concrete moment frame; 0.75 for all others)

$T = C_t h_n^{\beta}$ = 0.43 sec Fundamental period of the building *ASCE 41-17 Eq 4-4*

Response Spectral Acceleration

Short period response acceleration	S_S = 0.423 g	
1-second period response acceleration	S_1 = 0.193 g	
Adjusted Short period response acceleration	$S_{XS} = Fa\ S_S$ = 0.618 g	*ASCE 41-17 Eq 2-1*
Adjusted 1-second period response acceleration	$S_{X1} = Fv\ S_1$ = 0.427 g	*ASCE 41-17 Eq 2-2*
Factor to adjust short-period spectral acceleration	F_a = 1.462	*ASCE 7-16 Table 11.4-1*
Factor to adjust 1 sec. spectral acceleration	F_v = 2.214	*ASCE 7-16 Table 11.4-2*

$S_a = \frac{S_{X1}}{T}$ = 0.984 g > S_{XS} = 0.618 g *ASCE 41-17 Eq 4-3*

S_a = 0.618 g

V = CS_aW = 0.618 W *ASCE 41-17 Eq 4-1*

Where

C = 1 Modification factor *ASCE 41-17 Table 4-7*

Vertical Distribution of Seismic Forces for LSP - Tier 1 *ASCE 41-17 Section 4.4.2.2*

N-S Direction

V = 0.618 W = 0.618×3219 = 0 kips

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^{n} w_i h_i^k}$$ *ASCE 41-17 Eq 4-2a*

$$F_x = C_{vx} V$$

$$V_j = \sum_{x=j}^{n} F_x$$ *ASCE 41-17 Eq 4-2b*

k = 1 (1.0 for T≤0.5 s and 2.0 for T>2.5 s; linear interpolation for intermediate values of k)

Vertical Distribution of Seismic Force for LSP

Level	Weight w_i kips	Elevation h_i ft	$W_i \times h_i^k$ (k=1)	C_{vx}	Story Force $F_x = C_{vx}V$ kips	Story Shear $V_x = SF_x$ kips
Roof	624	60.5	37752	0.3364	**0**	**0**
4th	743	44.2	32841	0.2927	**0**	**0**
3rd	682	32.5	22165	0.1975	**0**	**0**
2nd	675	20.75	14006	0.1248	**0**	**0**
Mezzanine	495	11	5445	0.0485	**0**	**0**
Σ =	**3219**		112209	1.0000	**0**	

PSEUDO SEISMIC FORCE - TIER 1

ASCE 41-17 Section 4.4.2

E-W Direction

Seismic Hazard Level		BSE-2E
Performance Level		CP (Collapse Prevention)
Location		Sacramento
Number of Stories		5
Building Height	h_n =	60.54 ft (height above the base to the roof level)
Site Class		D
Building Type		Concrete Shear Walls (with Stiff Diaphragms) (C2)

Building Period *ASCE 41-17 Section 4.4.2.4*

C_t = 0.02 Modification Factor to Adjust Building Period

0.035 for steel moment frame (S1 & S1a)
0.018 for concrete moment frame (C1)
0.03 for eccentrically braced steel frame (S2 & S2a)
0.020 for all other framing systems

β = 0.75 (0.8 for steel moment frame; 0.9 for concrete moment frame; 0.75 for all others)

$T = C_t h_n^{\beta}$ = 0.43 sec Fundamental period of the building *ASCE 41-17 Eq 4-4*

Response Spectral Acceleration

Short period response acceleration	S_S = 0.423 g	
1-second period response acceleration	S_1 = 0.193 g	
Adjusted Short period response acceleration	$S_{XS} = Fa\ S_S$ = 0.618 g	*ASCE 41-17 Eq 2-1*
Adjusted 1-second period response acceleration	$S_{X1} = Fv\ S_1$ = 0.427 g	*ASCE 41-17 Eq 2-2*
Factor to adjust short-period spectral acceleration	F_a = 1.462	*ASCE 7-16 Table 11.4-1*
Factor to adjust 1 sec. spectral acceleration	F_v = 2.214	*ASCE 7-16 Table 11.4-2*

$S_a = \frac{S_{X1}}{T}$ = 0.984 g > S_{XS} = 0.618 g *ASCE 41-17 Eq 4-3*

S_a = 0.618 g

V = CS_aW = 0.618 W *ASCE 41-17 Eq 4-1*

Where

C = 1 Modification factor *ASCE 41-17 Table 4-7*

Vertical Distribution of Seismic Forces for LSP - Tier 1 *ASCE 41-17 Section 4.4.2.2*

E-W Direction

V = 0.618 W = 0.618×3219 = 1989.3 kips

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^{n} w_i h_i^k}$$ *ASCE 41-17 Eq 4-2a*

$$F_x = C_{vx} V$$

$$V_j = \sum_{x=j}^{n} F_x$$ *ASCE 41-17 Eq 4-2b*

k = 1 (1.0 for T≤0.5 s and 2.0 for T>2.5 s; linear interpolation for intermediate values of k)

Vertical Distribution of Seismic Force for LSP

Level	Weight w_i kips	Elevation h_i ft	$W_i \times h_i^k$ (k=1)	C_{vx}	Story Force $F_x = C_{vx}V$ kips	Story Shear $V_x = SF_x$ kips
Roof	624	60.5	37752	0.3364	**669**	**669**
4th	743	44.2	32841	0.2927	**582**	**1252**
3rd	682	32.5	22165	0.1975	**393**	**1644**
2nd	675	20.75	14006	0.1248	**248**	**1893**
Mezzanine	495	11	5445	0.0485	**97**	**1989**
Σ =	**3219**		112209	1	**1989**	

MODIFICATION FACTORS - C1 & C2 - Tier 2 *ASCE 41-17 Section 7.4.1.3*

N-S Direction

Building Type: Concrete Shear Walls (with Stiff Diaphragms) (C2)

N of Stories: 5

S_a = 0.617 response spectrum acceleration

W = 4507 kips (effevtive seismic weight)

V_y = 3745 kips (elastic base shear capacity per Eq 7-21) *ASCE 41-17 Eq 7-21*

C_m = 0.8 effective mass factor *ASCE 41-17 Table 7-4*

Site Class: D

T = 0.434 sec

$$\mu_{strength} = \frac{S_a}{V_y/W} \cdot C_m$$ *ASCE 41-17 Eq 7-31*

= 0.617/(3745/4507)×0.8 = 0.594

Site Class Factor

a = 60 (130 site Class A or B; 90 site Class C; 60 site Class D, E, F)

Modification Factor

$$C_1 = 1 + \frac{\mu_{strength} - 1}{aT^2}$$ *ASCE 41-17 Eq 7-22*

= 1+(0.594-1)/(60×0.434²) = 0.964

Use C_1 = 0.964

$$C_2 = 1 + \frac{1}{800}\left(\frac{\mu_{strength} - 1}{T}\right)^2$$ *ASCE 41-17 Eq 7-23*

= 1+1/800×[(0.594-1)/0.434]² = 1.001

Use C_2 = 1.001

C_1 = 0.964
C_2 = 1.001
C_m = 0.8

MODIFICATION FACTORS - C1 & C2 - Tier 2 *ASCE 41-17 Section 7.4.1.3*

E-W Direction

Building Type: Concrete Shear Walls (with Stiff Diaphragms) (C2)

N of Stories: 5

S_a = 0.617 response spectrum acceleration

W = 4507 kips (effective seismic weight)

V_y = 3745 kips (elastic base shear capacity per Eq 7-21)

C_m = 0.8 effective mass factor *ASCE 41-17 Table 7-4*

Site Class: D

T = 0.434 sec

$$\mu_{strength} = \frac{S_a}{V_y/W} \cdot C_m$$ *ASCE 41-17 Eq 7-31*

= 0.617/(3745/4507)×0.8 = 0.594

Site Class Factor

a = 60 (130 site Class A or B; 90 site Class C; 60 site Class D, E, F)

Modification Factor

$$C_1 = 1 + \frac{\mu_{strength} - 1}{aT^2}$$ *ASCE 41-17 Eq 7-22*

= 1+(0.594-1)/(60×0.434²) = 0.964

Use C_1 = 0.964

$$C_2 = 1 + \frac{1}{800}\left(\frac{\mu_{strength} - 1}{T}\right)^2$$ *ASCE 41-17 Eq 7-23*

= 1+1/800×[(0.594-1)/0.434]² = 1.001

Use C_2 = 1.001

C_1 = 0.964
C_2 = 1.001
C_m = 0.8

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JOB NO. 2024-0385 DATE 2/21/2025

CLIENT BY CRL SHEET NO.

MASS IRREGULARITY CHECK - TIER 1

ASCE 41-17 Section 5.4.2.5 & A2 2.6

Level	Mass kips	Percent Change	< 50% Compliant
Roof	624.00	-	-
4th	743.00	8.2%	Yes
3rd	682.00	8.9%	Yes
2nd	675.00	26.7%	Yes
Mezzanine	495.00	36.4%	Yes

SHEAR STRESS CHECK IN CONCRETE SHEAR WALLS - TIER 1

ASCE 41-17 Section 5.5.3.1.1 & A.3.2.2.1

Performance Level: CP (Collapse Prevention)
f'_c = 1000 psi
M_s = 4.5 (M_s = 4.5 for CP; M_s =3.0 for LS; M_s = 1.5 for IO) *ASCE 41-17 Table 4-8*

$$v_j^{avg} = \frac{1}{M_s}\left(\frac{V_j}{A_w}\right)$$ *ASCE 41-17 Eq 4-8*

Where
V_j = Story shear at level j
A_w = Summation of horizontal cross-sectional area of all shear walls in the direction of loading (openings shall be taken into consideration)
M_s = System modification factor

North-South Direction

Level	V_j (k)	A_w (in^2)	v_j^{avg} (psi)	$Max(100, 2\sqrt{f'_c})$ (psi)	Check v_j^{avg} < Allowable
Roof	0	3636	0	100	Compliant
4th	0	3636	0	100	Compliant
3rd	0	3636	0	100	Compliant
2nd	0	3636	0	100	Compliant
Mezzanine	0	5112	0	100	Compliant

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
Roof	6.0	51	3636
Σ =			**3636**

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
4th	6.0	51	3636
Σ =			**3636**

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
3rd	6.0	51	3636
Σ =			**3636**

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
2nd	6.0	51	3636
Σ =			**3636**

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
Mezzanine	6.0	71	5112
Σ =			**5112**

Level	t_{wall} (in)	L_{wall_eff} (ft)	A_w (in^2)
Σ =			

SHEAR STRESS CHECK IN CONCRETE SHEAR WALLS - TIER 1 *ASCE 41-17 Section 5.5.3.1.1 & A.3.2.2.1*

Performance Level: CP (Collapse Prevention)
f'_c = 1000 psi
M_s = 4.5 (M_s = 4.5 for CP; M_s =3.0 for LS; M_s = 1.5 for IO) *ASCE 41-17 Table 4-8*

E-W Direction

Level	V_j *(k)*	A_w *(in^2)*	v_j^{avg} *(psi)*	$Max(100, 2\sqrt{f'_c})$ *(psi)*	*Check* v_j^{avg} < *Allowable*
Roof	669	3168	46.9	100	Compliant
4th	1252	3168	87.8	100	Compliant
3rd	1644	3168	115.4	100	Noncompliant
2nd	1893	3168	132.8	100	Noncompliant
Mezzanine	1989	3168	139.5	100	Noncompliant

Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
Roof	6.0	44	3168
Σ =			**3168**

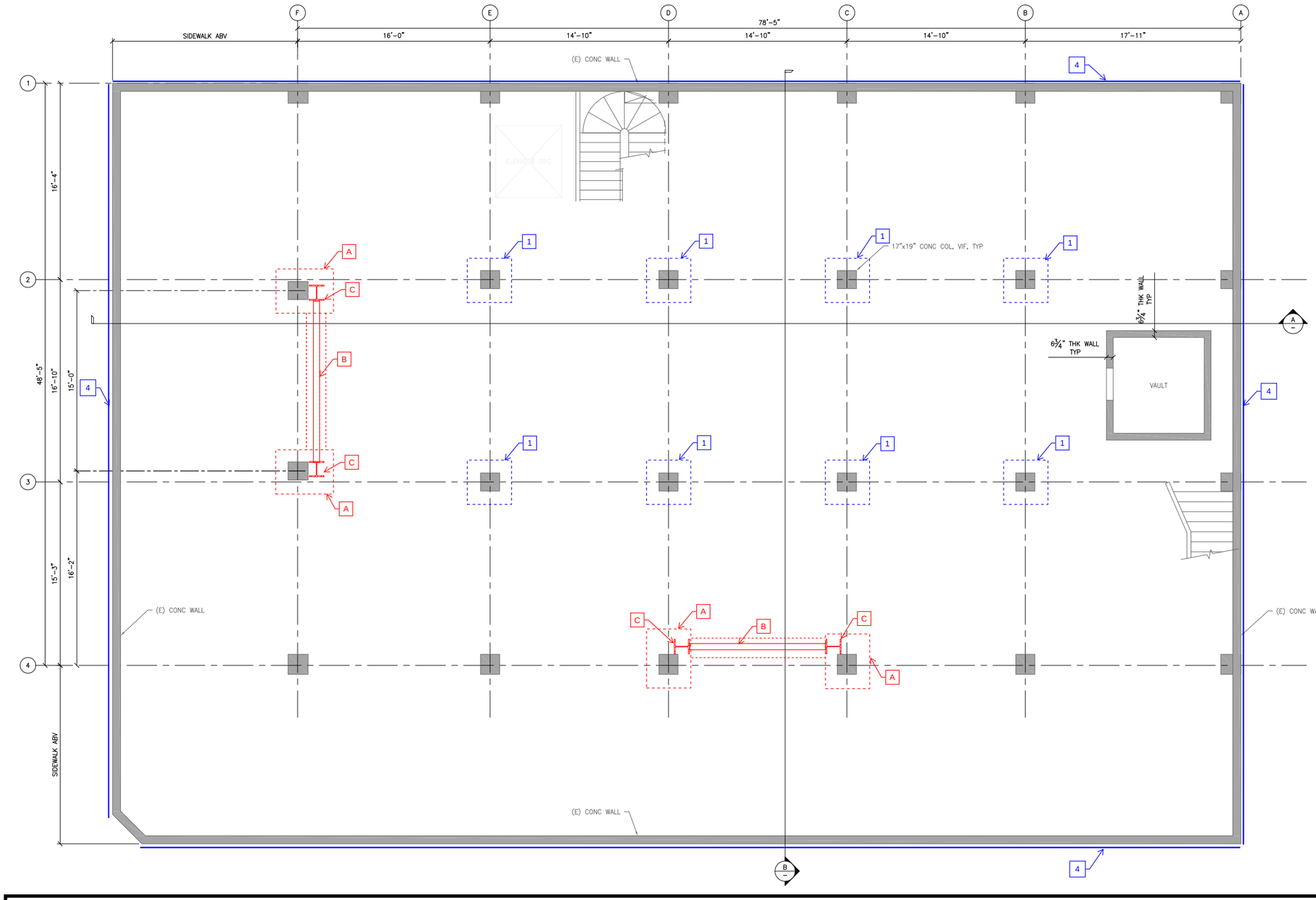
Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
4th	6.0	44	3168
Σ =			**3168**

Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
3rd	6.0	44	3168
Σ =			**3168**

Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
2nd	6.0	44	3168
Σ =			**3168**

Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
Mezzanine	6.0	44	3168
Σ =			**3168**

Level	t_{wall} *(in)*	L_{wall_eff} *(ft)*	A_w *(in^2)*
	6.0	44	3168
Σ =			



FOUNDATION PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:

A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:

1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

4. FRP OR SHOTCRETE WALL STRENGTHENING

5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:

1. LETTERED ITEMS IN RED WILL BE REQUIRED FOR A RETROFIT. THE NUMBERED ITEMS IN BLUE WILL BE EVALUATED AFTER DATA COLLECTION TO DETERMINE IF THEY WILL BE REQUIRED.

2. ADDITIONAL STRENGTHENING MAY BE REQUIRED BASED ON NEW AND REVISED ARCHITECTURAL OPENINGS.

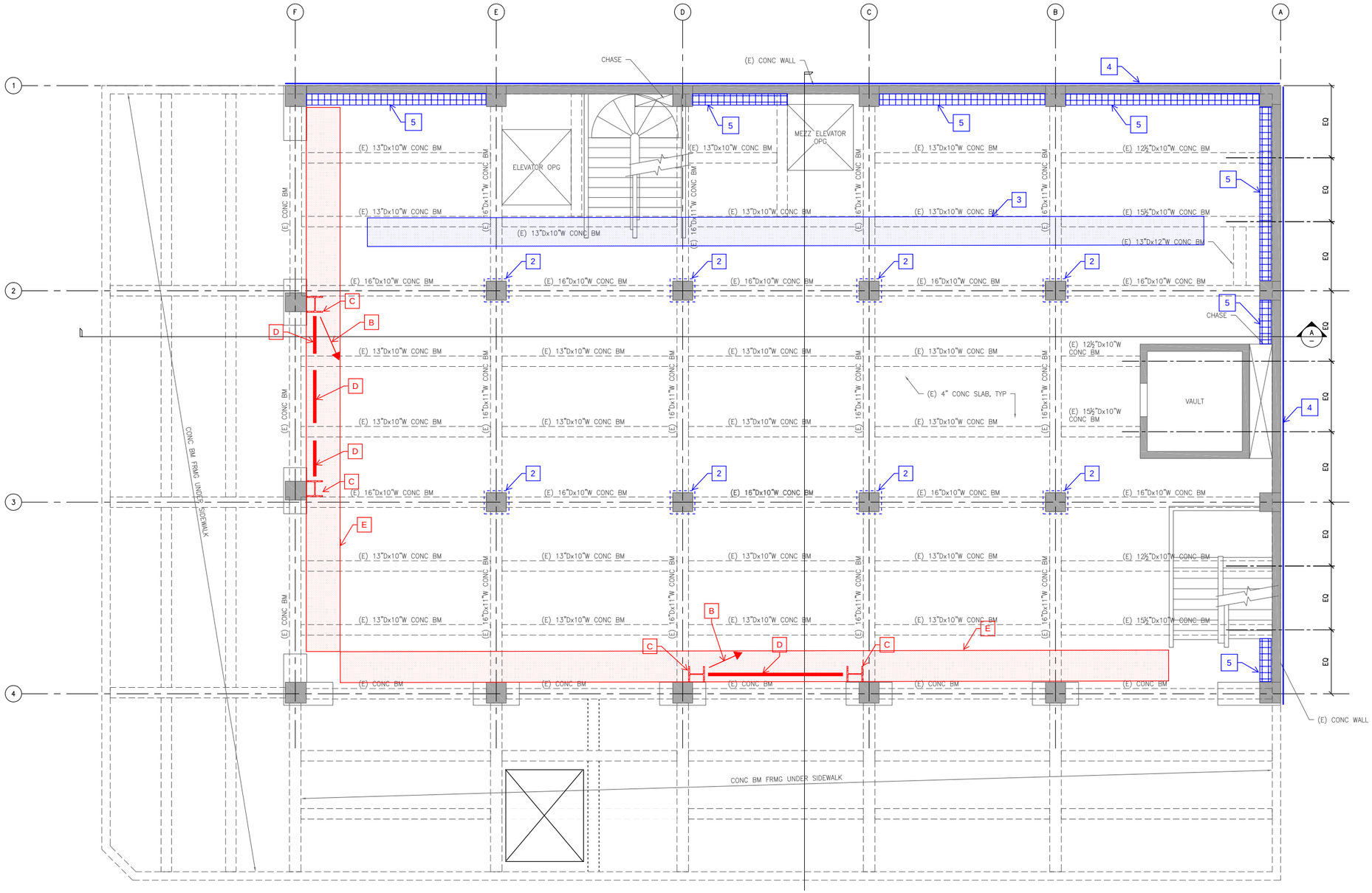
3. ALL SIZES SHOWN ON PLAN NEED TO BE VERIFIED IN FIELD.

BUEHLER
180 MONTGOMERY
SUITE 1500
SAN FRANCISCO, CA 94104
415 495 1635

CALIFORNIA STATE ASSOCIATION OF COUNTIES
CONCEPTUAL RETROFIT

S1

JAN 24 2025



GROUND FLOOR PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:

A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:

1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

4. FRP OR SHOTCRETE WALL STRENGTHENING

5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:

1. LETTERED ITEMS IN RED WILL BE REQUIRED FOR A RETROFIT. THE NUMBERED ITEMS IN BLUE WILL BE EVALUATED AFTER DATA COLLECTION TO DETERMINE IF THEY WILL BE REQUIRED.

2. ADDITIONAL STRENGTHENING MAY BE REQUIRED BASED ON NEW AND REVISED ARCHITECTURAL OPENINGS.

3. ALL SIZES SHOWN ON PLAN NEED TO BE VERIFIED IN FIELD.

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S2

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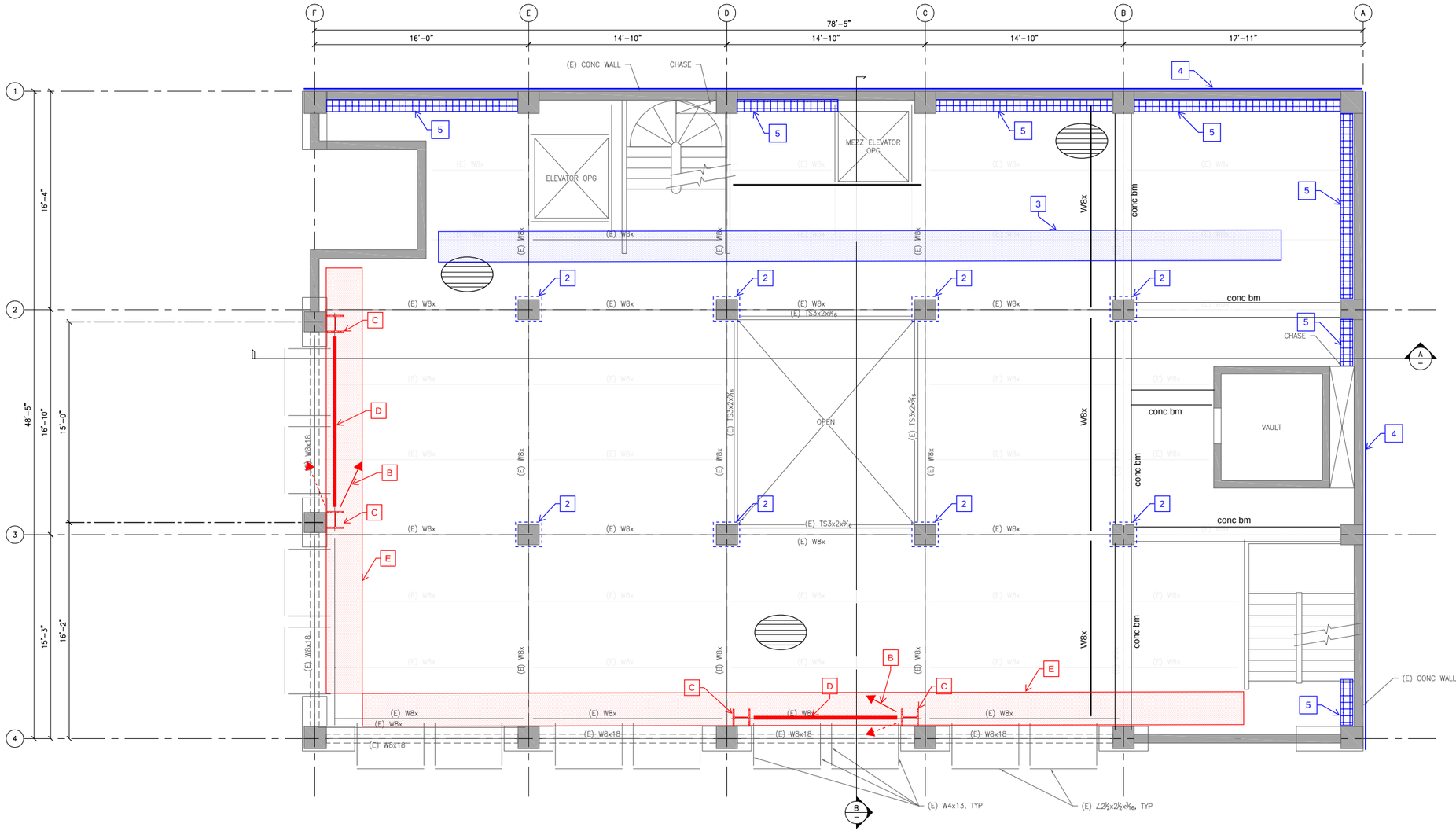

MEZZANINE PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:

A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:

1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

4. FRP OR SHOTCRETE WALL STRENGTHENING

5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

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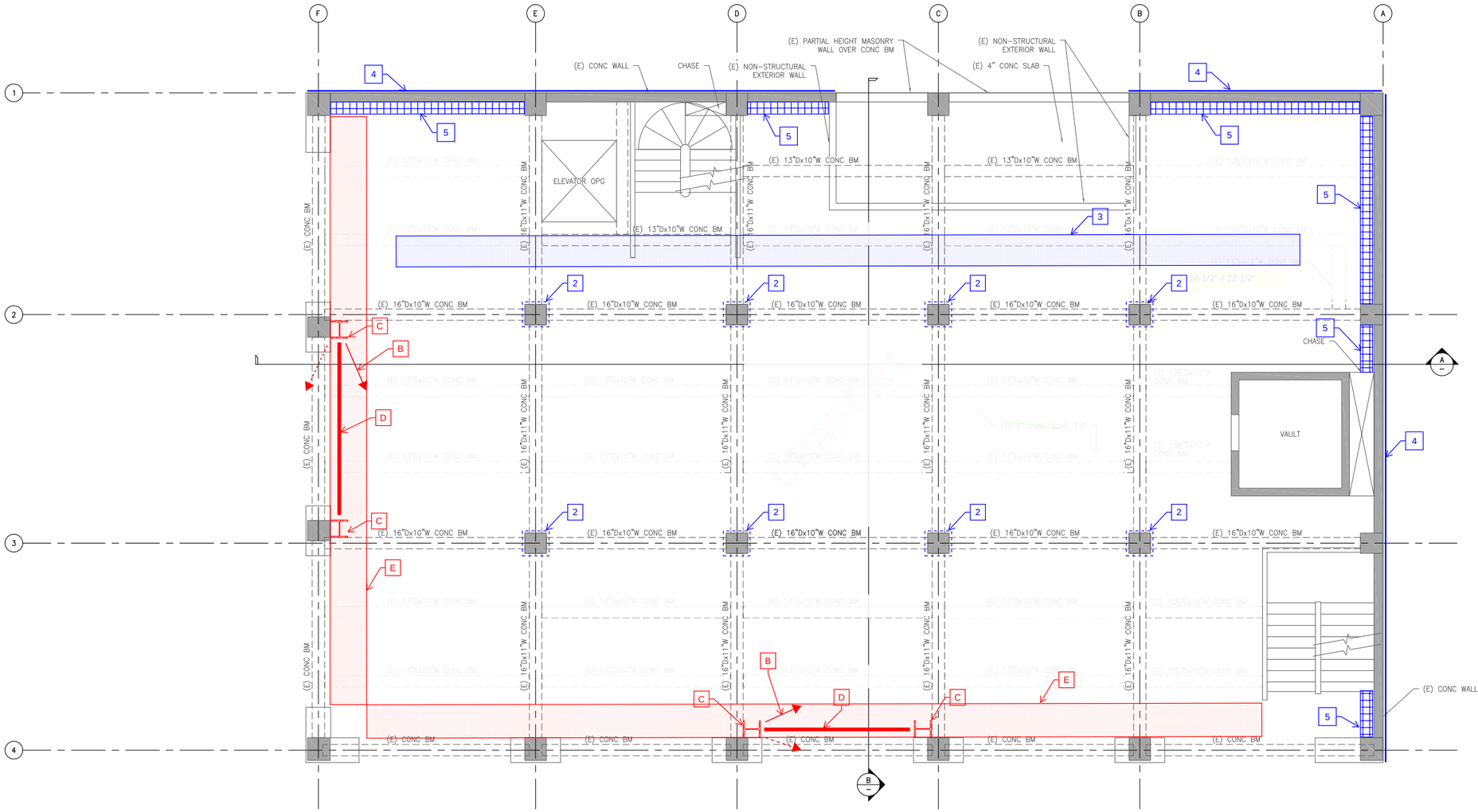

SECOND FLOOR PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:
A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:
1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

4. FRP OR SHOTCRETE WALL STRENGTHENING

5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:
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3. ALL SIZES SHOWN ON PLAN NEED TO BE VERIFIED IN FIELD.

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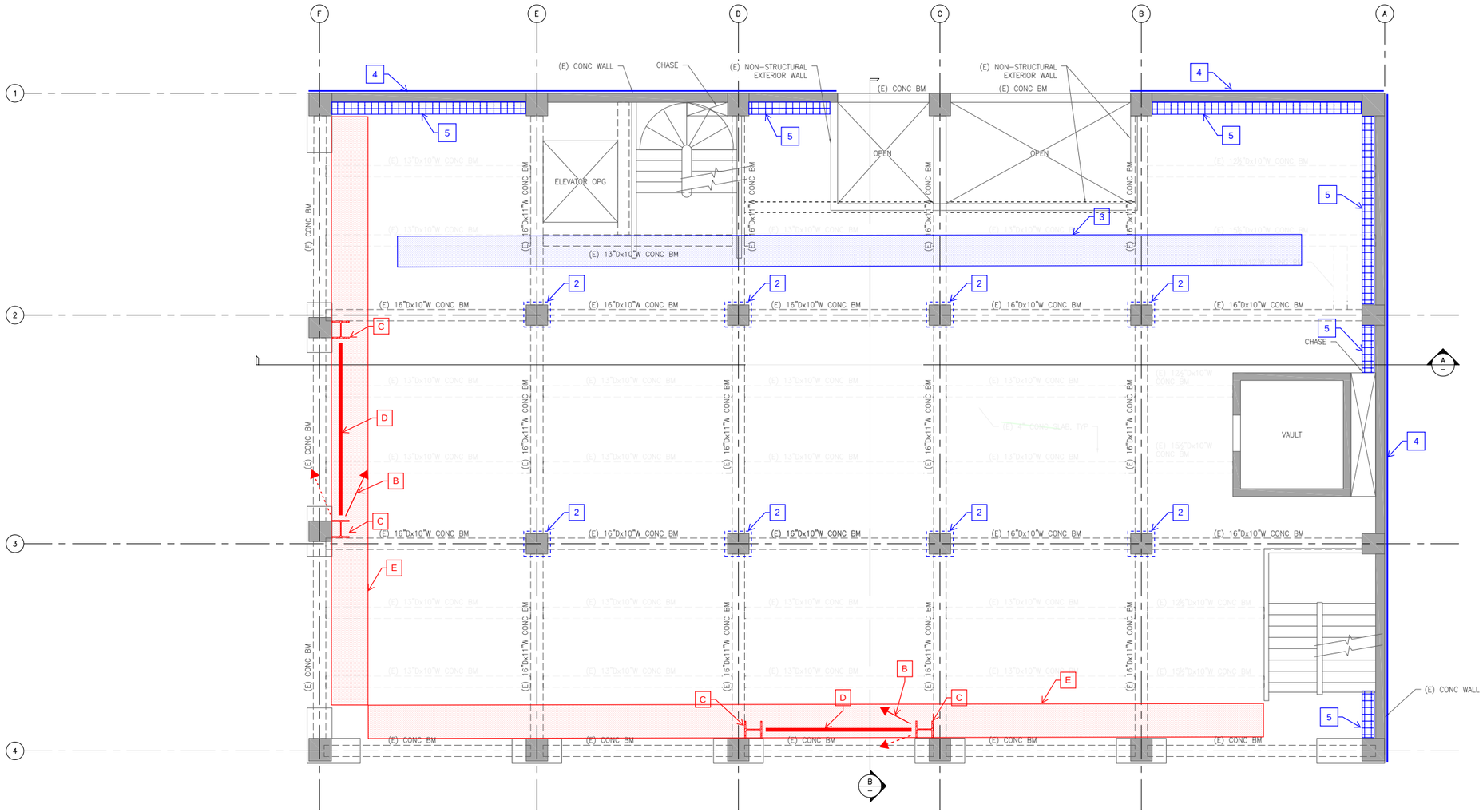

THIRD FLOOR PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:
A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:
1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

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6. POTENTIAL EXTENT OF NEW PENTHOUSE

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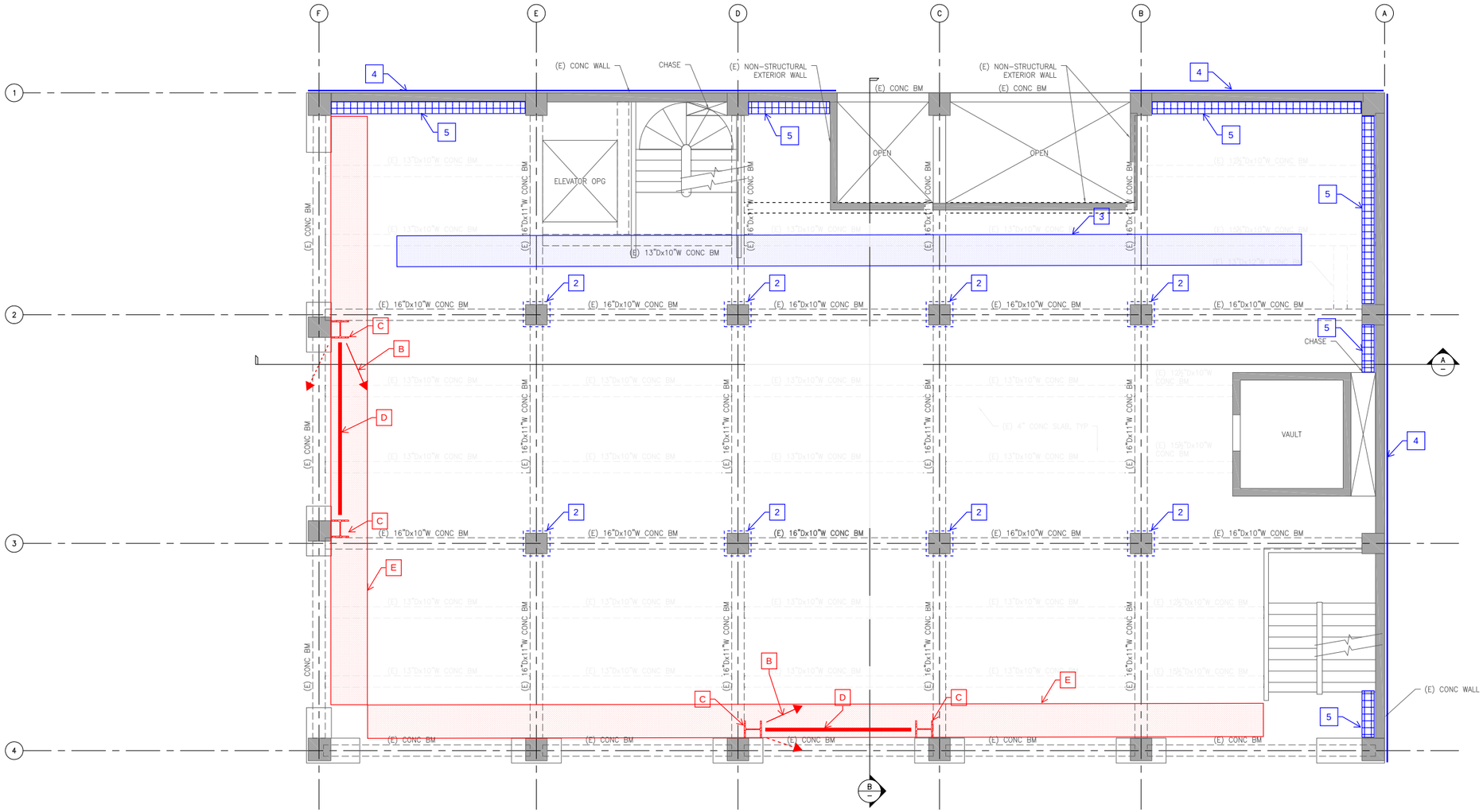

FOURTH FLOOR PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:
A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:
1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

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5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:
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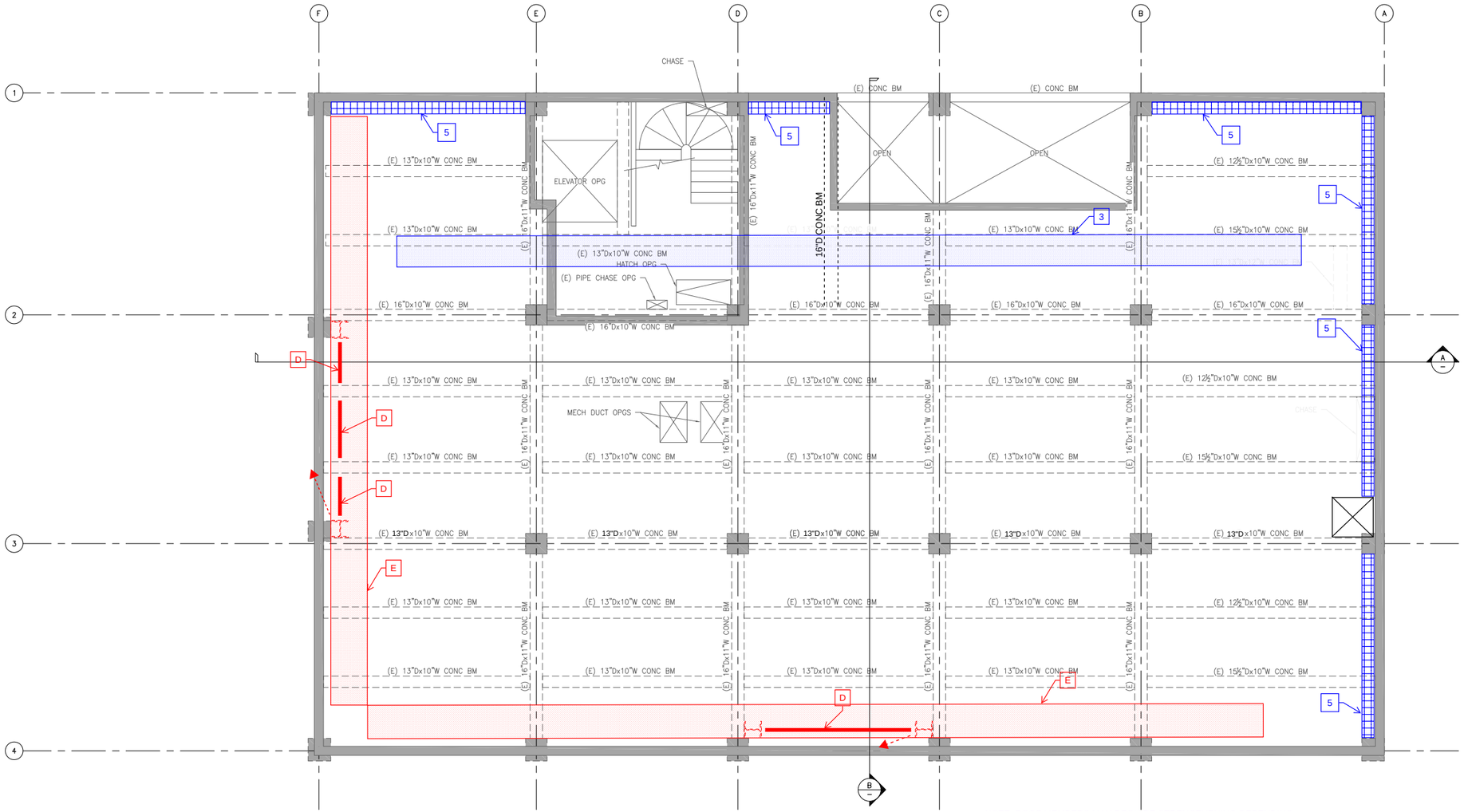

NOTE: ROOF MEMBERS MAY REQUIRE STRENGTHENING DEPENDING ON PENTHOUSE

ROOF PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:

A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:

1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

3. FRP SLAB STRENGTHENING AT EXISTING LARGE OPENINGS

4. FRP OR SHOTCRETE WALL STRENGTHENING

5. STRENGTHEN WALL-SLAB CONNECTION WITH ANGLE AND BOLTS

6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:

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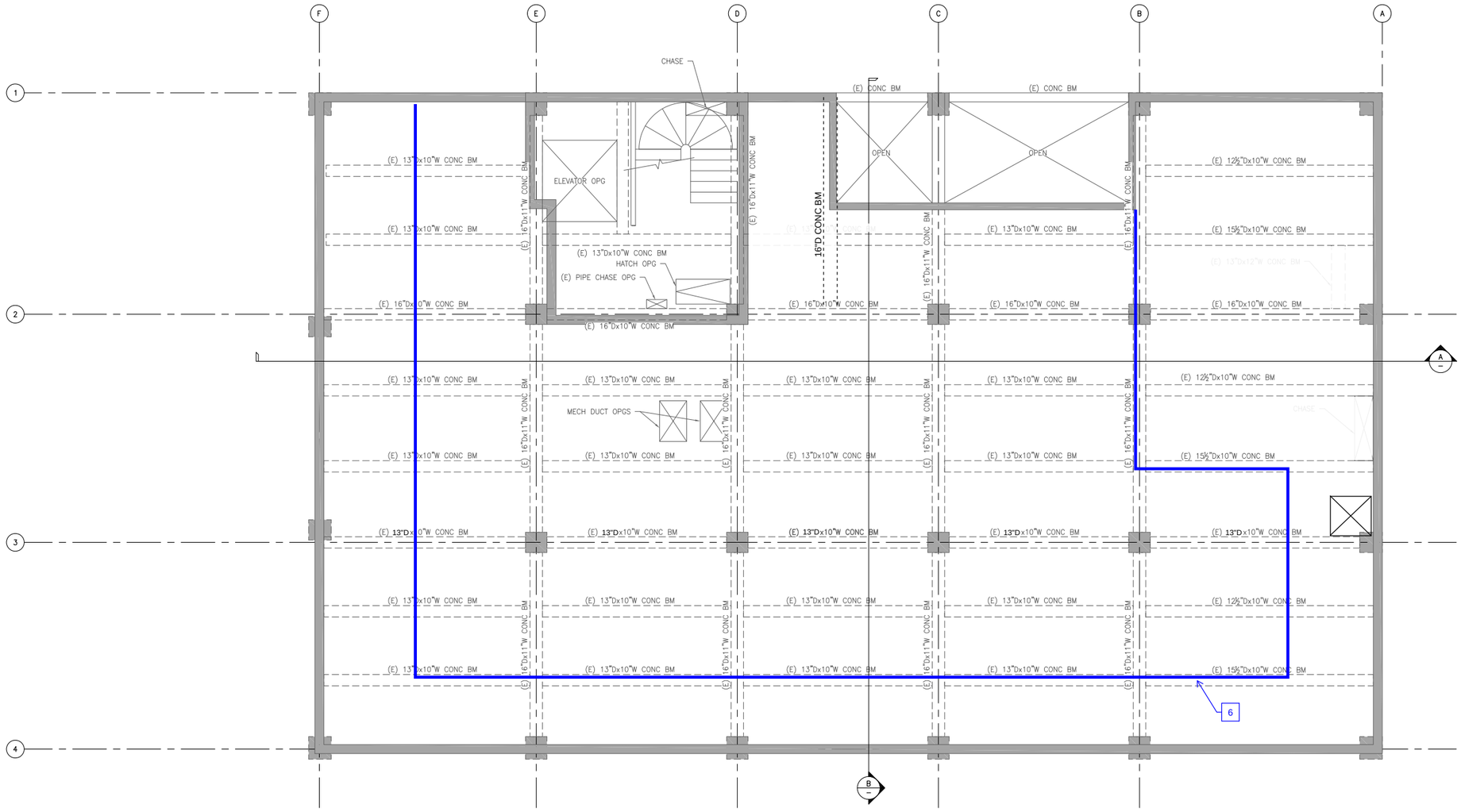

PENTHOUSE PLAN

KEYNOTES

REQUIRED RETROFIT ITEMS:
A. ADDED FOUNDATION ELEMENT BELOW NEW BRACE FRAME OR CONCRETE SHEAR WALL

B. NEW STEEL BRACE (OR CONCRETE SHEAR WALL AT BASEMENT LEVEL)

C. NEW STEEL COLUMN BETWEEN FLOORS

D. NEW STEEL BEAM BELOW EXISTING SLAB

E. NEW FRP COLLECTOR

POTENTIAL RETROFIT ITEMS:
1. FOUNDATION STRENGTHENING BELOW COLUMNS SUPPORTING NEW PENTHOUSE AND PREVIOUSLY ADDED MEZZANINE

2. FRP WRAP OF EXISTING CONCRETE COLUMN

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6. POTENTIAL EXTENT OF NEW PENTHOUSE

NOTES:
1. LETTERED ITEMS IN RED WILL BE REQUIRED FOR A RETROFIT. THE NUMBERED ITEMS IN BLUE WILL BE EVALUATED AFTER DATA COLLECTION TO DETERMINE IF THEY WILL BE REQUIRED.

2. ADDITIONAL STRENGTHENING MAY BE REQUIRED BASED ON NEW AND REVISED ARCHITECTURAL OPENINGS.

3. ALL SIZES SHOWN ON PLAN NEED TO BE VERIFIED IN FIELD.

PENTHOUSE FRAMING OPTIONS ARE DEPENDENT ON PENTHOUSE LAYOUT, EXTENTS, AND RATING REQUIREMENTS. IF THE FOOTPRINT OF THE PENTHOUSE DOES NOT ALIGN WITH THE EXISTING COLUMNS BELOW, EXISTING CONCRETE BEAMS AND GIRDERS SUPPORTING THE PENTHOUSE MAY REQUIRE STRENGTHENING.

OPTION 1 - LIGHT GAUGE FRAMING
ROOF: ROOFING OVER INSULATION AND LIGHT GAGE STUDS SPANNING TO LIGHT GAGE WALLS AND HSS COLUMNS
FLOOR: 1 1/2" LIGHTWEIGHT CONCRETE TOPPING OVER SHEATHING OVER LIGHT GAGE STUDS SPANNING TO EXISTING COLUMNS

OPTION 2 - WF FRAMING
ROOF: ROOFING OVER 1/12" B-DECK SPANNIGN TO WF BEAMS AND GIRDERS SUPPORTED BY HSS COLUMNS
FLOOR: 2 1/2" LIGHTWEIGHT CONCRETE OVER 2" DECK SPANNING TO WF BEAMS AND GIRDERS SUPPORTED AT EXISTING COLUMNS

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ASCE 41-17 Table 6-1 DATA COLLECTION REQUIREMENTS						
DATA	**MINIMUM**		**USUAL**		**COMPREHENSIVE**	
Performance Level	≤ LS (S-3)		≤ DC (S-2)		≤IO (S-1)	
Analysis Procedure	LSP, LDP		All		All	
Testing	No Tests[a]		Usual		Comprehensive	
Drawings	Design	Field Survey	Design	Field Survey	Design	Field Survey
Condition Assessment[b]	Visual	Comprehensive	Visual	Comprehensive	Visual	Comprehensive
Material Properties	Design Dwgs	Default Values	Dwgs & Tests	Usual	Dwgs & Tests	Comprehensive
Knowledge Factor[d]	0.9[e, f]	0.75	1.00	1.00	1.00	1.00

a. Except where no default material properties are provided
b. If existing details are insufficient, missing info shall be supplemented by a comprehensive condition assessment
c. If material properties are missing from existing dwgs, default values may be used with k=0.75
d. Ch. 9-12 for additional material specific requirements and limitations
e. Benchmark builidngs k=1.0
f. if inspection or testing records are available, k=1.0

ASCE 41-17 SUMMARY OF DATA COLLECTION:GENERAL REQUIREMENTS (CH 3-6)		
3.2 AS-BUILT INFORMATION		**REQUIRED**
3.2.2	**BUILDING CONFIGURATION:** Type and arrangement of existing structural components of the vertical and seismic force resisting systems and the nonstructural components of the building that either affect the stiffness or strength of the structural components. Information should identify any potential seismic deficiencies in load resisting	**x**
3.2.3	**COMPONENT PROPERTIES:** Geometric and material properties and component interconnection required to determine strength and deformation capacities.	**x**
3.2.4	**SITE AND FOUNDATION INFO:** Foundation configuration and soil conditions based on existing documentation or program site specific investigation. Site specific required where Enhanced Performance Objectives are selected or insufficient data is available. See Chapter 8.	**x**
3.2.5	**ADJACENT BLDGS:** Info required to permit investigation of potential interaction issues including: pounding if a portion of an adjacent structure is located within 4% of height of bldg; shared structural elements; hazards from adjacent building.	**x**
4.2 TIER 1: SCOPE OF INVESTIGATION REQUIRED		
4.2.1	**ON-SITE INVESTIGATION AND CONDITION ASSESSMENT:** Confirm available dwg info, identify significant alterations, supplement incomplete documentation, confirm general quality of construction including defects listed in Table 4-1.	**x**
5.2 TIER 2: GENERAL REQUIREMENTS		
5.2.2	**AS-BUILT INFO**: In addition to info required by Tier 1, sufficient info collected to complete the calculations required. Destructive testing shall be conducted as required to complete buildings for IO. Nondestructive examination of connections and conditions for all levels. Default material properties from Ch.8-12 or from design documents may be used.	**x**
5.2.4	**DETERIORATION OR DAMAGE:** Where identified in Tier 1, effects of the condition of the materials on the seismic performance shall be documented as required for use in the analysis.	**x**
5.2.6	**KNOWLEDGE FACTOR:** 0.75 unless data collection complies with Section 6.2.4 requirements for use of 1.0	**x**
6.2 TIER 3: DATA COLLECTION REQUIREMENTS		
6.2.1	**MINIMUM DATA COLLECTION REQUIREMENTS:**	
	1. Info from design drawings with sufficient detail to analyze component demands and capacities. Info shall be verified by visual condition assessment.	
	2. When info not available or incomplete, a comprehensive condition assessment including destructive and nondestructive investigation per Ch 9 to 12	
	3. Use default material properties in accordance with Ch 9 to 12.	
	4. Info for adjacent bldgs through field survey and as-built doc research	
	5. Site and foundation per Section 3.2.4	
6.2.2	**USUAL DATA COLLECTION REQUIREMENTS**	
	1. Info from design drawings with sufficient detail to analyze component demands and capacities. Info shall be verified by visual condition assessment.	
	2. When info not available or incomplete, a comprehensive condition assessment including destructive and nondestructive investigation in accordance with Ch 9 to 12	**x**
	3. If no T&I reports available, determine material properties using usual materials testing per Ch9 to 12.	**x**
	4. Info for adjacent bldgs through field survey and as-built doc research	**x**
	5. Site and foundation per Section 3.2.4	**x**
6.2.3	**COMPREHENSIVE DATA COLLECTION REQUIREMENTS**	
	1. Info from original design drawings, specs, and T&I reports. Info shall be verified by visual condition assessment.	
	2. When info not available or incomplete, a comprehensive condition assessment including destructive and nondestructive investigation in accordance with Ch 9 to 12	
	3. If no T&I reports available, determine material properties using comprehensive materials testing per Ch9 to 12.	
	4. Info for adjacent bldgs through field survey and as-built doc research	

ASCE 41-17 SUMMARY OF DATA COLLECTION:GENERAL REQUIREMENTS (CH 3-6)		
3.2 AS-BUILT INFORMATION		**REQUIRED**
	5. Site and foundation per Section 3.2.4	
6.2.4	**KNOWLEDGE FACTOR**	
6.2.4.1	Selected from Table 6-1 based on Performance Objective, analysis procedure, and data collection process	**x**
6.2.4.2	Linear - minimum level of knowledge permitted	**x**
6.2.4.3	Nonlinear Procedures - prelim evaluations may be used without testing as long as required usual or comprehensive testing is performed before implementing the retrofit or formalizing evaluation report for a building not requiring retrofit.	
6.2.4.4	Assumed knowledge factor can be used as long as it is justified by appropriate level of data collection prior to implementation of retrofit or final report indicating no retrofit is required. (See section for further discussion of assumed K factors)	

ASCE 41-17 SUMMARY OF DATA COLLECTION: FOUNDATIONS AND GEOLOGIC		
8.2 SITE CHARACTERIZATION		**REQUIRED**
8.2.1.1.1	**STRUCTURAL FOUNDATION INFORMATION:**	
	1. Foundation type	**x**
	2. Foundation configuration, including dimensions and locations	**x**
	3. Material composition and details of construction	**x**
8.2.1.1.2	**SUBSURFACE SOIL CONDITIONS**	
	1. **CP, Limited Safety, and LS**: type, composition, consistency, relative density, and layering of soils shall be determined to a depth which the stress imposed by the building is less than 10%. For friction piles to a depth of 2/3 pile length. For end-bearing piles to a depth of 5 pile diameter past end of piles. Locate water table.	**x**
	2. **DC and IO:** unit weight, effective stress friction angle, undrained shear strength of clays, soil compressibility, small-strain soil shear modulus, Poisson's ratio, and effective changes in the effective stress on shear modulus, friction angle, and shear modulus.	
8.2.1.3	**LOAD-DEFORMATION CHARACTERISTICS UNDER SEISMIC LOADING**: For vertical, lateral, and rocking directions shall be determined per Section 8.4 or from existing reports.	**x**
8.2.2	**SEISMIC-GEOLOGIC:** Evaluation of seismic induced hazards including fault rupture, liquefaction, differential settlement, compaction, landsliding, flooding.	**x**
C8.7	**WOOD PILE FOUNDATION RETROFIT:** Existing wood piles should be inspected for deterioration caused by decay, insect infestation, or other signs of distress.	

ASCE 41-17 SUMMARY OF DATA COLLECTION: STEEL AND IRON (CH 9)		
9.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		**REQUIRED**
9.2.1	**GENERAL**: Properties based on available construction documents and as-built conditions. Where information not available, material tests and assessments as required in Section 6.2 and in accordance with Section 9.2.2. Extent of testing and condition assessment shall be used to determine knowledge factor.	**X**
	(REFERENCE TO FEMA 274 (1997b) Section C9.2 for historical perspective on steel)	
9.2.2 PROPERTIES OF IN-PLACE MATERIALS AND COMPONENTS		
9.2.2.1.1	**GENERAL MATERIAL PROPERTIES:** Based on ASTM designation on dwgs or tests and Table 9-1 for post-1900 construction or Table 9-2 for pre-1900 construction.	
	1. Yield and tensile strength of base material	**X**
	2. Yield and tensile strength of connection material	**X**
	3. Carbon equivalent of base and connection material - to determine weldability	**X**
	Testing required by Section 6.2 shall be in accordance with Section 9.2.2.3 and 9.2.2.4.	**X**
9.2.2.1.3	**NOMINAL PROPERTIES FOR STRUCTURAL STEEL:** Properties specified in AISC 360 or CDs shall be taken as lower-bound material properites. Expected material properties to be determined using Table 9-3.	**X**
9.2.2.2	**COMPONENT PROPERTIES:** Components and their connections	
9.2.2.2.1	**STRUCTURAL STEEL COMPONENT AND CONNECTION PROPERTIES:**	
	1. Size and thickness of connected materials including cover plates, bracing, and	**X**
	2. Cross-sectional area, section moduli, moments of inertia, and torsional properties	**X**
	3. As-built configuration of intermediate, splice, and end connections	
	4. Current physical condition of the base metal and connector materials including presence of deformation and deterioration.	**X**
9.2.2.3	**TEST METHODS TO QUANTIFY PROPERTIES:**	
9.2.2.3.1	**STRUCTURAL STEEL TEST METHODS TO QUANTIFY PROPERTIES:** Testing per published standards by ASTM, ANSI, etc. Restore structure where destructive testing used. FEMA 274(1997b) and FEMA 351(2000b) have guidelines for test methods. Expected steel material properties shall be based on mean test values. Lower-bound shall be based on meant test values minus one standard deviation except where matial is positevly identified. Determine carbon content where welding required when material does not comply with ASTM A3, A242, A307, A572, A913, A972 or A992.	**X**
9.2.2.4	**MINIMUM NUMBER OF TESTS:** Material testing for structural steel is not required if original CDs available including T&I reports.	
9.2.2.4.1	**USUAL TESTING FOR STRUCTURAL STEEL:**	**x**
	1. Incomplete or Unavailable Dwgs: One strength coupon from each steel component type and one weld metal sample for each component type. Sample shall consist of local base and weld metal.	**x**
	2. Dwgs with ASTM designations and material grade: Use Table 9-1 values with no testing required.	
	3. Dwgs with ASTM not included in Table 9-1: Use of nominal material properties from dwgs permitted without testing.	
9.2.2.4.2	**COMPREHENSIVE TESTING FOR STRUCTURAL STEEL:** Test results shall be compared to Table 9-1 and 9-2 for the era of construction. Testing shall be doubled if tests are lower than default values.	
	1. Incomplete or Unavailable CDs but date of construction is known: Three strength coupons, three bolts, three, rivets taken from each component type.	
	2. No CDs available: at least two strength coupons and two bolts and rivets from each component type for every four floors or 200,000sf. More if sampling does not yield consistent results.	
	3. Where no construction records to indicate welding filler metals and processes: At least one weld sample for each component type. Sample shall consist of both local base and weld material.	

ASCE 41-17 SUMMARY OF DATA COLLECTION: STEEL AND IRON (CH 9)		
9.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		**REQUIRED**
	4. For archaic materials: at least three strength coupons for each component for every four floors or 200,000sf. More if sampling does not yield consistent results.	
	5. For other materials: a minimum of three tests.	
9.2.3 CONDITIONS ASSESSMENT		
9.2.3.1	**GENERAL:**	
	1. Examination of physical condition of the primary and secondary components noting any degradation	**X**
	2. Verification of presence and configuration of structural elements, components, and connections, and the continuity of load paths.	**X**
	3. Identification of other conditions, including neighboring party walls and buildings, nonstructural components that influence the building performance and prior remodeling.	**X**
9.2.3.2	**SCOPE AND PROCEDURES FOR STRUCTURAL STEEL:** Visual inspection of accessible structural steel elements and components of the SLRS to verify available documentation.If coverings or obstructions exist, remove as required to complete visual inspections required.	**X**
9.2.3.2.1	**VISUAL FOR STRUCTURAL STEEL:** If Dwgs exist, at least one connection or each connection type shall be inspected if no deviations are observed. Additional connections shall be inspected if deviations exist.	
9.2.3.2.2	**COMPREHENSIVE FOR STRUCTURAL STEEL:** If no Dwgs exist, at least three connections of each type of the primary structural components shall be inspected. If deviations are observed, additional connections shall be observed.	**X**

ASCE 41-17 SUMMARY OF DATA COLLECTION: CONCRETE (CH 10)		
10.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		**REQUIRED**
10.2.1	**GENERAL:** Properties based on available construction documents and as-built conditions. Where information not available or incomplete, material testing per 10.2 required.	
	Material Testing per 10.2.2	x
	Default Material Properties permitted per 10.2.2.5	
	Condition Assessment per 10.2.3	x
	Knoweldge Factor determined per 10.2.4	
10.2.2 PROPERTIES OF IN-PLACE MATERIALS AND COMPONENTS		
10.2.2.1	**MATERIAL PROPERTIES**	
10.2.2.1.1	**GENERAL:** The following componenet and conection material properties shall be obtained. Testing required by Section 6.2 shall be per Section 10.2.2.3 and 10.2.2.4.	
	1. Concrete compressive strength	X
	2. Yield and ultimate strength of conventional and prestressing reinforcing steel, CIP and post-installed anchors, and metal connection hardware.	X
10.2.2.1.2	**NOMINAL OR SPECIFIED PROPERTIES:** Nominal properties specified in CDs shall be taken as lower-bound material properties and multiplied by factors in Table 10-1 for Expected Values.	
10.2.2.2	**COMPONENT PROPERTIES:** following component properties and as-built conditions shall be established	
	1. Cross-sectional dimensions of components and overall configuration of structure	X
	2. Config of connections including size, embedment depth, type of anchor, thickness of connector material, and anchorage, and presence of bracing or stiffening components	X
	3. Modifications to components or overall configuration of structure	X
	4. Current physical condition of components and connections including extent of any deformation and deterioration.	X
	5. Deformation beyond expected due to gravity loads, settlement, or past earthquakes.	X
	6. Presence of other conditions such as nonstructural components that will influence building performance such as nonstructural components that can interact with the structure.	X
10.2.2.3	**TEST METHODS TO QUANTIFY PROPERTIES**	
10.2.2.3.1	**GENERAL:** Samples shall be taken in regions with the least stress.	
10.2.2.3.2	**SAMPLING:**	
	Core Sampling: Core drilling done following nondestructive location of reinf. All core holes to be filled. Core and test per ASTM C42,C39 and C496. Determine conc strength per ACI 214.4R.	x
	Reinf Sampling: Analyze removal of bar and determine if replacement required. Testing per ASTM A370. Prestressing shall meet ASTM A416, A421, or A772.	x
	Embedded Connectors: ASTM E488-96	
10.2.2.4	**MINIMUM NUMBER OF TESTS:** Material Testing not required if info on original CDs including T&I reports for all critical building components. If existing system being replaced by retrofit, material testing only required to quantify properties of existing materials at new connection points.	
10.2.2.4.1	**USUAL DATA COLLECTION**	
	1. Conc design strength known and test results unavailable: Minimum (1) core test for each each concrete strength with a minimum (3) cores taken from the bldg.	
	2. Conc design strength unknown and test results unavailable: Minimum (1) core from each type of SFRS component, with a minimum (6) cores taken from the bldg.	x
	3. Reinf design strength known: Nominal or specified material properties may be used without testing.	
	4. Reinf design strength unknown: Minimum of (2) strength test coupons of reinforcing steel.	x

ASCE 41-17 SUMMARY OF DATA COLLECTION: CONCRETE (CH 10)		
10.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		**REQUIRED**
	5. Cast-in-place or post-installed anchors shall be classified in groups of similar type, size, geometry, and structural use. In groups used for out-of-plane wall anchorage and in groups whose failure in tension or shear would cause the structure to not meet the BPO, 5% of the anchors with a minimum of (3) anchors of each group shall be tested in tension to establish an available strength, construction quality, or both. Testing to failure not required. Strength ≤ 2/3 test load and per 10.2.2.4.2.5.	**?**
10.2.2.4.2	**COMPREHENSIVE DATA COLLECTION**	
10.2.2.4.2.1	**COEFFICIENT OF VARIATION:** Minimum of (3) tests to determine any property. Coefficient of variation shall be less than 20% unless a knowledge factor per 10.2.4 is used.	
10.2.2.4.2.2	**CONCRETE MATERIALS:** For each conc SFRS element type or secondary element which failure is a collapse hazard, take a minimum of (3) core samples. Minimum of (3) from each concrete class/grade. A minimum of (6) total tests per building. Tests shall be taken from areas of degradation and compared to other tests. Ultrasonic or other nondestructive test methods shall not be substituted for core sampling and laboratory testing.	
	1. Design strength known but test results unavailable: Minimum (3) cores for each floor level, 400 CY of concrete, or 10,000sf of surface area whichever is greater.	
	2. Design strength unknown and test results unavailable: Minimum (6) cores for each floor level, 400 CY of concrete, or 10,000sf of surface area whichever is greater.	
	3. Design strength known or unknown and test results unavailable: lower-bound compressive strength may be determined using ACI 562-16 Eq. 6.4.3 plus one standard deviation of the strength of the core samples. A minimum of (4) samples per element type.	
10.2.2.4.2.3	**CONVENTIONAL REINFORCING AND CONNECTOR STEELS:** Yield and ultimate strengths shall be determined. A minimum of three tensile tests shall be conducted on conventional reinf from the building, subject to:	
	1. Properties available on CDs: Minimum (3) strength coupons from each element or component type.	
	2. Properties unavailable on CDs but date of construction known and common material grade identified: Minimum (3) strength coupons from each element or component type for every three floors	
	3. If construction date is unknown, minimum (6) strength coupons for every three floors.	
10.2.2.4.2.4	**PRESTRESSING STEELS:** Sampling only on prestressing that is part of the SLRS. Tendon removal shall be avoided if possible. Extreme care shall be taken.	
10.2.2.4.2.5	**CAST-IN-PLACE OR POST-INSTALLED ANCHORS:** Grouped per Section 10.2.2.4.1. Groups used for out-of-plane wall anchorage and groups whose failure in tension or shear would cause the structure not to meet the selected BPO, 10% of the anchors with a minimum of (6) anchors of each group shall be tested in-place in tension to establish an available strength. Testing to failure not required. Testing load established based on demand or strength based on CDs. Strength shall not be taken as greater than 2/3 of the test load.	
CBC 1911A.1 AS NOTED IN DSA IR EB-3 SECTION 6.2.3		
	The structural use of existing concrete with a core strength less than 1500psi is not permitted.	
	Sufficient cores shall be taken at representative locations throughout the structure: - Min (3) cores for each 4,000SF of floor area - Cores shall be at least 4" Ø unless approved by DSA to be reduced to 2 3/4" Ø	
10.2.3 CONDITIONS ASSESSMENT		
10.2.3.1	**GENERAL:**	
	1. Physical condition of the primary and secondary components noting any degradation	**X**
	2. Verification of presence and configuration of structural elements, components, and connections.	**X**

ASCE 41-17 SUMMARY OF DATA COLLECTION: CONCRETE (CH 10)		
10.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		**REQUIRED**
	3. Identification of other conditions, including non structural components that influence the building performance.	**X**
	4. Collection of info needed to select a knowledge factor in accordance with Section 10.2.4	**X**
	5. Confirmation of component orientation, plumbness, and physical dimensions.	**X**
10.2.3.2	**SCOPE AND PROCEDURES:** critical structural components as described below	
10.2.3.2.1	**VISUAL:** Visual inspection of accessible and representative primary components and connections to; identify configuration; identify degradation; establish continuity of load paths; establish need for any additional testing; measure dimensions of existing construction to confirm design dwg info and any permanent deformations. - Minimum of 20% of components and connections at each floor - If significant damage/deterioration found increase to 40% minimum	**X**
10.2.3.2.2	**COMPREHENSIVE:** Exposure is defined as local minimized removal of conc cover and other materials to inspect reinf system details and shall be repaired.	**X**
	1. Detailed Dwgs Exist: Exposure of at least (3) different primary connections of different types. If no deviations from Dwgs exist, no further required. If deviations are noted then at least 25% of that connection type shall be inspected.	
	2. No detailed Dwgs Exist: At least three connections of each primary type shall be exposed for inspection. If common detailing present then no further required. If variations exist then additional connections shall be inspected until accurate understanding obtained.	**x**
10.2.3.2.3	**ADDITIONAL TESTING:** If additional testing required to determine degree of deterioration or to understand internal condition or quality of concrete, test methods approved by the registered design professional shall be used.	

ASCE 41-17 SUMMARY OF DATA COLLECTION: MASONRY (CH 11)

11.2 MATERIAL PROPERTIES AND CONDITION ASSESSMENT		REQUIRED
11.2.1	**GENERAL:** Properties based on available construction documents and as-built conditions. Material properties shall be determined per 11.2.3. Extent of testing and condition assessment shall be used to determine knowledge factor per 11.2.4.	
11.2.2 CONDITION ASSESSMENT		
	Condition Assessment shall include the following: 1. Physical condition and the presence of any degradation of unit surfaces and mortar joints 2. Verification and/or determination of masonry component configuration, connections, and load paths between components. 3. Other conditions including: veneers; attachments, nonstructural components, prior remodeling or other limitations.	x
	Classification of Existing Masonry: Masonry shall be classified as one of the following based on visiual examination and other approved procedures. **Good Condition:** Mortar and units intact with no visible cracking, deterioration, or damage **Fair Condition:** Mortar and units intact but with minor cracking **Poor Condition:** Degraded mortar, units, or significant cracking	x
11.2.2.1	**VISUAL CONDITION ASSESSMENT**	
	Size and location of all masonry shear and bearing walls including orientation, dimensions, heights, window and door locations, ans distribution of gravity loads to	x
	Identify any out-of-plumb masonry including: bulging or undulations, leaning parapets or chimneys, or separation of wythes.	x
	REINFORCEMENT: Reinforced or Unreinforced. If reinf confirm size and spacing of reinf	x
	WYTHES: Classify if walls are Composite or Noncomposite: For multi-wythe walls: number of wythes, dimensions, and interwythe ties	x
	GROUT: Fully Grouted, Partially Grouted, or Ungrouted - Assess quality of grout and location of grout if partially grouted.	x
	MORTAR: Determine type and condition of mortar; identify location of any cracks or deterioration.	x
	CONNECTIONS: Identify details and condition of connections between masonry walls and floors/roofs. - With Design Dwgs: (3) of each type of connections shall be inspected - No Design Dwgs or connections deviate from Design Dwgs: Random sample inspected until pattern of connections is identified.	x
11.2.2.2	**COMPREHENSIVE CONDITION ASSESSMENT**	
	Nondestructive tests shall quantify and confirm the uniformity of the construction and the presence and degree of any deterioration.	x
	1. Ultrasonic or mechanical pulse velocity to detect variations in the density and detect the presence of cracks.	x
	2. Impact-echo tests to determine if walls are grouted.	x
	3. Radiography to confirm location of reinf	x
	4. Infrared thermography	
	5. Surface penetrating radar	
	6. Borescopic investigation	
11.2.2.3	**Supplemental Tests:** Permitted to enhance level of confidence for justifying the use of a higher knowledge factor.	
11.2.2.4	**Condition Enhancement:** Where required withing the scope of and consistent with the Performance Objective the condition of the exisitng masonry shall be enhanced by replacement, pointing or repointing (11.2.2.5), and/or low pressure epoxy grout injections	
11.2.2.5	**Pointing or Repointing URM:** Where required withing the scope of and consistent with the Performance Objective.	

11.2.3 PROPERTIES OF IN-PLACE MATERIALS AND COMPONENTS		
11.2.3.1	**General:** The following component and connection material properties shall be obtained per 11.2.3.2 through 11.2.3.9. Expected material properties shall be based on the mean values from test data. Lower-bound material properties shall be based on mean minus one standard deviation values from test data.	**x**
11.2.3.2	**Nominal or Specified Properties:** Masonry properties specified in the construction documents shall be taken as lower-bound properties and multiplied by factors in Tabe 11-1 to get expected values. Refer to Chapter 10 for reinforcing steel properties	
11.2.3.3	**Masonry Compressive Strength (f_{me}):** Expected masonry compresive strength shall be determined using one of the following based on the net mortared area.	
	1. Test prisms extracted and tested in accordance with TMS 602 Section 1.4.B.3	**x**
	2. Prisms shall be fabricated from actual extracted masonry untis and surrogate mortar shall be designed on the basis of chemical analysis of eactual mortar stamples. Test in accordance with TMS 602 Section 1.4.B.3	
	3. For solid URM, estimate strength using a flat jack test in accordance with ASTM C1197	
11.2.3.4	**Masonry Elastic Modulus in Compression (E_{me}):** Expected elastic modulus for masonry in compression determined using one of the following:	
	1. Per TMS 402	**x**
	2. Measured from test prisms extracted from existing masonry and testing in compression	
	3. For solid URM, using a flat jack test per with ASTM C1197	
11.2.3.5	**URM Flexural Tensile Strength (f_{te}):** Expected flexural tensile strength for out-of-plane bending shall determined using one of the following:	
	1. Test samples extracted and subjected to minor axis bending using the bod wrench method of ASTM C1072.	**x**
	2. Test samples shall be tested in-situ using the bond wrench method	
	3. Sample wall panels shall be extracted and subjected to minor axis bending per ASTM E518.	
11.2.3.6	**URM Shear Strength:** Each class of URM determined by 11.2.3.9.2, may be tested to determine the expected shear strength. Lower-bound shear strengths may be determined by 11.2.3.6.3 aor 11.2.3.6.4.	**x**
11.2.3.6.1	**Testing Bed-Joint Shear Strength (v_{to}):** Test bed-joint per ASTM C1531.	**x**
11.2.3.6.2	**Testing for Tensile Splitting Strength (v_{to}):** Test masonry cores per ASTM C496.	**x**
11.2.3.7	**Masonry Shear Modulus (G_{me}):** Taken from TMS 402 1.8.2.2.1	**x**
11.2.3.8	**Steel Reinforcement Tensile Strength and Yield Properties (f_{ye}):**	
	Based on mill test data or on tension tests per ASTM A615 of samples taken from building	**x**
	Taken from Tables 10-1, 10-3 and 10-4	
11.2.3.9	**Minimum Number of Tests:** Testing not required if material properties are available from original construction documents that include material test records or material test reports. Material samples shall be taken in areas that represent various conditions of masonry.	
11.2.3.9.1	**USUAL TESTING OF REINFORCED MASONRY**	
	1. Design compressive strength known: Minimum (2) tests of each masonry strength	
	2. Design compressive strength unknown: Minimum (1) test on each type of component with minimum of (6) tests overall.	**x**
	3. Reinf steel strength known: use of nominal or specified permitted without testing	
	building	**x**
11.2.3.9.2	**USUAL TESTING OF URM**	
	URM shall be categorized into one or more classes based on quality of construction, repair, detewrioration, and weathering. Classifications shall be for whole walls not portions of walls. Each class of walls shall have the following testing:	
	1. At the first and top story: Minimum (2) tests per wall line providing a common line of resistance to seismic forces	

	2. At other stories: Minimum (1) test per wall line providing a common line of resistance to seismic forces	
	3. Minimum (1) test per 1500 SF of wall surface	x
	4. Minimum (8) total tests	x
11.2.3.9.3	**COMPREHENSIVE TESTING OF MASONRY**	
	In addtion to the Usual Testing listed in 11.2.3.9.1 and 11.2.3.9.2 the minimum number of tests shall be:	
	1. Minimum (3) tests for each class of URM	
	2. Without original construction records, (6) tests for each three floors of construction or 3000SF of wall surface.	
	3. Minimum (2)tests per wall line providing a common line of resistance to seismic forces	
	4. Minimum (8) total tests	
	5. Nondestructive condition assessment per 11.2.2.2 shall be used to investigate variations in construction quallity or material deterioration and additional tests done to estimate material strengths in regions where properties differ.	
11.2.3.10	**DEFAULT PROPERTIES**	
	Lower-Bound Strengths from Table values permitted to be used with linear analysis procedures for Good and Fair Classification masonry. Multiply by values from Table 11-1 for Expected Strengths.	x
	Table 11-2a URM Compressive Strength, Flexural Tensile Strength, & Shear Strength	
	Table 11-2b Reinforced Masonry Compressive Strength & Shear Strength	
	Table 11-2c URM with Lime Mortar Compressive Strength, Flexural Tensile Strength, & Shear Strength	
	Section 10.2.2.5 for lower-bound and expected yield strength of reinforcement	

ASCE 41-17 SUMMARY OF DATA COLLECTION: ARCH, MECH, AND ELECT COMPONENTS (CH 13)

13.2.1 DATA COLLECTION AND CONDITION ASSESSMENT		REQUIRED
	Review available CDs, equip specifications and data, and as built info	X
	Estimate year of installation to assess historical information	x
	CONDITION ASSESSMENT shall be performed as part of the nonstructural evaluation and shall determine as a minimum:	
	1. Presence and configuration of each type of nonstructural component and its attachment to structure	X
	2. Physical condition of each type of component and any degradation	X
	3. Presence of nonstructural components that potentially influence overall building performance	X
	4. Presence of nonstructural components whose failure could affect the performance of nonstructural component being considered	X
	DIRECT VISUAL INSPECTION shall be performed on each type of nonstructural component as follows:	
	1. Detailed dwgs available: Observe at least one sample of each type of component but not less than 5% of the total. If no deviations from drawings exist, no further required. If deviations observed then observe at least 10% of all occurrences of that component.	
	2. Detailed dwgs unavailable: Observe at least three samples of each type of component but not less than 10% of the total. If no deviations between samples exist, no further required. If deviations observed then observe at least 20% of all occurrences of that component.	X
Table13-1	**Nonstructural Components: Applicability of LS and PR Requirements and Methods of Analysis**	
	See Table 13-1 for list of nonstructural items to be included based on seismicity and performance level	X

ASCE 41-17 SUMMARY OF DATA COLLECTION: STEEL (CH 9)								
Comprehensive Conditions Assessment per Section 9.2.2.4.2								
Connection Description	**Roof**	**4th**	**3rd**	**2nd**	**Mezz**	**Ground**	**Basement**	**TOTAL**
WF Girder to Exterior Wall					3			3
WF Beam to Girder					3			3
WF Girder to Column					3			3
WF Beam to Exterior Wall					1			1
								0
								0
								0
								0
								0
TOTAL	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**10**
This assumes minimum of 3 of each type will be consistent and not require further to be exposed.								

ASCE 41-17 SUMMARY OF DATA COLLECTION: CONCRETE (CH 10)								
Comprehensive Conditions Assessment per Section 10.2.3.2.2								
Connection Description	**Roof**	**4th**	**3rd**	**2nd**	**Mezz**	**Ground**	**Basement**	**TOTAL**
Slab-Exterior Wall	3			3	3	3		12
Slab-Beam	3					3		6
Slab-Girder	3			3		3		9
Beam-Exterior Wall	3					3		6
Beam-Girder	3				1	3		7
Girder-Exterior Wall	3			3	3	3		12
Column-Girder	3			3		3		9
Column-Beam	3					3		6
Column-Footing							3	3
Exterior Wall-Footing							3	3
TOTAL	**24**			**12**		**24**	**6**	**73**
This assumes minimum of 3 of each type will be consistent and not require further to be exposed, and that the 2nd, 3rd, and 4th floors are similar.								

ASCE 41-17 Table 13-1 Nonstructural Components: Applicability of Hazards Reduced (HR), Life Safety (LS) and Position Retention (PR) Requirements and Methods of Analysis

Component Type		Seismicity									Evaluation Procedure
		High			Moderate			Low			
		Performance Level									
		PR	LS	HR	PR	LS	HR	PR	LS	HR	
ARCHITECTURAL (SECTION 13.6)											
1	**Cladding and Glazing**										
	Adhered veneer	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	F/D
	Anchored veneer	Yes	Yes	Yes(a)	Yes	Yes	No	Yes	Yes	No	F/D
	Glass blocks and other nonstructural masonry walls	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F/D
	Prefabricated panels	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	No	No	Yes(a)	F/D
	Glazed exterior wall systems	Yes	Yes	No	Yes	Yes	No	No	No	No	F/D/P
2	**Partitions**										
	Heavy, URM, or hollow clay tile	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F/D
	Light	Yes	No	No	Yes	No	No	No	No	No	F/D
	Glazed	Yes	Yes	No	Yes	Yes	No	No	No	No	F/D/P
3	**Interior Veneers**										
	Stone, including marble	Yes	Yes	Yes(a)	Yes	Yes	No	No	No	No	F/D
4	**Ceilings**										
	Directly applied to structure	Yes	No(b)	No	Yes	No(b)	No	No	No	No	F
	Dropped furred gypsum board	Yes	Yes	No	No	No	No	No	No	No	F
	Suspended lath and plaster	Yes	Yes	Yes(a)	Yes	Yes	No	Yes	No	No	F
	Suspended integrated ceiling	Yes	No	No	Yes	No	No	No	No	No	P
5	**Parapets and Cornices**										
	Unreinforced masonry		Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F(c)
	Concrete and reinforced masonry	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	No	No	F
	Other	Yes	Yes	No	Yes	Yes	No	Yes	No	No	F
6	**Architectural Appendages and Marquees**	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F
7	**Chimneys and Stacks**	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F(d)
8	**Stairs**	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	F/D
9	**Doors Required for Emergency Services Egress**	Yes	Yes	No	Yes	No	No	No	No	No	F/D
MECHANICAL EQUIPMENT (SECTION 13.7)											
1	**Mechanical Equipment**										
	Boilers, furnaces, pumps, and chillers	Yes	No	No	No	No	No	No	No	No	F
	General manufacturing and process machinery	Yes	No(e)	No	No(e)	No	No	No	No	No	F
	Hazardous material equipment	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	F
	Fire suppression equipment	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	F
	HVAC equipment, vibration isolated	Yes	No(e)	No	No(e)	No	No	No	No	No	F
	HVAC equipment, non-vibration isolated	Yes	No(e)	No	No(e)	No	No	No	No	No	F
	HVAC equipment, mounted in line with ductwork	Yes	Yes	No	No(e)	No	No	No	No	No	P
2	**Storage Vessels and Water Heaters**										
	Structurally supported vessels (Category 1)	Yes	No(e)	No	No(e)	No	No	No	No	No	P/F(f)
	Flat bottom vessels (Category 2)	Yes	No(e)	No	No(e)	No	No	No	No	No	F(g)
	Fire water storage tanks and reservoirs	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	F
3	**Pressure Piping**	Yes	Yes	No	Yes	No	No	No	No	No	D(g)
4	**Fire Suppression Piping**	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	P/F
5	**Fluid Piping, not Fire Suppression**										
	Hazardous materials	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	P/F/D
	Nonhazardous materials	Yes	No	No	No(h)	No	No	No	No	No	P/F/D
6	**Ductwork**										
	Stair and smoke ducts	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	P/F/D
	Hazardous material ducts	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	P/F/D
	Other HVAC ducts	Yes	No(i)	No	No(i)	No(i)	No	No(i)	No	No	P/F/D
ELECTRICAL EQUIPMENT (SECTION 13.7)											
1	**Electrical and Communications Equipment**	Yes	No(j)	No	Yes	No	No	No	No	No	F
2	**Electrical and Communications Distribution Equip**										
	Emergency power equipment	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	P/F/D
	Other	Yes	No	No	Yes	No	No	No	No	No	P/F/D
2	**Light Fixtures**										
	Recessed	Yes	No	No	No	No	No	No	No	No	P(k)
	Surface mounted	Yes	No	No	No	No	No	No	No	No	P(k)
	Integrated ceiling	Yes	No	No	Yes	No	No	No	No	No	P
	Pendant	Yes	No(l)	No	No(l)	No	No	No	No	No	F/P
	Emergency lighting	Yes	No	No	Yes	No	No	Yes	No	No	F/P
FURNISHING AND INTERIOR EQUIPMENT (SECITON 13.8)											
1	**Storage Racks**	Yes	Yes(m)	Yes(a)	Yes	Yes(m)	Yes(a)	No	No	No	F
2	**Contents**										
	Tall and Narrow	Yes	Yes	No	Yes	No	No	No	No	No	F
	Fall prone	Yes	Yes	No	No	No	No	No	No	No	P/F

ASCE 41-17 Table 13-1 Nonstructural Components: Applicability of Hazards Reduced (HR), Life Safety (LS) and Position Retention (PR) Requirements and Methods of Analysis

Component Type		Seismicity									Evaluation Procedure
		High			Moderate			Low			
		Performance Level									
		PR	LS	HR	PR	LS	HR	PR	LS	HR	
	Suspended Contents	Yes	No	No	Yes	No	No	No	No	No	F/D
3	**Computer Access Floors**	Yes	No	No	Yes	No	No	No	No	No	P/F/D
4	**Hazardous Materials Storage**	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	Yes	Yes	Yes(a)	P/F
5	**Computer and Communication Racks**	Yes	No	No	No	No	No	No	No	No	P/F/D
6	**Elevators**	Yes	Yes	No	Yes	No	No	No	No	No	F/D/P
7	**Conveyors**	Yes	No	No	No	No	No	No	No	No	F/D/P

Notes: PR = Position Retention Nonstructural Performance Level; LS = Life Safety Nonstructural Performance Level; F/D = Analytical procedure of Section 13.4.1 shall be implemented, and a force and deformation analysis shall be performed in accordance with Sections 13.4.3 and 13.4.4, respectively; P = Use of the prescriptive procedure of Section 13.4.2 shall be permitted; and F = Analytical procedure of Section 13.4.1 shall be implemented, and a force analysis shall be performed in accordance with Section 13.4.3.

[a] If it can be demonstrated that the component does not pose a threat of serious injury to many people due to falling or failing under the Seismic Hazard Level being considered, the component need not be considered in the Hazards Reduced Nonstructural Performance Level.

[b] Plaster ceilings on metal or wood lath over 10 ft^2 (0.93 m^2) in area shall meet the Position Retention Nonstructural Performance Level.

[c] Retrofit of unreinforced masonry parapets not over 4 ft (1.2 m) high by the prescriptive design concept shall be permitted.

[d] Retrofit of residential masonry chimneys by the prescriptive design concept shall be permitted.

[e] Equipment type 1 or 2 that is 6 ft (1.8 m) or more high, equipment type 3, equipment forming part of an emergency power system, and gas-fired equipment in occupied or unoccupied space shall be retrofit to the Position Retention Nonstructural Performance Level in areas of moderate or high seismicity. Refer to Section 13.7.1.1 for equipment type designations.

[f] Retrofit of residential water heaters with capacity less than 100 gal. (378.5 L) by the prescriptive procedure shall be permitted. Other vessels shall meet the force provisions of Section 13.4.3.

[g] Retrofit of vessels or piping systems according to prescriptive standards shall be permitted. Storage vessels shall meet the force provisions of Section 13.4.3. Piping shall meet drift provisions of Section 13.4.4 and the force provisions of Section 13.4.3.

[h] Unbraced pressure pipes with a 2-in. (51-mm) or larger diameter and suspended more than 12 in. (305 mm) from the top of the pipe to the supporting structure at any support point shall meet the requirements of the Position Retention Performance Objective.

[i] Ductwork that conveys hazardous materials, exceeds 6 ft^2 (0.56 m^2) in cross-sectional area, or is suspended more than 12 in.

GENERAL

3.2.2 BUILDING CONFIGURATION: Type and arrangement of existing structural components of the vertical and seismic force resisting systems and the nonstructural components of the building that either affect the stiffness or strength of the structural components. Information should identify any potential seismic deficiencies in load resisting components.

3.2.3 COMPONENT PROPERTIES: Geometric and material properties and component interconnection required to determine strength and deformation capacities.

3.2.4 SITE AND FOUNDATION INFO: Foundation configuration and soil conditions based on existing documentation or program site specific investigation. Site specific required where Enhanced Performance Objectives are selected or insufficient data is available. See Chapter 8.

3.2.5 ADJACENT BLDGS: Info required to permit investigation of potential interaction issues including: pounding if a portion of an adjacent structure is located within 4% of height of bldg; shared structural elements; hazards from adjacent building.

4.2.1 ON-SITE INVESTIGATION AND CONDITION ASSESSMENT: Confirm available dwg info, identify significant alterations, supplement incomplete documentation, confirm general quality of construction including defects listed in Table 4-1.
5.2.2 AS-BUILT INFO: In addition to info required by Tier 1, sufficient info collected to complete the calculations required. Destructive testing shall be conducted as required to complete buildings for IO. Nondestructive examination of connections and conditions for all levels. Default material properties from Ch.8-12 or from design documents may be used.
5.2.4 DETERIORATION OR DAMAGE: Where identified in Tier 1, effects of the condition of the materials on the seismic performance shall be documented as required for use in the analysis.

6.2.2 Usual Data Collection Requirements:
When info not available or incomplete, a comprehensive condition assessment including destructive and nondestructive investigation in accordance with Ch 9 to 12
If no T&I reports available, determine material properties using usual materials testing per Ch9 to 12.
Info for adjacent bldgs through field survey and as-built doc research

Foundation:
8.2.1.1.1 STRUCTURAL FOUNDATION INFORMATION:
Foundation type
Foundation configuration, including dimensions and locations
Material composition and details of construction

8.2.1.1.2 SUBSURFACE SOIL CONDITIONS
Type, composition, consistency, relative density, and layering of soils shall be determined to a depth which the stress imposed by the building is less than 10%. For friction piles to a depth of 2/3 pile length. For end-bearing piles to a depth of 5 pile diameter past end of piles. Locate water table.

8.2.1.3 LOAD-DEFORMATION CHARACTERISTICS UNDER SEISMIC LOADING: For vertical, lateral, and rocking directions shall be determined per Section 8.4 or from existing reports.

8.2.2 SEISMIC-GEOLOGIC: Evaluation of seismic induced hazards including fault rupture, liquefaction, differential settlement, compaction, landsliding, flooding.

NON-STRUCTURAL

13.2.1 DATA COLLECTION AND CONDITION ASSESSMENT
CONDITION ASSESSMENT shall be performed as part of the nonstructural evaluation and shall determine as a minimum:
1. Presence and configuration of each type of nonstructural component and its attachment to structure
2. Physical condition of each type of component and any degradation
3. Presence of nonstructural components that potentially influence overall building performance
4. Presence of nonstructural components whose failure could affect the performance of nonstructural component being considered
DIRECT VISUAL INSPECTION shall be performed on each type of nonstructural component as follows:
2. Detailed dwgs unavailable: Observe at least three samples of each type of component but not less than 10% of the total. If no deviations between samples exist, no further required. If deviations observed then observe at least 20% of all occurrences of that component.

Nonstructural Components: Applicability of LS and PR Requirements and Methods of Analysis
See Table 13-1 for list of nonstructural items to be included based on seismicity and performance level

STEEL

9.2.1 GENERAL: Material tests and assessments as required in Section 6.2 and in accordance with Section 9.2.2.

9.2.2.1.1 GENERAL MATERIAL PROPERTIES
1. Yield and tensile strength of base material
2. Yield and tensile strength of connection material
3. Carbon equivalent of base and connection material - to determine weldability

9.2.2.2.1 STRUCTURAL STEEL COMPONENT AND CONNECTION PROPERTIES:
1. Size and thickness of connected materials including cover plates, bracing, and stiffeners
2. Cross-sectional area, section moduli, moments of inertia, and torsional properties
3. As-built configuration of intermediate, splice, and end connections
4. Current physical condition of the base metal and connector materials including presence of deformation and deterioration.

9.2.2.3.1 STRUCTURAL STEEL TEST METHODS TO QUANTIFY PROPERTIES:
Testing per published standards by ASTM, ANSI, etc. Restore structure where destructive testing used. FEMA 274(1997b) and FEMA 351(2000b) have guidelines for test methods. Expected steel material properties shall be based on mean test values. Lower-bound shall be based on mean test values minus one standard deviation except where material is positively identified. Determine carbon content where welding required when material does not comply with ASTM A3, A242, A307, A572, A913, A972 or A992.

9.2.2.4.1 USUAL TESTING FOR STRUCTURAL STEEL:
1. Incomplete or Unavailable Dwgs: One strength coupon from each steel component type and one weld metal sample for each component type. Sample shall consist of local base and weld metal.

9.2.3 CONDITIONS ASSESSMENT
9.2.3.1 GENERAL:
1. Examination of physical condition of the primary and secondary components noting any degradation
2. Verification of presence and configuration of structural elements, components, and connections, and the continuity of load paths.
3. Identification of other conditions, including neighboring party walls and buildings, nonstructural components that influence the building performance and prior remodeling.

9.2.3.2 SCOPE AND PROCEDURES FOR STRUCTURAL STEEL: Visual inspection of accessible structural steel elements and components of the SLRS to verify available documentation.If coverings or obstructions exist, remove as required to complete visual inspections required.

9.2.3.2.2 COMPREHENSIVE FOR STRUCTURAL STEEL: If no Dwgs exist, at least three connections of each type of the primary structural components shall be inspected. If deviations are observed, additional connections shall be observed. See locations marked on plan.

CONCRETE

10.2.1 GENERAL:
Material Testing per 10.2.2
Condition Assessment per 10.2.3

10.2.2 PROPERTIES OF IN-PLACE MATERIALS AND COMPONENTS
10.2.2.1.1 GENERAL: The following component and connection material properties shall be obtained. Testing required by Section 6.2 shall be per Section 10.2.2.3 and 10.2.2.4.
1. Concrete compressive strength
2. Yield and ultimate strength of conventional and prestressing reinforcing steel, CIP and post-installed anchors, and metal connection hardware.

10.2.2.2 COMPONENT PROPERTIES: following component properties and as-built conditions shall be established
1. Cross-sectional dimensions of components and overall configuration of structure
2. Configuration of connections including size, embedment depth, type of anchor, thickness of connector material, and anchorage, and presence of bracing or stiffening components
3. Modifications to components or overall configuration of structure
4. Current physical condition of components and connections including extent of any deformation and deterioration.
5. Deformation beyond expected due to gravity loads, settlement, or past earthquakes.
6. Presence of other conditions such as nonstructural components that will influence building performance such as nonstructural components that can interact with the structure.

10.2.2.3.2 SAMPLING:
Core Sampling: Core drilling done following nondestructive location of reinf. All core holes to be filled. Core and test per ASTM C42,C39 and C496. Determine conc strength per ACI 214.4R.
Reinf Sampling: Analyze removal of bar and determine if replacement required. Testing per ASTM A370.

10.2.2.4.1 USUAL DATA COLLECTION
2. Conc design strength unknown and test results unavailable: Minimum (1) core from each type of SFRS component, with a minimum (6) cores taken from the bldg.
4. Reinf design strength unknown: Minimum of (2) strength test coupons of reinforcing steel.

10.2.3 CONDITIONS ASSESSMENT
10.2.3.1 GENERAL:
1. Physical condition of the primary and secondary components noting any degradation
2. Verification of presence and configuration of structural elements, components, and connections.
3. Identification of other conditions, including non structural components that influence the building performance.
5. Confirmation of component orientation, plumbness, and physical dimensions.

10.2.3.2 SCOPE AND PROCEDURES:
VISUAL: Visual inspection of accessible and representative primary components and connections to; identify configuration; identify degradation; establish continuity of load paths; establish need for any additional testing; measure dimensions of existing construction to confirm design dwg info and any permanent deformations.
- Minimum of 20% of components and connections at each floor
- If significant damage/deterioration found increase to 40% minimum
COMPREHENSIVE: Exposure is defined as local minimized removal of conc cover and other materials to inspect reinf system details and shall be repaired.
2. No detailed Dwgs Exist: At least three connections of each primary type shall be exposed for inspection. If common detailing present then no further required. If variations exist then additional connections shall be inspected until accurate understanding obtained. See drawings for locations.

MASONRY

11.2.2 CONDITION ASSESSMENT
Condition Assessment shall include the following:
1. Physical condition and the presence of any degradation of unit surfaces and mortar joints
2. Verification and/or determination of masonry component configuration, connections, and load paths between components.
3. Other conditions including: veneers; attachments, nonstructural components, prior remodeling or other limitations.
Classification of Exisiting Masonry: Masonry shall be classified as one of the following based on visiual examination and other approved procedures.
Good Condition: Mortar and units intact with no visible cracking, deterioration, or damage
Fair Condition: Mortar and units intact but with minor cracking
Poor Condition: Degraded mortar, units, or significant cracking

11.2.2.1 VISUAL CONDITION ASSESSMENT
Size and location of all masonry shear and bearing walls including orientation, dimensions, heights, window and door locations, ans distribution of gravity loads to masonry walls.
Identify any out-of-plumb masonry including: bulging or undulations, leaning parapets or chimneys, or separation of wythes.
REINFORCEMENT: Reinforced or Unreinforced. If reinf confirm size and spacing of reinf
WYTHES: Classify if walls are Composite or Noncomposite: For multi-wythe walls: number of wythes, dimensions, and interwythe ties
GROUT: Fully Grouted, Partially Grouted, or Ungrouted - Assess quality of grout and location of grout if partially grouted.
MORTAR: Determine type and condition of mortar; identify location of any cracks or deterioration.
CONNECTIONS: Identify details and condition of connections between masonry walls and floors/roofs.
- No Design Dwgs or connections deviate from Design Dwgs: Random sample inspected until pattern of connections is identified.

11.2.2.2 COMPREHENSIVE CONDITION ASSESSMENT
Nondestructive tests shall quantify and confirm the uniformity of the construction and the presence and degree of any deterioration.
1. Ultrasonic or mechanical pulse velocity to detect variations in the density and detect the presence of cracks.
2. Impact-echo tests to determine if walls are grouted.
3. Radiography to confirm location of reinf

11.2.3 PROPERTIES OF IN-PLACE MATERIALS AND COMPONENTS
General: The following component and connection material properties shall be obtained per 11.2.3.2 through 11.2.3.9.
Expected material properties shall be based on the mean values from test data.
Lower-bound material properties shall be based on mean minus one standard deviation values from test data.
Masonry Compressive Strength (fme): Expected masonry compresive strength shall be determined using one of the following based on the net mortared area.
1. Test prisms extracted and tested in accordance with TMS 602 Section 1.4.B.3

URM Flexural Tensile Strength (fte): Expected flexural tensile strength for out-of-plane bending shall determined using one of the following:
1. Test samples extracted and subjected to minor axis bending using the bod wrench method of ASTM C1072.

URM Shear Strength: Each class of URM determined by 11.2.3.9.2, may be tested to determine the expected shear strength. Lower-bound shear strengths may be determined by 11.2.3.6.3 or 11.2.3.6.4.

Testing Bed-Joint Shear Strength (vto): Test bed-joint per ASTM C1531.
Testing for Tensile Splitting Strength (vto): Test masonry cores per ASTM C496.
Steel Reinforcement Tensile Strength and Yield Properties (fye): Based on mill test data or on tension tests per ASTM A615 of samples taken from building

USUAL TESTING OF REINFORCED MASONRY
2. Design compressive strength unknown: Minimum (1) test on each type of component with minimum of (6) tests overall.
4. Reinf steel strength unknown: Minimum (2) strength coupons of reinf steel from building

USUAL TESTING OF URM
3. Minimum (1) test per 1500 SF of wall surface
4. Minimum (8) total tests

BUEHLER
180 MONTGOMERY
SUITE 1500
SAN FRANCISCO, CA 94104
415 495 1635

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B1
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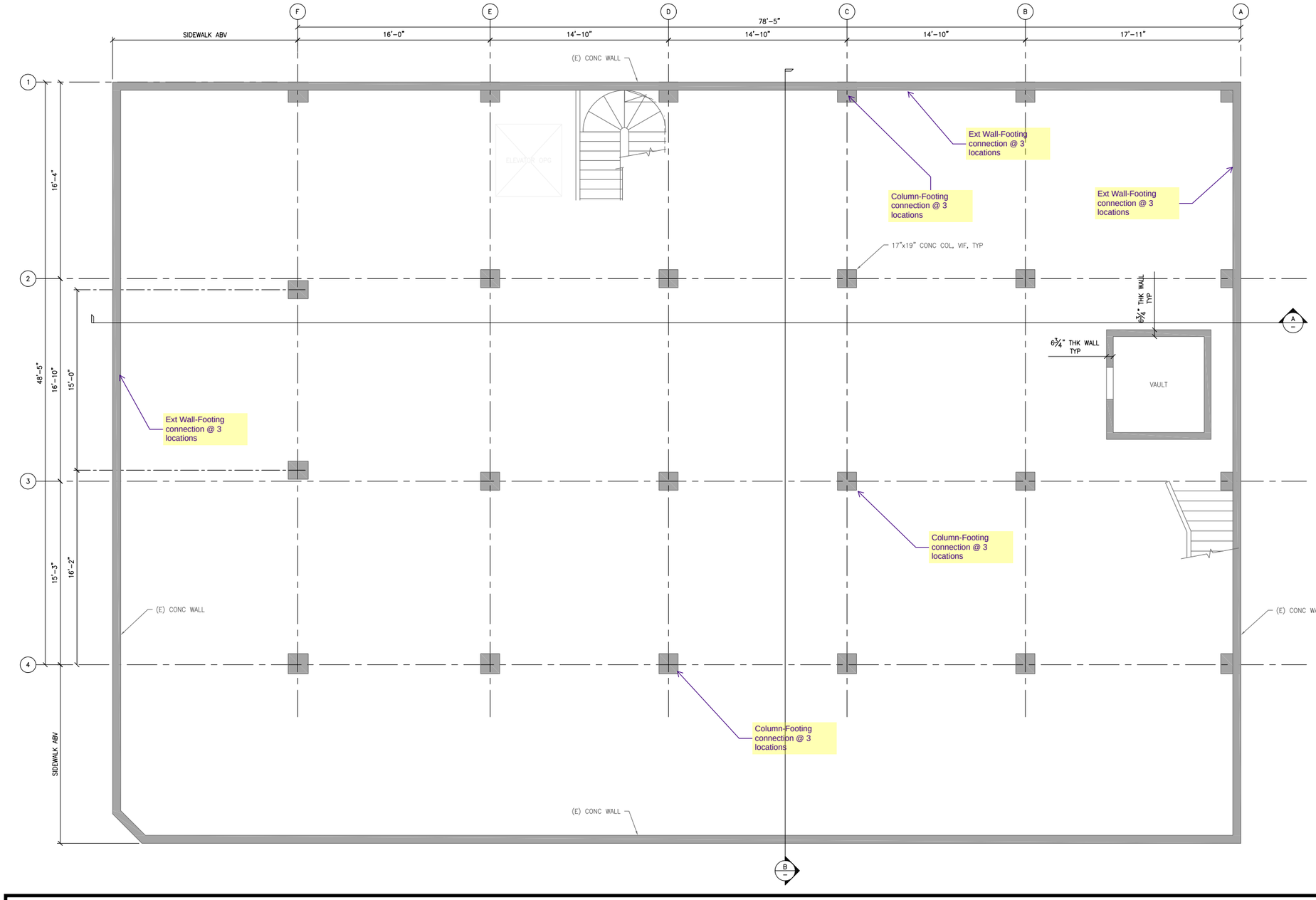
FOUNDATION PLAN



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B2

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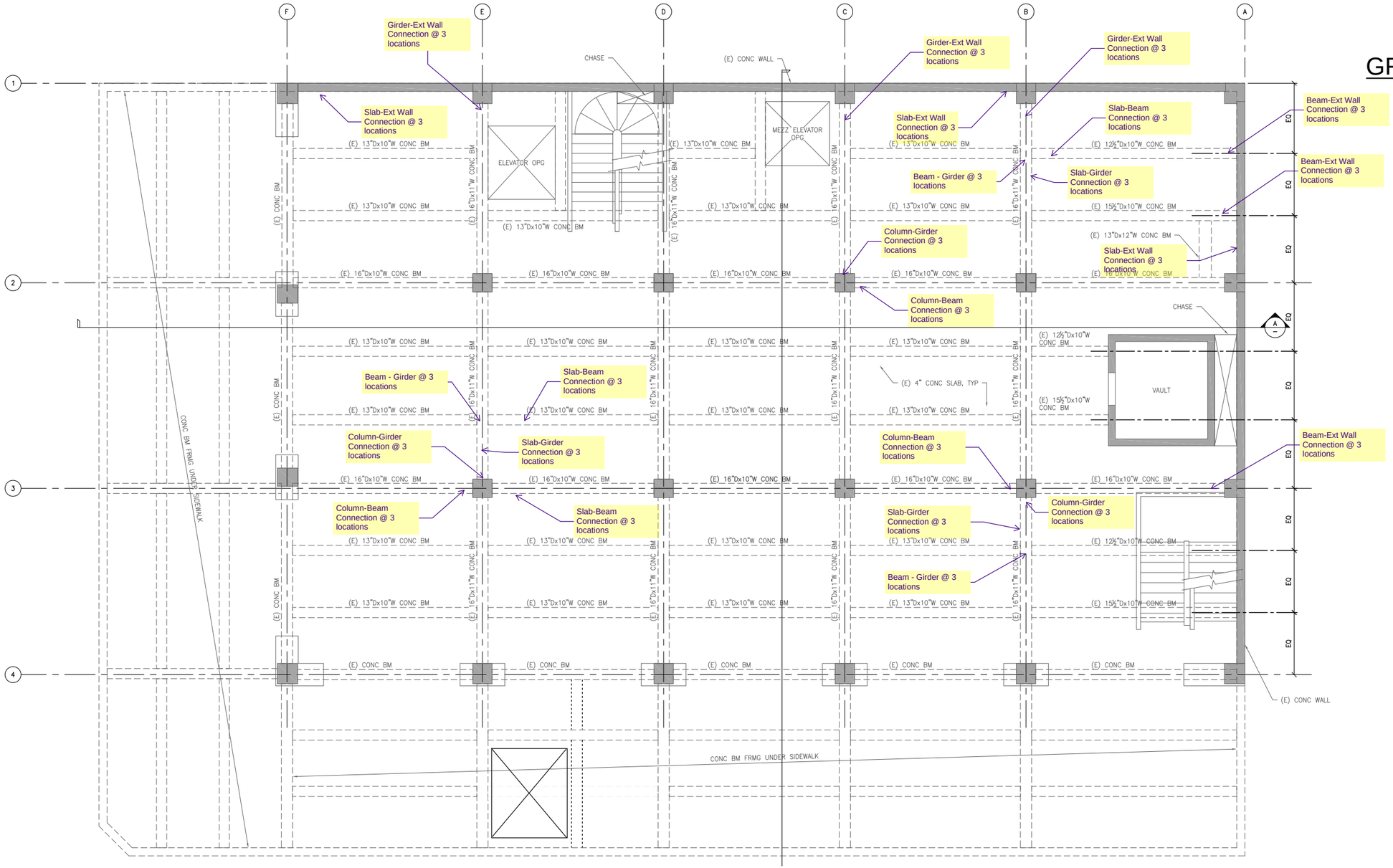
GROUND FLOOR PLAN



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B3

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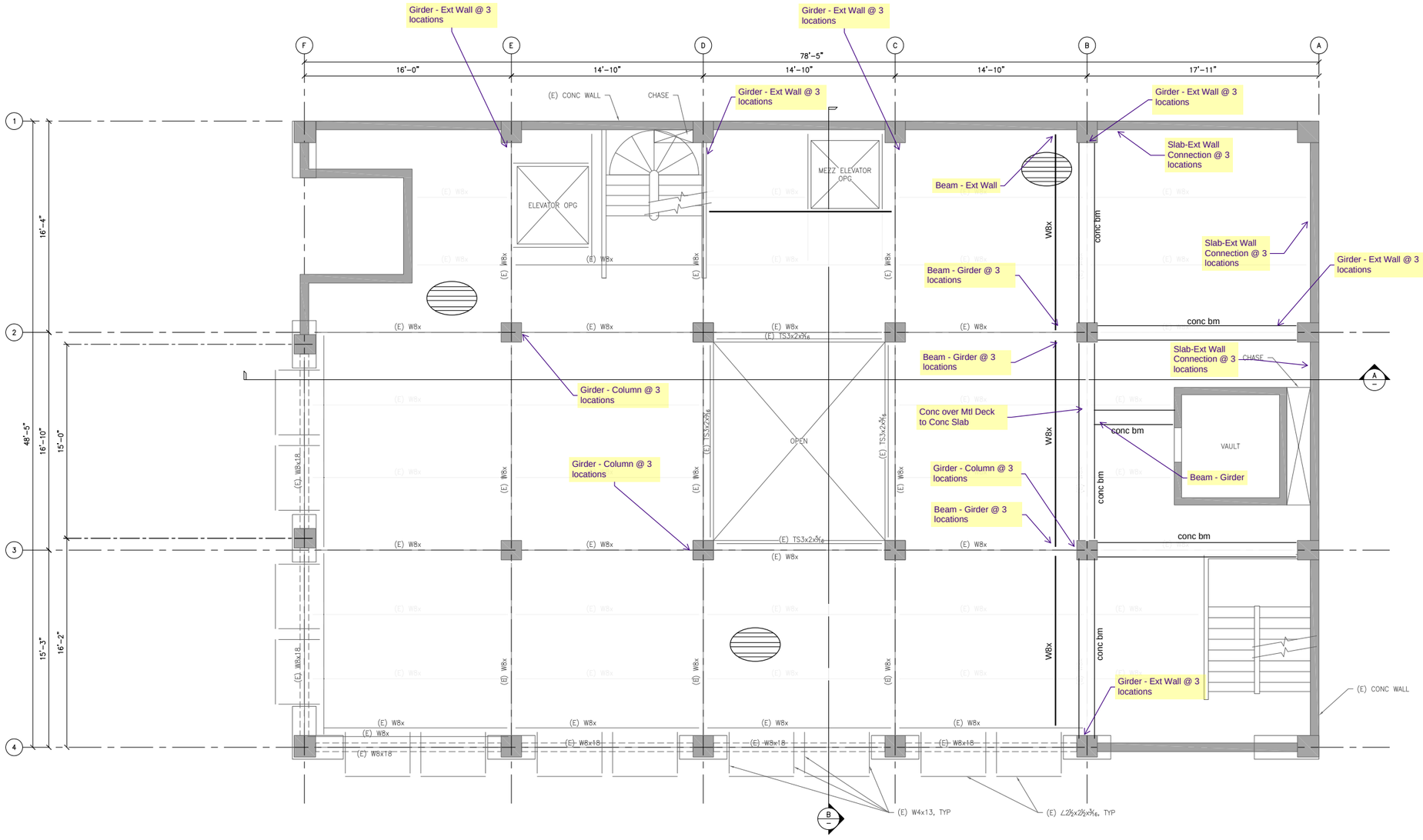
MEZZANINE PLAN



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B4

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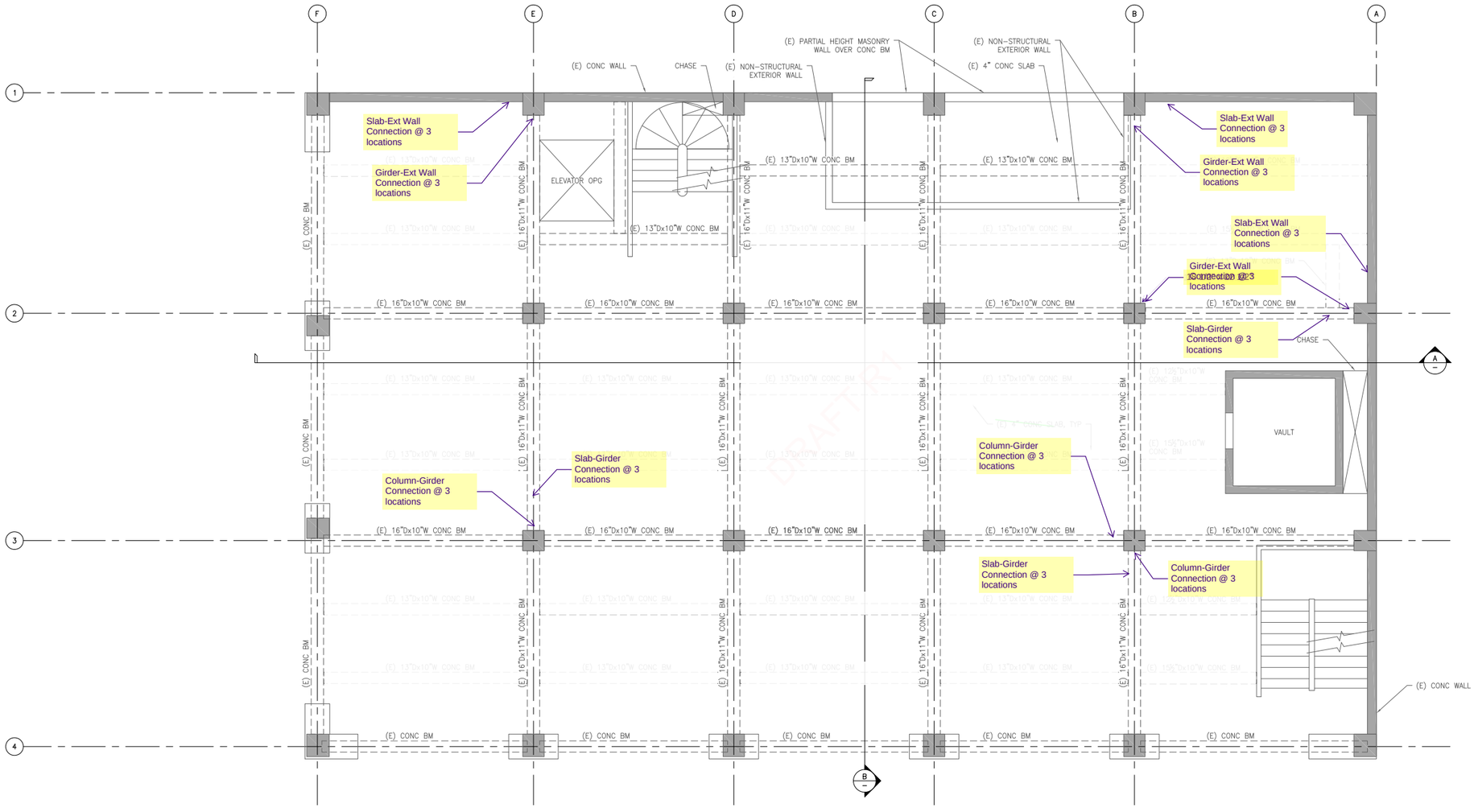
SECOND FLOOR PLAN



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B5
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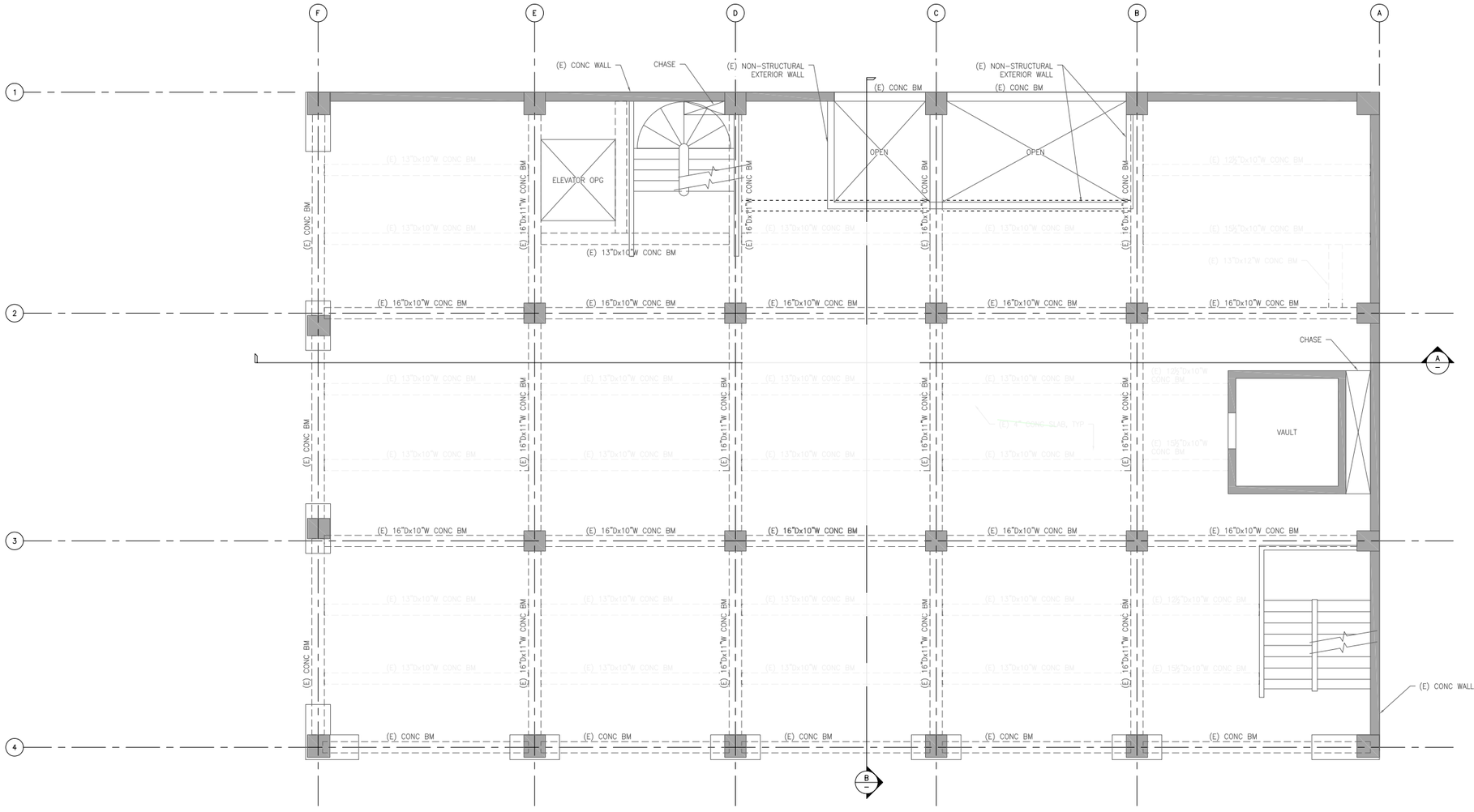
THIRD FLOOR PLAN

NO CONNECTIONS ARE REQUIRED TO BE EXPOSED AT THIS LEVEL IF FRAMING IS THE SAME AS AT THE SECOND FLOOR.



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B6

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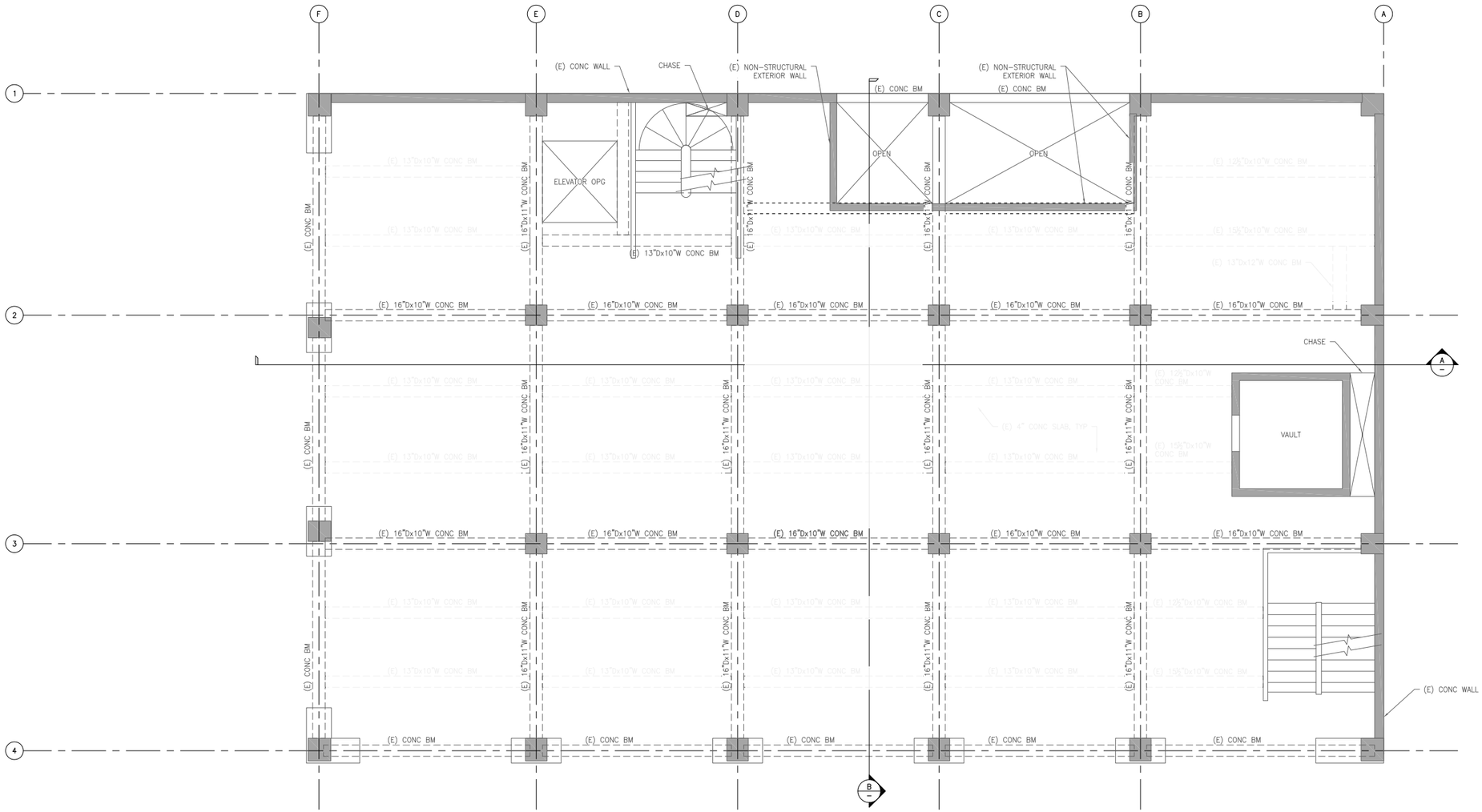
FOURTH FLOOR PLAN

NO CONNECTIONS ARE REQUIRED TO BE EXPOSED AT THIS LEVEL IF FRAMING IS THE SAME AS AT THE SECOND FLOOR.



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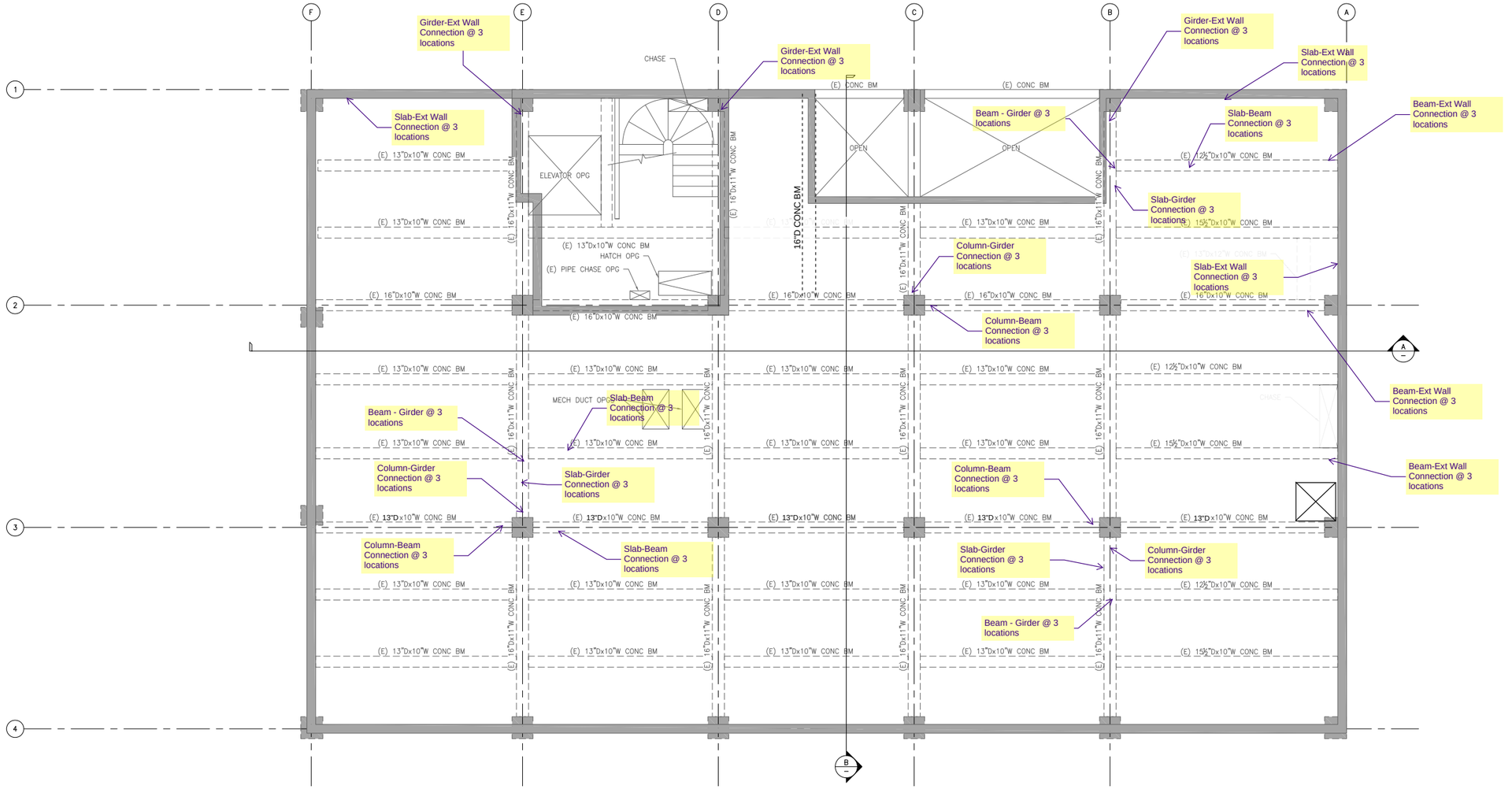
B7
JAN 24 2025

ROOF PLAN



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B8

JAN 24 2025

--End of Section 3--

4.0

MECHANICAL

4.0 MECHANICAL

The existing HVAC systems in the building are well beyond their recommended service life and, while maintained in very good condition and operating relatively trouble-free, are past due for replacement and will not support the building's operation for the next 30+ years. Based on validation of prior Assessment Reports and Feasibility studies, Capital concurs with complete replacement of the existing systems with new equipment, air distribution, and piping replacement. New building mechanical system will be provided with the following Basis of Design.

4.1 Codes and Standards

a. The project will be designed based on the following:
    i. Americans with Disabilities Act (ADA).
    ii. California Building Codes, 2024 Edition:
        1. California Building Code (CBC).
        2. California Fire Code (CFC).
        3. California Green Building Standards Code (CalGreen).
        4. California Energy Code (CEC).
        5. California Mechanical Code (CMC).
        6. California Plumbing Code (CPC).
    iii. National Fire Protection Association (NFPA) Codes and Standards, dates of publication as referenced by the 2019 CBC:
        1. NFPA 90A: Standard for the Installation of Air-Conditioning and Ventilating Systems.
        2. NFPA 90B: Standard for the Installation of Warm Air Heating and Air-Conditioning Systems.
        3. NFPA 96: Ventilation Control and Fire Protection of Commercial Cooking Operations.
        4. NFPA 101: Life Safety Code.
    iv. Additional state and local jurisdiction requirements.

4.2 Outdoor Design Conditions

a. The project is in Sacramento, CA. with a latitude of 38° 34′ 32″ N, and an elevation of 10 FT.
b. The summer peak design temperature is 104 °F DB, 70 °F WB per ASHRAE Region X Climatic Data.
c. The winter peak design temperature is 30 °F.

4.3 Indoor Summer/Winter Design Conditions

a. 72 °F / 68 °F Typical spaces per the design criteria.
b. 75 °F / 75 °F Server / Telecom / data (dedicated unit with Redundancy)

c. 90 °F / 50 °F Electrical, Mechanical

d. No humidification is provided.

4.4 Internal Design Load Parameters

a. Lighting Loads: 0.8 watts per square foot minimum (overhead) and 0.2 watts per square foot (task lighting allowance) for Office/Admin Areas. 0.7 watts per square foot for Classroom and Instructional spaces.

b. People Loads: Administrative spaces: 150 square feet per person or based on actual count, whichever is greater. Conference spaces are 20 square feet per person, or by seat count where fixed seating is provided. All other areas per California Energy Efficiency Standards.

c. Equipment Loads: 2.0 watts per square foot minimum administrative areas, other areas based on actual load.

4.5 Ventilation

a. 15 cfm per person or 0.15 cfm/SF minimum for general building areas, 0.38 cfm/sf for Classrooms and Instructional spaces in accordance with the Title 24 Energy Code.

b. 100% exhaust at 6 Air changes per hour or 50 cfm per toilet minimum at toilet rooms

c. 100% exhaust at 6 air changes per hour at Janitor rooms.

4.6 Demolition

a. All Existing building air handling systems, including mechanical room units and equipment located on the exterior platform/roof area, shall be removed including all associated supports, wiring and controls, dampers, and appurtenances.

b. Existing building chiller and associated pumps and piping in the basement mechanical room shall be removed. Existing sleeves thru the building slab to sub-grade connections shall be plugged and sealed.

c. Existing heating boiler and all associated pumps, piping, gas connections, controls and venting shall be removed from the mechanical room.

d. Existing duct and pipe distribution throughout the building is anticipated to be removed, including all ceiling grilles, supports, wiring, and appurtenances. Where possible depending on ultimate floor plan layout, some existing ducts or plenums may be retained, but for the purposes of Conceptual planning and budgets all distribution is expected to be removed.

4.7 HVAC Equipment

a. The team is proposing an All-Electric building system approach that will help CSAC reduce their Carbon Footprint and be in alignment with current best practices for new system construction, and remove the maintenance of gas-fired equipment and PG&E gas service.

b. The building will be served from an all-electric, high-efficiency variable refrigerant flow (VRF) system. The system incorporates individual indoor units to serve each thermal zone area that are connected to a central set of VRF condensing units, located on the building roof where they

can be screened from view by the building's architecture. The refrigerant system will allow balancing of areas requiring heat with areas requiring cooling for efficient operation. Roof-mounted VRF Equipment will be mounted on rails for spring isolation from the building structure.

c. Ventilation air provided to serve the building will be provided by Dedicated Outside Air Systems (DOAS) rooftop mechanical unit, incorporating heat recovery to pre-heat or pre-cool the incoming air with the outgoing exhaust air for improved system efficiency. Preconditioned outdoor air will then be ducted to and from the occupied areas of the building.

d. The multiple indoor units will allow a high level of comfort with many individual zones.

e. Central DOAS units will have MERV 13 filters on all outdoor air. Recirculating fan coils within occupied areas will have either MERV 13 banks (ducted systems) or integral MERV 8 minimum filters for in-room cassette style fan coils.

f. Electrical and mechanical rooms will be exhausted with a thermostatically controlled exhaust fan.

g. 100% exhaust will be provided from toilet rooms, janitor rooms, and other miscellaneous spaces with potential odorous storage or activity.

h. Dedicated units:

i. The MPOE Room will be provided with a cooling-only fan coil from the VRF system, as well as a redundant dedicated Split A/C unit for 24/7 cooling.

j. The IDF Rooms on alternating floors will be provided with dedicated split A/C units for 24/7 cooling,

    i. Unit status and space high temperature alarm will report to the BMS control system.

k. Electrical Rooms will be provided with dedicated exhaust fans with thermostat control. Temperature-sensitive control equipment will not be located in these rooms to avoid the need for cooling electrical gear.

Table 1. – HVAC Equipment Summary

Equipment Type	Location	Nominal Capacity
VRF Condensing Units	Roof	(2) x 32-ton units (64 tons total nominal)
DOAS Unit	Roof	1,000 cfm nominal airflow capacity
Exhaust Fans	Roof (inline as needed)	TBD based on Floor Plan Design
VRF Fan Coils	Indoor, above ceiling	TBD based on Floor Plan, assume (8) per floor
Split A/C Systems	In Room, On roof	TBD on Floor Plan, Assume (4) total 2-4 ton each

4.8 HVAC Distribution

a. Air distribution to and from mechanical units will be via sheet metal ductwork with aluminum or stainless steel for damp areas such as shower rooms.

b. Duct will be designed with operating economy in mind as a priority. Low pressure Supply air, return air and exhaust air duct velocities will be designed to not exceed 1200 FPM and duct friction not to exceed 0.08" WC per 100 feet.

c. In general, 1-inch acoustical duct lining will be provided for 10 feet from fans.

d. Spaces are zoned for exposure and occupancy with VRF indoor units as shown on zoning diagrams provided.

e. Modulating damper velocities will not exceed 1500 fpm. No duct smaller than 8 x 6 or 6" diameter will be used.

f. The minimum overall air circulation rate in any occupied area will be 1.0 cfm/SF.

g. Air Inlets and Outlets:

   i. Grilles will be selected with outlet neck velocities shall not exceed 600 FPM.

   ii. Grilles will be placed such that adequate mixing in space occurs and velocity in all areas of the occupied zone (3 feet to 7 feet above finished floor) is between 50 and 80 FPM.

   iii. A minimum of one supply air diffuser and one return grille will be provided for each room except small toilet and storage rooms need only an exhaust register when room is ventilated.

   iv. The placement of grilles will be coordinated with light fixtures, speakers, and smoke/security detectors, and any other ceiling devices. Transfer grilles will be arranged with lined ductwork between to minimize noise and light transmittance.

   v. The exact locations of ceiling inlets and outlets will be coordinated with architectural reflected ceiling plans. Outlet neck velocities will not exceed 600 FPM. Inlet neck velocities will not exceed 500 FPM. This does not apply to linear or other high-volume specialty air outlets

4.9 Controls

a. A new automatic Building Management System (BMS), capable of standalone operation, will be provided to serve the building's HVAC equipment and central plumbing equipment.

b. The BMS System will be Automated Logic Controls (ALC) to match existing campus standard.

c. The BMS system will have capability to monitor all the building control points and perform set point adjustments to the VRF Fan Coils from a central interface.

d. Typical VRF control points include: Discharge air temperature, filter status, space temperature, and space CO_2 where applicable (zones with Demand Control Ventilation).

e. Exhaust fans will be interlocked to run with the main system or via local thermostatic control.

Building maintenance personnel will be trained in all aspects of system operation, maintenance, scheduling, and set point adjustment.

--End of Section 4--

5.0

PLUMBING

5.0 PLUMBING

The existing Plumbing fixtures and equipment in the building are well beyond their recommended service life and, while maintained in very good condition and operating relatively trouble-free, are past due for replacement. New plumbing fixtures will support ADA Accessibility upgrades in the restrooms and provide a consistent aesthetic across the full building remodel, and incorporate touch-free hygienic controls and water-conserving features. Existing main piping distribution is in good condition, and existing plumbing waste and water mains are anticipated to remain for re-use with new equipment and fixtures. New building plumbing systems will be provided with the following Basis of Design.

5.1 Codes and Standards

a. The project will be designed based on the following:
b. Americans with Disabilities Act (ADA).
c. California Building Codes, 2024 Edition:
    i. California Building Code (CBC).
    ii. California Fire Code (CFC).
    iii. California Green Building Standards Code (CalGreen).
    iv. California Energy Code (CEC).
    v. California Mechanical Code (CMC).
    vi. California Plumbing Code (CPC).
d. National Fire Protection Association (NFPA) Codes and Standards, dates of publication as referenced by the 2019 CBC:
    i. NFPA 90A: Standard for the Installation of Air-Conditioning and Ventilating Systems.
    ii. NFPA 90B: Standard for the Installation of Warm Air Heating and Air-Conditioning Systems.
    iii. NFPA 96: Ventilation Control and Fire Protection of Commercial Cooking Operations.
    iv. NFPA 101: Life Safety Code.
e. Additional state and local jurisdiction requirements.

5.2 System Approach

a. The team is proposing an All-Electric building system approach that will help CSAC reduce their Carbon Footprint and be in alignment with current best practice for new system construction, and remove the maintenance of gas-fired equipment and PG&E gas service.

5.3 Plumbing Fixtures

a. Low-flow vitreous China fixtures will be used for all areas. Wall-mounted fixtures are presumed.
b. Fixtures will be low flow, electronic operation and hard wired.

c. Water closets to be 1.28 gpf

d. Restroom lavatories with multiple fixtures will be solid-surface, under-mount sinks. Single-occupant restrooms will be wall-mounted lavatories.

e. Breakrooms and support fixtures will have stainless steel top-mount sinks.

f. Drinking fountains will include Hydration Station bottle filler options at all locations.

5.4 Domestic Water

a. The existing building domestic water system main piping will remain and be connected with new branch piping to new fixtures and equipment.

b. Any new domestic cold water will be sized per the current edition of the CPC and per ASPE Data Books Volumes 1 and 2 plus supplements (latest editions).

c. Water hammer arrestors will be provided in accordance with latest CPC requirements and PDI recommendations.

d. A central hybrid Heat-Pump style water heater with electric backup will be provided in the basement mechanical room, along with expansion tank, thermostatic mixing valve and circulator pump will be provided with hot water recirculated throughout the building. Installation shall be per latest CPC, Cal Energy Code and equipment installation instructions.

e. A hot water recirculated loop will be provided at a maximum of 3 feet per second velocity.

f. Domestic hot water will be supplied to all lavatories, sinks, and other miscellaneous fixtures and sized per latest CPC requirements and ASPE recommendations.

g. No exterior plumbing or hose bib stations are anticipated to be added.

5.5 Waste and Vent

a. Existing sewer and vent main piping will remain to the extent possible with renovation floor plan.

b. Trap primers will be provided to all drains. Electric trap primers will be provided when located more than 30 feet from a quick closing valve.

c. Drains for air conditioning system condensate will be discharged to floor sinks or as allowed by CPC.

d. Waste and vent systems for fixtures will be sized in accordance with the current edition of the CPC and per ASPE Data Books Volumes 1 and 2 plus supplements (latest editions) where CPC is silent.

e. Piping will be cast iron with waste lines gravity drained and sloped a minimum of ¼ inch per foot unless structurally impractical as allowed by CPC.

f. Floor drains will be provided at each toilet room with multiple fixtures per CPC.

5.6 Storm Drain Piping

a. All existing Roof Drainage and storm drain piping is existing and expected to remain. Potential new roof construction will daylight drains to the existing main roof for discharge thru the existing storm drain system. No new roof drainage or piping is anticipated.

5.7 Piping System Materials

a. Sanitary Sewer waste and vent: Cast-iron, no-hub couplings for above ground piping. ABS or PVC waste piping with solvent weld joints for below slab piping.

b. Storm Drain System: Cast-iron, no-hub couplings for above ground piping. ABS or PVC waste piping with solvent weld joints for below slab piping.

c. Domestic Water System (hot and cold water): Type L copper with soldered joints for above-ground piping. Type K copper with brazed joints and tape-wrapped for corrosion protection for below-slab piping. Due to renovation in existing building, use of press-joint copper piping joints will be considered.

d. Condensate Drain system: Type M copper with solder joints.

--End of Section 5—

6.0

ELECTRICAL

6.0 ELECTRICAL

Purpose

The purpose of this narrative is to provide general electrical information for the renovation of the CSAC Building at 1100 K Street in Sacramento, California. The information contained within this package is at a Conceptual Design level and intended to be used for general budget development.

Demolition

All of the electrical equipment within the building is beyond its useful life and will be replaced. Remove all electrical equipment, feeders, etc.

Utility Service

The building is served off of the SMUD 12kV network and will continue to be served off this network. The service to this building is fed from a sidewalk box located at the SE corner of 11th and K. Secondary conductors are run from MH-1160 to this box and then to the CSAC existing switchgear. We anticipate our service size will remain the same, 1200A, 120/208V, 3 phase, 4 wire. Therefore, the 12kV SMUD network transformer vault will remain as is. We will provide a new 1200A feeder from MH-1160 to the new main switchboard, MSB.

Power Distribution

Normal Power:

The building service is provided at 120/208V and terminates in the 1600A, 120/208V, 3 phase, 4 wire main switchboard. Power for lighting and receptacles shall be distributed up the building via new copper feeders. Each floor shall contain a new utility room, alternating between electrical room and IDF. The rooms shall include panels and shall serve the floor containing the room and the floor above. The new fire pump shall be served off the main switchboard, with a tap ahead of the building main breaker.

Standby/Emergency Power:

The building will not contain an emergency generator (this could change dependent on space, cost, etc). We will provide inverters for service to loads requiring emergency power, which are summarized below:

- Egress / exit lighting: Provide an inverter for service to egress/exit lighting. Assume a 10kW unit.
- Elevator: The building is over 4 stories and the elevator is part of the egress path. Therefore, the elevator requires back up power. Provide a UL924 inverter for elevator, 64kW, 120/208V, with 90 minutes of battery back up. Assume a unit by Perfect Powersystems. The inverter is 17'-5"L x 2'-8"D x 6'-3"H.

Lighting and Lighting Controls

General:

LED light fixtures will be used for all interior and exterior lighting. Interior LED sources shall meet the following minimum technical requirements:

e. Correlated Color Temperature (CCT): 3500K
f. Minimum Color Rendering Index (CRI): 85
g. Lumen Maintenance L70: Min. 100,000 hours
h. Minimum Luminaire Efficacy: 50 lm/W, or per current DLC by fixture type, whichever is higher.
i. Measured Flicker: 10% or less across the entire dimming range.
j. Minimum Warranty: 5-year, full replacement
k. UL Listed
l. DesignLights Consortium (DLC) compliant.
m. RoHS compliant
n. LED Lighting Facts Labeled
o. California Energy Commission 2012 Appliance Efficiency Regulations "Title 20"

Fixture Types:

Light fixtures will be selected based on architectural aesthetic, performance and efficacy, ease of maintenance, durability, visual comfort/glare control, and budget. All lighting will be replaced with new LED luminaires, utilizing a "low ambient" design strategy to encourage the use of low wattage task lights at the work surface. The following is a summary of the lighting goals for this project:

Light Fixture Types				
Space	**Allowed LPD**	**Design LPD**	**Target Light Level**	**Fixture Description**
Lobbies	1.5	0.5	20	Recessed LED 2" Slot with flangeless trim
Open Offices	0.75	0.5	25[c]	Recessed architectural LED, 2x2 or 2x4
Enclosed Offices	0.75	0.5	25[c]	Recessed architectural LED, 2x2 or 2x4
Conference Rooms	1.4	0.5	35	Recessed architectural LED, 2x2 or 2x4

Break Rooms	1.1	0.4	20/40[b]	Recessed LED 1x4 Undercabinet LED task lighting
Corridors & Stairwells	0.6	0.3	10-15	Corridors: Recessed LED 1x4 Stairwells: LED Linear Wall Mount
Restrooms	0.6	0.2	10	Linear LED recessed perimeter Recessed LED downlights
Custodial, Storage Rooms, Support Space	0.6	0.2	10	LED utility lights

Lighting Controls:

The building's lighting control system shall be a digitally networked, distributed system, consisting of a central communication network, distributed network control components, sensors, manual switching/dimming/scene control stations, and various interface and control modules. All system devices shall be networked together, enabling digital communication. The system shall be capable of wireless, wired, or hybrid wireless/wired architectures.

All interior spaces shall be provided with occupancy sensors. Interior spaces with natural light available shall be provided with daylight sensors. Manual controls shall allow the user to manually raise/lower light levels in any space with dimmable lighting, either via wall mounted lighting control stations, or via desktop software.

The lighting control system shall include demand response client interface, allowing the electricity provider to communicate demand response signals over the IP based communications network. The system shall integrate with an OpenADR 2.0a Demand Response Automation Server, allowing the system to retrieve signal from the utility company and shed load according to preconfigured user settings.

All lighting controls will comply with the requirements of the California Building Energy Efficiency Standards.

6.1 Fire Alarm System

Description:

The fire alarm system shall be a new zone non-coded addressable type. System shall contain voice notification capabilities.

Initiating Devices

Fire alarm system alarms will be initiated via the following devices:

a. Pull stations at exit doors
b. Sprinkler system PIV, valve monitors and water flow switches
c. Smoke detectors in electrical rooms, telecommunication rooms and mechanical rooms
d. Duct mounted smoke detectors for each mechanical fan 2000 cfm and larger
e. Smoke detectors in elevator lobbies for recall.
f. Smoke detectors at door hold opens, Won doors, etc.

Annunciating Devices

Fire alarm system alarms will be annunciated via the following devices:

a. Fire alarm remote annunciator panel (LCD type)
b. Speaker/strobe devices in the following areas:
    i. Open office areas
    ii. Conference Room
    iii. Multipurpose
    iv. Lounge/Study/Dining
    v. Restrooms
    vi. Vestibule, corridors and hallways
    vii. Other areas to assure audible levels meet CBC and CFC requirements.

6.2 Telecommunications

Demolition

Remove all telecom cabling and replace with new.

Site:

Provide internet connectivity to the building Minimum Point of Entry (MPOE) /MDF from AT&T in customer provided conduit pathway. Pathway shall include rerouting of existing conduits and be installed per Utility standards. Provide duct structure (conduits, pullboxes, etc.) as required. The connection point shall be indicated on the SD Electrical Site Power Plan. Provide pathway to Utility termination equipment within the MPOE/MDF at the basement level. OSP cabling will be provided by Utility.

General:

The telecommunications system will provide network (data, security, VoIP, Fire Alarm, audio visual, queuing system, Surveillance, DAS, etc.) connectivity within the building. The systems will consist of backbone cabling, building riser cabling and horizontal cable distribution.

Main Distribution Frame Room (MDF)

The MDF is the MPOE of the building and will be the space to terminate site entrance cable, building riser cable, fuse protectors and placement of network core equipment. The room will be equipped with equipment racks, overhead cable runway, plywood backboards, and the main telecom ground bus (MTGB). It will also act as the Intermediate Distribution Frame Room (IDF) for systems located within the Basement and Level 1.

The MDF shall be located on the Basement level. The space shall contain all re-routed entrance conduits. There shall be equipment racks and cabinets installed in rows with 10" wire managers at the ends and between each rack. Overhead cable runway will be 12" wide around the perimeter of the space and bridging between perimeter runway. Vertical cable runway will be provided from floor to bottom of horizontal runway and to riser and distribution conduit from the horizontal cable runway to route cable. Runway shall be sized for the width of the conduit bank. Provide grounding per CTCFS.

Intermediate Distribution Frame (IDF)

This room provides for demarcation and a connection point between the horizontal and backbone cable infrastructure that serves a specific floor or floor area of the building. Additionally, this room contains the electronic equipment that provides voice, and data services over the horizontal and backbone cable infrastructure. This room shall also contain terminations and panels for security and public safety radio systems.

There shall be IDF rooms on every other level (B, 2, 4) located such that the room allows a maximum cable length of 290' to the farthest outlet. The space will support horizontal cabling to telecom outlets, security cameras, wireless access points, etc. Each IDF hall have a Telecom Ground Bar (TGB) and all runway, equipment racks, building entrance protectors, conduit and any other equipment will be bonded per the code and industry regulations.

The room will be equipped with equipment racks and 10" vertical wire managers on each side of the racks. The rack shall have 42" minimum space around front, and back of the rack measured from the rack base plate.

Cable ladder (12") will be installed over the top of the rack, and around the room. Vertical cable ladder (sized per conduit banks) will be placed on the wall at where conduit enters the space and where it leaves the space to route riser and horizontal cables. 3/4" Plywood backboards shall be installed on all walls for installation of wall mounted equipment, cable management, and future expansion.

Backbone Cabling

Backbone cabling is the infrastructure that provides interconnections between telecommunications rooms, equipment rooms, and entrance facilities. It forms the core of the network and serves as the main pathway for transmitting data between different buildings, floors, or work areas within a building.

The structured cabling shall consist of fiber optic cabling, with 24 strands of Single Mode from the MDF to each IDF. Termination enclosures will be installed in one two post rack in each MDF/IDF to provide termination points for connection of core and edge network switching equipment. The fiber backbone shall be shared with other systems for interconnection of systems between levels.

Horizontal Structured Cabling

Horizontal cabling is typically for voice and data applications which utilize 4-pair Category 6A riser UTP cable. The horizontal cable shall be solid copper, 23 AWG, twisted-pair (UTP) Category 6A cables with four individually twisted-pairs, and will meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-E.

Station Outlet Conduit

Telecommunications outlets in walls will use 4 11/16" x 2 1/8" deep square boxes with single gang rings and 1.25" conduit to accessible ceiling. All cable will be supported with basket tray (along main arteries) and J-Hooks above accessible ceiling every 48" or less.

Conduit sleeves (4"), will provided at each telecommunications room for cable distribution. Conduit sleeves through barrier walls above ceiling will be 2" and 4" as required. All telecommunication rooms with sleeves will have one spare provided for future. Conduit sleeves passing through fire rated assemblies will have fire rated sleeves installed.

Wireless Access Points

Wireless access point locations will be determined through the use of modelling software to ensure that wireless network access is available throughout the entire building space. Each ceiling mounted wireless access point shall receive two Category 6A data outlets.

Distributed Antenna System (DAS)

An Emergency Responder Communication Enhancement (ERCES) System shall be provided to support the sheriff/marshal, fire and rescue department, emergency medical services and any other first responders. The system will distribute coverage with 99% radio coverage in critical areas as defined by code and 95% floor area coverage. Other general building area coverage should be within the allowable tolerance set by the Judicial Council and should not fall below a minimum of 90 percent floor area radio coverage. The radio system design process shall involve multiple agencies and require

multiple on-site tests to determine the requirements of the system. The ERCES system shall be designed as a deferred submittal, with the final subcontractor completing the design and undergoing processes required by the local Authority having jurisdiction (AHJ)

The ERCES shall satisfy the following signal level coverage listed below:

- Public Safety 700 & 800 MHz Coverage: A minimum signal strength of –95 dBm in 95% in all floor areas of the building, when transmitted from the closest 700 and 800 MHz Radio Communication site.
- Coverage of frequencies identified by Sacramento Regional Radio Communications System (SRRCS).

AudioVisual Systems

Media Room:

This space shall be used as a broadcast studio for the production of multi-person panel discussions, interviews, and other content. The expectation is that the system shall provide for professional level production and allow flexibility in its operation. A control room, with viewing window into studio will be provided for isolated operation of all equipment.

- Shall be configured with permanently installed broadcast quality PTZ cameras.
- Shall be configured with, on each of the 4 walls, with connections and infrastructure to control room, for 4 SDI video (3in/1out), 4 hardwired microphones, 1 DMX output.
- Four channels of professional wireless microphones with broadcast grade lavalier microphones.
- Two ceiling mounted microphones with pull down arms on lighting carriage.
- Control room with audio and video mixers, SDI video routing, direct to drive recording, a Mac/PC for use as a DAW and for Video editing, studio quality playback speakers, lighting controls.
- A ceiling mounted grid, with carriage rails and pull down light fixture booms.
    - Grid shall extend around the perimeter of the room for hanging of backdrops
- Include 6 variable white, LED, soft panel studio lights, with DMX control.
- Include 3 mobile variable white, LED, soft panel studio lights, with DMX control.
- 75” Monitor on two opposing walls for use as confidence monitors or displaying content.

Conference/Event Room:

This space shall be used for large format videoconferencing meetings, general “board room” type meetings, and potentially small party/gatherings.

- 20 wireless gooseneck microphone system for all members of “in the round” meetings.
- Three permanently installed broadcast quality PTZ cameras for use with video conferencing, with intelligent auto-switching

- Large format displays (86-98") on opposing walls for use as confidence monitors or displaying content.
- Distributed Ceiling speakers for voice lift and future BGM/Events.
- Connection for user devices on 2 walls (HDMI, Bluetooth, XLR)
- Two channels of professional wireless microphones with handheld and body-pack (with over-ear presentation mic) transmitters.
- Audio DSP for control, routing, processing of all audio, and integration with video conferencing codec.
- AV system integration with lighting

6.3 Security Systems:

Access Control System

Intrusion protection and access control will be provided at all exterior entry points of the building to ensure public and private access is well regulated. Card based readers and hardware will be provided at these doors to provide simple access, controllable to the individual user level. These exterior doors shall be monitored by the system to provide notifications and alerts when doors have been accessed without appropriate permissions. All access control devices will require cabling to the nearest IDF, where wall mounted equipment will be installed.

Video Surveillance System

IP-based cameras will provide coverage of exterior doors and public gathering areas 24 hours a day. Interior and exterior camera locations will be determined in collaboration with the Owner. Cat. 6A cables will be provided from the nearest IDF room to each camera location. A video storage and management system will be provided to ensure retention of footage for a time duration to be determined by the Owner.

--End of Section 6--

7.0

VERTICAL TRANSPORTATION

SCAC RENOVATION
1100 K STREET
SACRAMENTO, CA
VERTICAL TRANSPORTATION REPORT

There are currently two elevators at 1100 K St. providing vertical transportation to the building. The original elevator installed was a basement traction elevator that serves 5 landings. It was manufactured and installed by Otis elevator in 1926 and has a duty of 2500 lbs. capacity at a rated speed of 250 fpm. At a later date, a mezzanine level was added to the building. The elevator was not modified to provide access to the mezzanine level. During a 1960s building renovation an in-ground hydraulic elevator was installed to provide service to the basement, 1st floor and mezzanine. This elevator was manufactured and installed by Dover elevator and has a duty of 1500 lbs. capacity at a rated speed of 100 fpm.

Neither of the two existing elevators or hoistways are suitable for the new building plan which requires access to the basement level, mezzanine, and a new 6th floor. Our recommendation is to provide a single new elevator in a location to be determined. Both existing elevators will be demolished and the floor areas recovered for other uses. The new elevator will serve all building floors, B, 1-6, and will meet all building code requirements including stretcher accessibility. Based on the occupancy of the building a single high quality elevator should be sufficient to provide passenger and service vertical transportation needs of the building. The elevator will need to be large enough to serve as a service/freight elevator as needed.

We recommend a standard 4000 lb. capacity modern machine room less (MRL) elevator at a rated speed of 350 fpm. This will be large enough to provide stretcher accessibility with 48-in. wide center opening doors. The approximate building footprint for this elevator is 10-ft. w. by 8-ft. d. The budget cost for this elevator is $400,000. The actual hoistway clear dimensions will be somewhat less than this but this will allow multiple standard manufacturers model elevators to fit in this space.

MRL Elevator Design Criteria

Basis of Design: Manufacturer's standard machine room less (MRL) passenger elevator – Available providers include Otis Elevator – Gen3 Peak, KONE, Inc. – MonoSpace 500DX, Schindler Elevator – 5500:

Capacity: 4000 lbs.
Speed: 350 fpm
Entrances: 4'-0" w. x 7'-0" h. Center Opening
Cab Enclosure: 6'-8" w. x 5'-5" d. clear inside (nominal)
Cab Height: 8'-0" (nominal)

Hoistway Dimensions	H'way Width	H'way Depth	Pit Depth	Overhead
Otis Gen3 Peak	9'-6"	7'-8"	5'-6"	16'-2"
Kone MonoSpace 500 DX	9'-8"	6'-11"	5'-6"	13'-8"
Schindler 5500	9'-7"	7'-4"	5'-8'	16'-0"

Controller Room:

A separate room for elevator controller equipment is needed. Ideally located adjacent to the elevator at the top landing, the controller room can be located remotely up to approximately 100 linear feet from the hoistway. Room to be fire rated per the building code and include 3-phase power disconnect with auxiliary contacts for battery lowering control, single phase power disconnect switch for cab lighting, GFCI outlet, self-closing/self-locking door. Provide ventilation to maintain room temperature below 90^0 F. Door to open outwards. No equipment, conduits, ducts, or other equipment not specifically required solely for the elevator is allowed in the elevator machine room. Minimum 7'-0" clear machine room height.

Hoistway Design:

Fire rated hoistway wall construction per building code. Hoistway ventilation per building code – required when machine is located in the hoistway. Provide connection and support for guide rails at 1'-0" below each floor level and at 10'-0" above top landing. Provide auxiliary support where required by elevator manufacturer. Maximum rail bracket spacing 12'-0". To accommodate the requirements of all manufacturers, vertical steel support from the pit to the top of the hoistway is recommended for attachment of guide rail brackets.

Elevator pit:

A dry sump pit is allowed but not required. A sump pump is not allowed by the State of CA Code. If there is a concern for ground water infiltrating the finished pit, we can discuss this situation. If not, do not provide a sump pit.

Code:

CA Title 8 Subchapter 6 Elevator Safety Orders.

MRL Elevator Design Criteria

Basis of Design: Manufacturer's standard machine room less (MRL) passenger elevator – Available providers include Otis Elevator – Gen3 Peak, KONE, Inc. – MonoSpace 500DX, Schindler Elevator – 5500:

Capacity: 4000 lbs.
Speed: 350 fpm
Entrances: 4'-0" w. x 7'-0" h. Center Opening
Cab Enclosure: 6'-8" w. x 5'-5" d. clear inside (nominal)
Cab Height: 8'-0" (nominal)

Hoistway Dimensions	H'way Width	H'way Depth	Pit Depth	Overhead
Otis Gen3 Peak	9'-6"	7'-8"	5'-6"	16'-2"
Kone MonoSpace 500 DX	9'-8"	6'-11"	5'-6"	13'-8"
Schindler 5500	9'-7"	7'-4"	5'-8'	16'-0"

Controller Room:

A separate room for elevator controller equipment is needed. Ideally located adjacent to the elevator at the top landing, the controller room can be located remotely up to approximately 100 linear feet from the hoistway. Room to be fire rated per the building code and include 3-phase power disconnect with auxiliary contacts for battery lowering control, single phase power disconnect switch for cab lighting, GFCI outlet, self-closing/self-locking door. Provide ventilation to maintain room temperature below 90^0 F. Door to open outwards. No equipment, conduits, ducts, or other equipment not specifically required solely for the elevator is allowed in the elevator machine room. Minimum 7'-0" clear machine room height.

Hoistway Design:

Fire rated hoistway wall construction per building code. Hoistway ventilation per building code – required when machine is located in the hoistway. Provide connection and support for guide rails at 1'-0" below each floor level and at 10'-0" above top landing. Provide auxiliary support where required by elevator manufacturer. Maximum rail bracket spacing 12'-0". To accommodate the requirements of all manufacturers, vertical steel support from the pit to the top of the hoistway is recommended for attachment of guide rail brackets.

Elevator pit:

A dry sump pit is allowed but not required. A sump pump is not allowed by the State of CA Code. If there is a concern for ground water infiltrating the finished pit, we can discuss this situation. If not, do not provide a sump pit.

Code:

CA Title 8 Subchapter 6 Elevator Safety Orders.

--End of Section 7--

8.0

HISTORIC PRESERVATION

8.0 HISTORIC PRESERVATION

The four-story building at 1100 K Street was completed in 1913 as an administrative office building for the Pacific Gas & Electric Company (PG&E). Located at a prominent corner of Downtown Sacramento, directly across the street from the Cathedral of the Blessed Sacramento, the Renaissance Revival-style building is the work of Sacramento-based architect Edward Charles Hemmings, who also designed the Sutter Club a few blocks away. The interior of the building has been remodeled several times throughout its history to accommodate new users.

8.1 Historic Status and Applicable Historic Preservation Review

a. The building is listed on the Sacramento Register of Historic and Cultural Resources (Sacramento Register) as an individual historic Landmark and is a contributor to the locally listed Cathedral Square Historic District. It has also been identified as eligible for listing on the National Register of Historic Places (National Register).

b. Further historical background on 1100 K Street Building is outlined in the Feasibility Study, 1100 K Street, by Vanir Construction Management, DRAFT February 23, 2024.

c. 1100 K Street is a historic resource under the California Environmental Quality Act (CEQA), Public Resources Code Sections 21000 et seq.

d. Due to its listing in the Sacramento Register the building is also a "qualified historical building or property" under the California Historical Building Code (CHBC), Part 8 of Title 24. The CHBC may be used in conjunction with the regular code to address proposed work whenever compliance with the code is required.

e. The City of Sacramento Preservation department will be involved with the review of a proposed project under the Site Plan and Design Review process prior to an applicant applying for building permit.[1] The preservation review will focus on exterior alterations and proposed work to publicly-accessible interiors (lobbies, auditoriums, public-serving spaces). Therefore, for CSAC project it will be important to clarify what portions of the building are publicly accessible.

8.2 Secretary of the Interior's Standards

a. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (the Standards or SOI Standards), established by the U.S. Department of the Interior, are the nationally-recognized best practices for historic preservation. The Standards provide guidance for reviewing proposed work on historic properties and are a useful analytic tool for understanding and describing the potential impacts of substantial changes to historic resources.[2]

b. The Secretary of the Interior offers four sets of standards to guide the treatment of historic properties: Preservation, Rehabilitation, Restoration, and Reconstruction. The Standards for Rehabilitation, which "acknowledge the need to alter or add to a historic building to meet

[1] Historic Preservation | City of Sacramento

[2] Grimmer, Anne E. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington, DC: U.S. Department of the Interior National Park Service Technical Preservation Services, 2017), accessed December 4, 2024, https://www.nps.gov/orgs/1739/upload/treatment-guidelines-2017-part1-preservation-rehabilitation.pdf.

continuing or new uses while retaining the building's historic character," would be the appropriate Standards for the proposed project at the CSAC Building.[3]

c. The Standards for Rehabilitation emphasize retaining, preserving, and maintaining those architectural materials and features that are important in defining the building's historic character. Therefore, identifying these "character-defining features" is an important first step in any project dealing with a historic property. With rehabilitation projects, it is understood that some alteration of the building is needed to provide contemporary use. However, according to the Standards for Rehabilitation, the work must avoid significant damage to the character-defining features.

8.3 Table 1. – Interior Character-Defining Features of CSAC Building

Character-defining features are the essential physical features that enable a historic property to convey its historic identity and significance. These features enable the property to retain its historic status.

Although the City of Sacramento's preservation review will focus on publicly-accessible interiors, Page & Turnbull is providing our opinion of all interior character-defining features for informational purposes. The list is based on a site visit conducted by Page & Turnbull on November 20, 2024, included in the table that follows.

The 1100 K Street Feasibility Study, dated February 23, 2024 by Vanir Construction and including Treanor HL, also noted exterior and interior character-defining features. Those Treanor HL identified features are noted in the table below. Page & Turnbull believe there are a few additional character-defining features not mentioned in the Feasibility Study.

Feature	Location	Photograph
Stair with: • Metal framing • Marble treads • Metal and stained wood handrail • Terrazzo and stone landings [Treanor HL identified CDF]	Basement to 4th floor	

[3] Grimmer, *The Secretary of the Interior's Standards*.

Plaster molding with Greek key design and dentils [Treanor HL identified CDF]	Mezzanine-Level Stair Landing	
Fire hose cabinet with painted glass door	Third-Floor Stair Landing	
Safe with: • Metal door • Thick concrete walls	Second Floor	

Double-height volume of mezzanine space	First and Mezzanine Floors	
Interior molded wood window trim and chair rail at interior face of exterior wall [Treanor HL identified CDF]	All Floors	
Interior metal wood window trim	All Floors, except Mezzanine	

Molded wood base trim [Treanor HL identified CDF]	South stair	

8.4 Rehabilitation Recommendations

The Page & Turnbull team recommend the proposed project design comply with the Secretary of the Interior Standards for Rehabilitation. For the CSAC project this would include the following Standards in particular;

a. Standard 2: Protect, maintain and repair interior and exterior character-defining features to the full extent possible.
    i. Protect character-defining features as identified in the list above and in the Treanor HL section of the 1100 K Street Feasibility Study, to the full extent possible.

b. Standard 6: Repair character-defining features and where severity of deterioration requires replacement strive to replace the feature matching the original in design, color, texture and other visual properties – and where possible materials.
    i. Repair and rehabilitate existing wood windows, add kerf-in weatherstripping (or as an alternate, add new storm window to the interior side with operability to allow for ventilation and cleaning) (levels 3-5).
    ii. Repair and rehabilitate existing steel windows as appropriate given new proposed plan layout (levels 3-5).
    iii. Maintain and repair existing wood window trim and wall trim at interior face of North and West walls (levels 3-5).
    iv. If work to the exterior façade is to be conducted with the project scope, use treatments that are consistent with by the Secretary of the Interior's Illustrated Guidelines for Rehabilitating Historic Buildings[4].

c. Standard 9: Additions, alterations, or new construction should avoid damage to character-defining features and should reflect a differentiated yet compatible design with the historic in terms of massing, size, scale and architectural detailing.
    i. Design the level 6 addition with compatible architectural materials, composition and details.

[4] The U.S. Department of the Interior and the National Park Service, rehabilitation-guidelines-1997.pdf.

ii. Level 6 addition should comply with City of Sacramento guidelines with respect to height and setback, as well as the SOI Standards for Rehabilitation and ITS Number 36.[5]

iii. If work to the 1st and 2nd floor non-historic doors and windows is proposed, comply with applicable codes and regulatory requirements. The existing non-historic doors and windows can be retained and maintained. If removal and replacement of 1st and 2nd floor non-historic doors and windows is proposed, the new work should follow one of the following options to comply with the SOI Standards for Rehabilitation and ITS Number 48[6]:

1. A new system may be designed that is compatible with the historic character of the building.

2. The doors and windows may be accurately recreated based on historic photographic documentation or physical evidence.

d. Standard 10: New additions and related new construction should be designed in a manner that if removed in the future, the form and integrity of the historic property would be unimpaired.

Although seismic strengthening work is unlikely to ever be reversed, it is advisable that new architectural work be designed so that in the future it may be modified or removed without significant impact to the historic character-defining features.

8.5 California Historical Building Code

The California Historical Building Code (CHBC), Part 8 of Title 24, is applicable to all qualified historical buildings in California. It provides solutions "to facilitate the preservation and continuing use of qualified historical buildings or properties while providing reasonable safety for the building occupants and access for persons with disabilities."[7]

Sections of the CHBC that may be applicable to work conducted at CSAC include citations in the outline below.

a. Section 8-302.3 Occupancy Separations

i. Required occupancy separations of more than one hour may be reduced to one-hour fire-resistive construction when the building is provided with an automatic sprinkler system throughout.

b. Section 8-402.2 One-Hour Construction

i. Upgrading an existing qualified historical building or property to one-hour fire-resistive construction and one-hour fire-resistive corridors shall not be required regardless of construction or occupancy when one of the following is provided:

1. An automatic sprinkler system throughout.

2. An approved life-safety evaluation

3. Other alternative measures as approved by the enforcing agency.

c. Section 8-402.3 Openings in Fire-Rated Systems

i. Historical glazing materials and solid wood unrated doors in interior walls required to have one-hour fire rating may be approved when operable windows and doors are provided

[5] The National Park Service Technical Preservation Services, ITS NUMBER 36: Rooftop Additions.
[6] The National Park Service Technical Preservation Services, ITS NUMBER 48: Replacement of Missing or Altered Storefronts.
[7] California Historical Building Code, section 8-101.3 Intent.

with appropriate smoke seals and when the area affected is provided with an automatic sprinkler system.

d. Section 8-403 Interior Finish Materials

    i. Exception: When an automatic sprinkler system is provided throughout the building, existing finishes shall be approved.

e. Section 8-502.2 Means of Egress

    i. Existing door openings and corridor widths of less than dimensions required by regular code shall be permitted where there is sufficient width and height for the occupants to pass through the opening or traverse the exit.

f. Section 8-502.3 Stairs

    i. Existing stairs having risers and treads or width at variance with the regular code are allowed if determined by the enforcing agency to not constitute a distinct hazard. Handrails with nonconforming grip size or extensions are allowed if determined by the enforcing agency to not constitute a distinct hazard[8].

g. Section 8-504 Railings and Guardrails

    i. The height of railings and guard railings and the spacing of balusters may continue in their historical height and spacing unless a distinct hazard has been identified or created by a change in use or occupancy.

h. Section 8-602.1 Regular Code

    i. The regular code for access for people with disabilities (Title 24, Part 2, Vol. 1, Chapter 11B) shall be applied to qualified historical buildings or properties unless strict compliance with the regular code will threaten or destroy the historical significance of character-defining features of the building or property.

i. Section 8-602.2 Alternative Provisions

    i. If the historical significance or character-defining features are threatened, alternative provisions for access may be applied pursuant to this chapter, provided the following conditions are met:

        1. These provisions shall be applied only on an item-by-item or case-by-case basis.

        2. Documentation is provided, including meeting minutes or letters, starting the reasons for the application of the alternative provisions. Such documentation shall be retained in the permanent file of the enforcing agency.

j. Section 8-901.5 Energy Conservation

    i. Qualified historical buildings or properties covered by this part are exempted from compliance with energy conservation standards. When new nonhistorical lighting and space conditioning system components, devices, appliances and equipment are installed, they shall comply with the requirements of Title 24, Part 6, The California Energy Code, except where the historical significance or character-defining features are threatened.

[8] Distinct hazard: Any clear and evident condition that exists as an immediate danger to the safety of occupants or public right of way. Conditions that do not meet the requirements of current regular codes and ordinances do not, of themselves, constitute a distinct hazard. Section 8-104.3, SHBC appeals, remains applicable.

8.6 Financial Incentives for Historic Resources

As a historic resource, the CSAC property is potentially eligible to apply for financial incentives that support historic preservation. A couple of these programs are listed below.

a. Mills Act Property Tax Abatement Program

   i. The Mills Act is a state-sponsored initiative that local governments may adopt as incentive for historic preservation efforts. Adopted by the State of California in 1976, the Mills Act provides owners of both owner-occupied and income-producing properties the opportunity to actively participate in a rehabilitation, restoration, preservation and maintenance of "qualified historical properties" while receiving property tax relief. Qualified historical properties are properties listed on any official federal, state, county, or city register, including the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, State Points of Historical Interest, local landmarks, and local survey listings.[9]

   ii. The City of Sacramento amended the Mills Act Section of the City Code **(17.604.720)** in 2018 to clarify and streamline the process of applying for and obtaining a Mills Act contract. Eligible properties include those that are listed in the National Register, California Register, Sacramento Register, and contributors to historic districts. Working in conjunction with the City of Sacramento, a property owner enters into a formal agreement, generally known as a Mills Act contract, for a minimum ten-year term. This contract states that property owners will agree to protect, preserve and maintain a historic property in accordance with specific historic preservation standards and conditions. The assessment of a property under a Mills Act agreement, usually, but not always results in tax relief for the property owner. Since the City is not directly involved in the tax assessment process, specific questions about property tax valuation should be directed to a tax professional or the Sacramento County Assessor's office.

   iii. Applications are processed once a year and are due by July 1st each year. Applications received after that date will be processed in the next calendar year. No more than 12 applications are recommended for approval at one time.

   iv. There are several fees associated with Mills Act contracts. Fees include an application fee ($234), a contract fee ($1170-$1989), and a reporting and inspection fee every five years ($351). Under most circumstances, these fees will be greatly offset by the benefits received in the form of reduced property taxes.

   v. Every five years, the owner of a property subject to a Mills Act agreement is required to complete and submit the City's reporting form and pay the contract administration fee. At that time, the City will conduct in-person inspections on an as-needed basis.[10]

b. Federal Historic Preservation Tax Credit (20% Rehabilitation Tax Credit)

   i. The National Park Service, in cooperation with the California Office of Historic Preservation (OHP), administers a financial incentive program that provides a federal tax credit equal to 20% of qualifying expenses for a rehabilitation of a National Register-eligible historic property that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties (the Standards).

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[9] State Board of Equalization, "Guidelines for the Assessment of Enforceably Restricted Historical Property," 1-2, accessed February 12, 2025, .

[10] City of Sacramento, "Mills Act Program," accessed February 12, 2025, https://www.cityofsacramento.gov/community-development/planning/preservation/mills-act-program#anchor-poten-bc22-1495.

ii. Targeted towards the private sector, the federal rehabilitation tax credit program provides tax incentives to private investors for rehabilitation and economic revitalization of historic buildings. The program is available for buildings that are National Historic Landmarks, or listed in the National Register, or that contribute to National Register historic districts. The National Park Service (NPS) and the California OHP manage the tax credit program, which only applies to properties that are, or will become, income producing. In order to qualify for the tax credit, the property must be rehabilitated according to the Secretary of the Interior's Standards for the Treatment of Historic Properties. The proposed project must be reviewed by California OHP and National Park Service staff to certify the historic status of the property and the scope of the rehabilitation. As defined by the Secretary of the Interior, rehabilitation is "the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."[11]

iii. Internal Revenue Service regulations outline expenses that can contribute toward the qualified expenses for purposes of the 20% rehabilitation tax credit. Qualified expenses are costs that are directly related to the repair or improvement of structural and architectural features of the historic building. Costs that are eligible include walls, partitions, floors, ceilings, permanent coverings (such as paneling or tiles), windows and doors, components of central air conditioning or heating systems, plumbing and plumbing fixtures, stairs, and other components related to the operation or maintenance of the building. Qualified expenses also include soft costs such as construction period interest/taxes, architect and engineering fees, legal expenses, construction management costs, reasonable developer fees, and other fees paid that would normally be charged to a capital account.

iv. Accountants and attorneys that specialize in tax credit transactions should be consulted early in the application process to advise on non-qualified expenses. Typically, expenses that are not qualified expenses include acquisition costs, appliances, demolition costs (removal of a building), fencing, feasibility studies, furniture, landscaping, leasing expenses, new construction costs or enlargement costs (increase in total volume), outdoor lighting remote from building, parking lots, paving, signage, storm sewers, and window treatments.

v. To qualify for the 20% federal tax incentive, a property owner must complete the four-step Historic Preservation Certification Application in coordination with the California OHP.

1. Part 1: Evaluation of Significance
2. Part 2: Description of the Rehabilitation
3. Part 3: Request for Certification of Completed Work
4. Part 4: National Register Nomination

c. State Historic Rehabilitation Tax Credit Program[12] (20 - 25% Rehabilitation Tax Credit)

i. The State Historic Rehabilitation Tax Credit Program is a new regulation effective as of November 2024. There has not been significant action nor successful acceptance of any projects as of yet. It is uncertain whether this would be a viable financial incentive for the CSAC project.

--End of Section 8--

[11] "The Secretary of the Interior's Standards for the Treatment of Historic Properties: Rehabilitation as a Treatment and Standards for Rehabilitation," accessed February 12, 2025, https://www.nps.gov/articles/000/treatment-standards-rehabilitation.htm.
[12] The Office of Historic Preservation, State Historic Rehabilitation Tax Credit.

9.0
ENVIRONMENTAL AND SUSTAINABILITY GOALS

9.0 ENVIRONMENTAL AND SUSTAINABILITY GOALS

The project shall comply with the following:

- California Building Code (CBC) 2022
- California Electrical Code (CEC) 2022
- California Fire Code (CFC) 2022
- California Mechanical Code (CMC) 2022
- California Plumbing Code (CPC) 2022
- California Energy Code 2022
- California Green Building Standards Code (CALGreen) 2022 and Authority Having Jurisdiction (City of Sacramento requirements, whichever is more stringent.)
- Aim for 80% reduction of EUI (Energy Use Intensity)
- SMUD Integrated Design Solutions incentive program
- Explore how to reduce carbon- strategies to reduce carbon from building systems and materials
- SMUD Incentives for project systems going all electric
- Climate Risk Analysis- analysis that looks at future climate predictions and assessing if any of the building systems should be designed to show adjustments for future conditions.
- Consideration for SMUD renewable shares to achieve Net Zero Energy (NZE)

--End of Section 9--

10.0

APPENDIX

10.0 APPENDIX

10.1 Workshop Meeting Minutes

HGA

MEETING MINUTES

PROJECT: CSAC Renovation: Program + Concept Design Phase
HGA Commission Number 5380-001-00

FROM: Tiffany Coyne Writer's Direct Dial 916.787.5185

ISSUE DATE: December 18, 2024

MEETING
Purpose: Workshop #2 – Core Team Meeting
Date: December 9, 2024 TIME: 3:00 PM – 4:00 PM
Location: CSAC First Floor Conference Room; Zoom Virtual Meeting

INVITEES (Attendees checked):

	Name	Company	Email
☒	Graham Knaus	CSAC - Executive Management: Chief Executive Officer	gknaus@counties.org
☒	Chastity Benson	CSAC - Executive Management: Chief Operating Officer	cbenson@counties.org
☒	Jacqueline Wong-Hernandez	CSAC - Executive Management: Chief Policy Officer	jwong-hernandez@counties.org
☒	Jessica Sankus	CSAC - Legislative Services: Principal Fiscal & Policy Analyst	jsankus@counties.org
☐	Danielle Bradley	CSAC - Legislative Services: Legislative advocate for Human Services & Homelessness	dbradley@counties.org
☒	Mark Neuburger	CSAC - Legislative Services: Legislative Advocate for Housing, Land Use & Transportation	mneuburger@counties.org
☒	Sarah Hodge	CSAC - Public Affairs & Member Services: Senior Member Engagement Manager	shodge@counties.org
☒	Michael Sweet	CSAC - Public Affairs & Member Services: Member Engagement Manager	msweet@counties.org
☐	Derrick Winrow, Sr.	CSAC – Administrative Services: Management Analyst	dwinrow@counties.org
☒	Jonathon Doan	CSAC – Administrative Services: Printshop & Information Technology Specialist	jdoan@counties.org

	Name	Company	Email
☒	Kevin Hypse	CSAC – Administrative Services: Facilities Manager	khypse@counties.org
☒	Paul Danczyk	CSAC – California Counties Foundation: Chief Operating Officer	pdanczyk@counties.org
☐	Veronica Smith	CSAC – California Counties Foundation: Grants Program Director	vsmith@counties.org
☐	Alan Fernandes	CSAC – CSAC Finance Corporation: Chief Executive Officer	alan@csacfc.org
☒	Jennifer Henning	CSAC – Executive Director of County Counsels Association	jhenning@counties.org
☒	Rob Pierce	CSAC – CSAC Finance Corporation: Chief Operating Officer	rob@csacfc.org
☐	Christy Higgins	CSAC – CSAC Finance Corporation: Director of Operations	christy@csacfc.org
☒	Beth Young	HGA – Principal-in-Charge/ Architect of Record	byoung@hga.com
☒	Melissa Pesci	HGA – Programming Lead & Interior Design Principal	mpesci@hga.com
☒	Tiffany Coyne	HGA – Senior Project Manager	tcoyne@hga.com
☒	Joel Chapin	HGA – Project Architect	jchapin@hga.com
☐	Jessica Paredes	HGA – Programming & Interior Designer	jparedes@hga.com
☒	Kaylen Parker	HGA – Programming & Interior Designer	kparker@hga.com
☒	Jordi Rodriguez	6D PMCM	jordi.rodriguez@6dpmcm.com
☒	Mike Mallery	coAct 24	mmallery@coact24.com

	Action Item	Action By	Due
1.	CSAC stakeholders to complete survey questions provided by HGA.	CSAC	01/06/2025
2.	Compile completed survey questions and generate summaries to review during Workshop #2 (date TBD)	HGA	01/13/2025
3.	Compile program quantities and adjacencies for CSAC review.	HGA	01/06/2025

December 11, 2024 Meeting Minutes:

1. CSAC Finance Corp
    a. 8 staff with 7 having an office. Group spends much of their time out and about, primarily meeting with outside people.
        1) (3) work from office, (4) hybrid work, (1) fully remote employees
    b. Need a shared space for weekly team meetings.
    c. Smaller offices are viable based on work loads provided meeting spaces are available
    d. Storage room outside of offices would be preferred, minimal paper volume now.
    e. Would benefit from a room scheduler system for easier booking.
    f. This group currently occupies the 2nd floor.

2. Administrative services
    a. Print Shop
        1) Two staff, space works well currently but could use locker storage and better utilization of space. Assembly work area space is important.
        2) No significant growth expected.
        3) About 4-5 people use print shop at a time during maximum production events.
        4) Assembly space is important.
        5) Coordination with yearly meeting supplies storage and prep needed.
    b. IT (Jonathan's Team)
        1) Two staff in basement space, which feels too large.
        2) Sometimes lines form; space needs to be lockable.
        3) Requires server space for equipment in addition to cloud-based solutions.
    c. Accounting
        1) Four staff need to be together.
            a) Private offices with collaborative space for meetings.
        2) Require secure, confidential storage for 2 years' worth of items, with older files in the basement.
        3) Collaborates with other groups but rarely host external visitors in their office.
        4) Confidentiality is a consideration.
    d. Kevin's Facilities Management:
        1) Secure storage for annual meeting materials and financial documents (200 SF chain-link fenced area to accommodate boxes).
            a) Currently 35 boxes stored but could drop to 15 boxes.

2) Needs flexibility in staging and storage setups.

3. Executive Management
   a. COO needs a space for 4–5 person meetings, while large team meetings (25 people) require additional space.
   b. COO and CEO collabs with finance, this is an ideal adjacency.
   c. Not necessary for COO and CEO to be adjacent but is working well in current locations.
   d. The Board is 62 people with 90 people on zoom.
      1) Hollow square table layout for 68 people is a typical meeting arrangement.
      2) Board rooms require full AV and technology connectivity.
         a) Meetings can last 4 hours.
   e. Executive Committee meetings can range from 30-50 people.
      1) Hollow square table layout is a typical meeting arrangement.

4. California Counties Foundation
   a. Four staff, with potential growth to five.
      1) 4 offices and 1 receptionist space
   b. Team splits time between open cubicles and private spaces for webinars
      1) Private office space is about ~20–40% of the time
   c. Needs flex space for occasional team meetings (3x a week)
   d. Proximity to the print shop is essential.

5. Litigation Coordination County Counsel
   a. Currently located on the mezzanine which used to connect to building next door
   b. Four people, 2 lawyers require private offices; one admin staff can be in an open space while the other can be either.
   c. Need a meeting space for 4–5 people.
   d. Jennifer has conference table in office but doesn't need as much space.

6. Public Affairs and Member Services
   a. Team is spread out between floors which works well to integrate with rest of building.
   b. Video Studio
      1) Needs a state-of-the-art multimedia room with soundproofing, lighting, and flexible tech for webinars, filming, and classes.
      2) Ideal setup includes 5–7 people on-camera with Michael Sweet behind the camera.
      3) Incorporate flexible, high-tech space for board meetings, classes, and general sessions.
      4) Adjacent 6th floor event space could integrate with this zone, reducing current $7K/meeting AV costs.
   c. It would be preferred to have (2) people located near the legislative team.
   d. This team prefers a location close to the COO.

7. Legislative Services
    a. Policy and Advocacy Team
        1) Many of the items here were discussed in the Leadership meeting #1 but are recorded here for alignment of programming content between meetings.
        2) Advocacy is a 17-person team spread across three floors (1st, Mezz, and 3rd floors). The floor separation cab make some people to feel left out (1st floor and Mezz can hear each other)
            a) Offices should be flexible enough for small team meetings (2–4 people) while keeping footprints minimal.
            b) Offices should allow space for 2–3 visitors, as team members often meet with colleagues.
            c) At least 9 people in everyday 9 months out of the year
        3) Most people need private office to take calls in, shared offices are not desired.
        4) Office size starts with where they are on priority chart and adjusted based on function.
            a) They believe this will generate offices of different sizes.
        5) Desire for flexible spaces for external colleagues.
            a) Meeting spaces should allow for external collaborations, but AV isn't necessary for all meeting rooms.
            b) A space for all 17 team members to hold a meeting is desired.
            c) A functional desire is to hold more in person meetings.
        6) Office Sizes:
            a) Ryan's office is seen as ideal for functionality.
            b) The smallest acceptable size is equivalent to Aida's office.
    b. Jessica's team of Lobbyists' Needs
        1) Dedicated space to hang jackets and change clothes ("superman" outfit changes).
        2) Team has shared an office, and it has worked out well

8. Legal
    a. Currently this team is located in the building next door.
    b. Currently have 4 people on the team
        1) 2 private offices needed.
        2) 2 admin spaces needed.
    c. Needs an additional law clerk office.
    d. Confidentiality is important.

9. Tenants
    a. There are three tenants that need private spaces with unique needs.
    b. HGA and Chastity to coordinate programming survey distribution and collection to gather tenant specific needs and functional requirements.

10. Design Considerations
    a. Hoteling Needs
        1) Flexible workspaces should allow employees to feel ownership over a small area, not just a locker.
        2) Include private spaces for visiting supervisors with AV capabilities (e.g., TVs for legislative tracking).
    b. General building wide needs
        1) Monthly Town Hall
            a) Current setup doesn't fit everyone; an event space on the 6th floor could host these gatherings with food provided in an adjacent kitchen.
        2) Large conference room for board meetings (62–90 people with Zoom and in-person attendees).
        3) Reception/greeter spaces on each floor.
        4) Design centralized hub spaces on each floor surrounded by private offices.
        5) Opportunity for visiting supervisors or invited guests to hotel, take phone calls, or hold meetings in private spaces.
    c. Technology and AV Needs
        1) Equip legislative, public affairs, and executive offices with TVs for legislative tracking.
        2) Hybrid-ready boardrooms for 20–50 in-person attendees with 50–90 remote participants.
        3) Room scheduler connected to outlook
        4) Dedicated server room
    d. Public Engagement
        1) Space for community-related art on the 1st floor to create a welcoming aesthetic.
        2) Space for county history display through an interactive digital video or similar
            a) To showcase what counties do and how they've evolved geographically and services they provide.
        3) Reimagine the iconic CSAC sign while preserving its historic significance.
        4) 6th Floor Event Space: Rentable for gatherings and multimedia presentations.
        5) Incorporate a time capsule.
    e. HVAC and Natural Light
        1) Prioritize thermal comfort with better HVAC zoning.
            a) Current system results in big differences between hallways and offices, and room to room thermal comfort.
        2) Maximize daylight and natural light throughout the building.
        3) Flexibility and Versatility
            a) Include moveable glass walls for natural light and visibility.
    f. Amenities:
        1) Outdoor patio
        2) Small micro-kitchens paired with larger communal spaces for informal gatherings.
        3) Break rooms and kitchens on every floor, with one central communal lounge and kitchen for larger gatherings.
            a) Employees want a place to eat lunch other than their desk

4) Dedicated wellness and lactation room.
5) Every team needs Small meeting rooms for 4-5 people

g. Keep | Toss | Change | Add exercise:
   1) Keep
      a) Iconic sign. But reimagine it with new colors make it bigger than SCIU.
      b) Big conference room.
   2) Toss
      a) Nothing identified.
   3) Change
      a) HVAC zoning and comfort.
   4) Add
      a) Movable glass walls
      b) Natural light
      c) Stair and elevator access to each floor.
      d) Restroom on 1st floor
      e) Art on 1st floor
      f) Event space that can be rented out
      g) Time capsule.
      h) Bike racks.
      i) Communal staff kitchen.

The foregoing represents HGA's understanding of the discussions and decisions made during this meeting. If anyone has any changes or comments, please notify the author within seven days of the date of this document.

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HGA

MEETING MINUTES

PROJECT: CSAC Renovation: Program + Concept Design Phase
HGA Commission Number 5380-001-00

FROM: Tiffany Coyne

Writer's Direct Dial 916.787.5185

ISSUE DATE: December 18, 2024

MEETING

Purpose: Workshop #1 - Leadership Meeting
Date: December 9, 2024 TIME: 2:00 PM – 3:00 PM
Location: CSAC First Floor Conference Room; Zoom Virtual Meeting

INVITEES (Attendees checked):

	Name	Company	Email
☒	Graham Knaus	CSAC - Executive Management: Chief Executive Officer	gknaus@counties.org
☒	Chastity Benson	CSAC - Executive Management: Chief Operating Officer	cbenson@counties.org
☒	Jacqueline Wong-Hernandez	CSAC - Executive Management: Chief Policy Officer	jwong-hernandez@counties.org
☐	Derrick Winrow, Sr.	CSAC – Administrative Services: Management Analyst	dwinrow@counties.org
☒	Paul Danczyk	CSAC – California Counties Foundation: Chief Operating Officer	pdanczyk@counties.org
☐	Alan Fernandes	CSAC – CSAC Finance Corporation: Chief executive Officer	alan@csacfc.org
☒	Rob Pierce	CSAC – CSAC Finance Corporation: Chief Operating Officer	rob@csacfc.org
☒	Jennifer Henning	CSAC – Executive Director of County Counsels Association	jhenning@counties.org
☒	Beth Young	HGA – Principal-in-Charge/ Architect of Record	byoung@hga.com
☒	Melissa Pesci	HGA – Programming Lead & Interior Design Principal	mpesci@hga.com
☒	Tiffany Coyne	HGA – Senior Project Manager	tcoyne@hga.com
☒	Joel Chapin	HGA – Project Architect	jchapin@hga.com

	Name	Company	Email
☒	Jessica Paredes	HGA – Programming & Interior Designer	jparedes@hga.com
☒	Kaylen Parker	HGA – Programming & Interior Designer	kparker@hga.com
☒	Jordi Rodriguez	6D PMCM	jordi.rodriguez@6dpmcm.com
☒	Mike Mallery	coAct 24	mmallery@coact24.com

	Action Item	Action By	Due
1.	Schedule budget breakout meeting to address financial considerations.	HGA/CSAC/ 6D	01/06/2025
2.	Include agenda items for 1/6/2025 to review any surprises identified during the on-site job walk and building assessment. The project team did not identify any major surprises during our initial walk.	HGA	01/06/2025
3.	Finalize details for the January 6 workshop, including stacking diagrams and agenda for both sessions. (Update: Per meeting on 12/16/2024 with CSAC-Programming follow-up to be shared via email and 1/6/25 meeting will cover MEP and Conceptual Cost Estimate)	HGA	12/10/2024
4.	Schedule Workshop #2 and bi-weekly meetings based on decision-making needs and participation.	6D	01/06/2025
5.	Verify program quantities and adjacencies meet stakeholder requirements before Workshop #2.	HGA	01/06/2025
6.	Create stacking diagrams to consolidate teams and support cross-team interactions.	HGA	01/06/2025
7.	Align office sizes with employee classifications (e.g., lobbyist vs. analyst).	HGA	01/06/2025

December 18 Meeting Minutes:

1. Timeline and Scheduling
   a. Move-Out Date: Strong desire to vacate the existing space by October 2025.
   b. Second Workshop: Scheduled for January 6, 2025, from 1–3 PM, divided into two sessions:
      1) 1–2 PM: Leadership team focuses on stacking diagrams and adjacencies. (Update: This meeting will focus on the conceptual cost estimate and Programming documents will be emailed to CSAC in lieu of a meeting).

2) 2–3 PM: Core team reviews systems.

c. Bi-Weekly Meetings: Tentative schedule for every other Monday to align with decision-making needs. HGA to coordinate agendas with 6D, and Chastity to accommodate CSAC decision maker attendance.

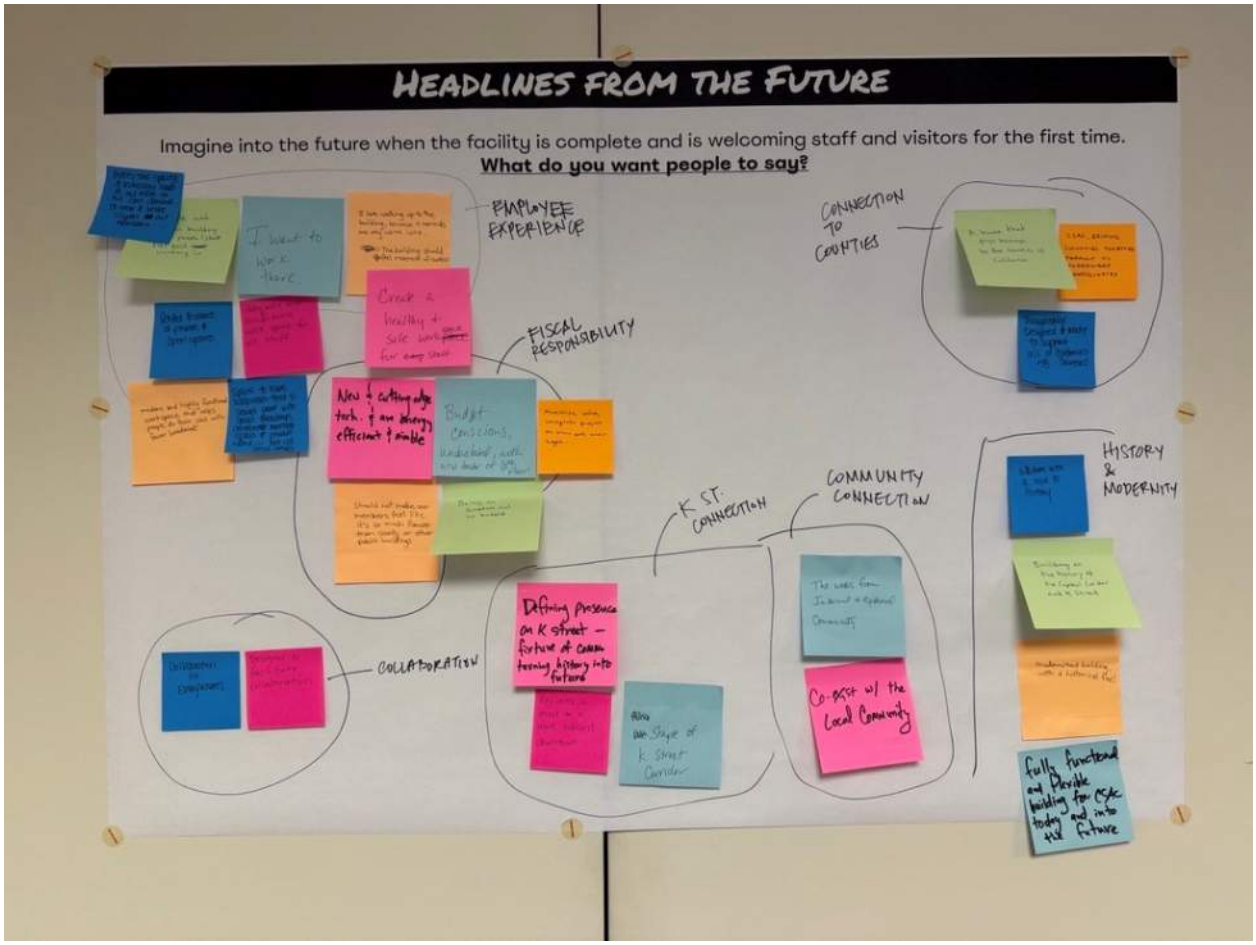
2. Workshop Decision Points
   a. 1st Decision Point: Program quantities
   b. 2nd Decision Point: Adjacencies
   c. 3rd Decision Point: Floor assignments

3. Employee Experience and Silos
   a. Initially it is thought that the natural alignment of each department staff won't all fit on one floor. But thoughtful programming and stacking can minimize issues.
   b. CSAC shared concerns about creating silos if groups are isolated on different floors. Water-cooler moments and common flexible spaces are critical to maintaining culture.
   c. Ops/Public Affairs staff value cross-department interactions.
   d. Collaborative and shared amenity spaces spread throughout the building are a possible solution to maintain culture and foster interaction.
   e. The core team meetings and follow up programming efforts will dive deeper, but the following items were discussed at a high level:
      1) There is often a need for small conferences of 3-4 people. Currently these sometimes happen in larger offices.
      2) Office sizes vary and may be standardized based on role and functional needs.
      3) Office space would benefit from the flexibility of small meetings 2-4 people.
      4) Permanent unassigned office space or sharing of private office space is not ideal to current function. But flexible hoteling stations may be helpful moving forward.

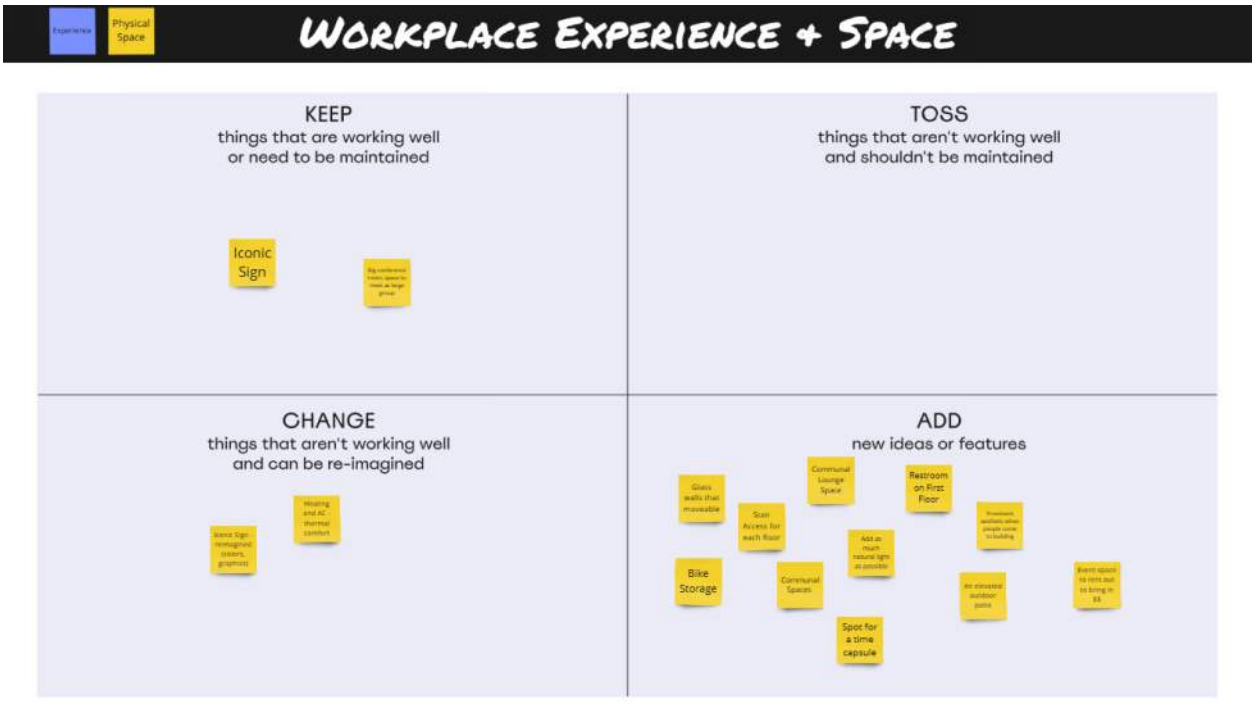
4. Public Spaces and Historical Displays
   a. Creating or maintaining public space is not a primary function of the project.
   b. Interest in incorporating a museum aspect into public-facing spaces, such as:
      1) Interactive holograms showcasing county history for educational purposes (e.g., school field trips).
      2) A potential California map digital display on the 1st or 6th floor to highlight county contributions.
   c. The Core team meeting discussed some space for public art on the first floor.

5. Additional Group-Specific Needs
   a. There are three Tenant Groups in the building: Privacy and specialty function requirements for leased spaces will be required.
      1) HGA to work with CSAC on programming survey distribution and information gathering for each tenant.
   b. Employee Amenities: Break rooms and coffee areas could help foster interactions outside silos.

6. Headlines from the Future Exercise
    a. CSAC Top Priorities can be grouped into 4 broad categories:
        1) Employee wellness and experience.
        2) Fiscal responsibility.
        3) Preserving history while aligning with community values.
        4) Community connection.



7. Workplace Experience + Space Exercise



The foregoing represents HGA's understanding of the discussions and decisions made during this meeting. If anyone has any changes or comments, please notify the author within seven days of the date of this document.

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HGA

MEETING MINUTES

PROJECT: CSAC Renovation: Program + Concept Design Phase
HGA Commission Number 5380-001-00

FROM: Tiffany Coyne

Writer's Direct Dial 916.787.5185

ISSUE DATE: January 10th, 2025

MEETING

Purpose: Workshop #2 – Systems Confirmation Meeting
Date: January 6th, 2025 TIME: 3:00 PM – 4:00 PM
Location: CSAC First Floor Conference Room; Zoom Virtual Meeting

INVITEES (Attendees checked):

	Name	Company	Email
☒	Derrick Winrow, Sr.	CSAC – Administrative Services: Management Analyst	dwinrow@counties.org
☒	Kevin Hypse	CSAC – Administrative Services: Facilities Manager	khypse@counties.org
☒	Jonathon Doan	CSAC – Administrative Services: Printshop & Information Technology Specialist	jdoan@counties.org
☒	Beth Young	HGA – Principal-in-Charge/ Architect of Record	byoung@hga.com
☒	Tiffany Coyne	HGA – Senior Project Manager	tcoyne@hga.com
☒	Joel Chapin	HGA – Project Architect	jchapin@hga.com
☒	Kevin Stillman	Capital Engineering - Mech, Plumbing, Fire	kstillman@capital-engineering.com
☒	Scott Wheeler	TEE – Electrical	scott@engent.com
☒	Jordi Rodriguez	6D PMCM	jordi.rodriguez@6dpmcm.com
☒	Mike Mallery	coAct 24	mmallery@coact24.com
☒	Charis Leong	Buehler - Structural	cleong@buehlerengineering.com
☐	John Harvey	Buehler - Structural	jharvey@buehlerengineering.com
☐	John Sellen	JE Sellen - Elevator	jes@jesellen.com
☐	Jimmy Wright	TEE - Electrical	jimmy.wright@engent.com
☐	Phil Burden	TEE - Electrical	phil.burden@engent.com
☐	Mike Vonasek	TEE - Electrical	mike.vonasek@engent.com

January 6th Meeting Minutes:

1. Mechanical
    a. The existing system is functioning but currently is estimated to be twice as old as a typical life cycle. Replacement is recommended as part of the project.
    b. The replacement HVAC system proposed is a VRF based system.
        1) This accommodates additional zoning controls.
        2) System is compatible with the lower plenum spaces and reduces large ductwork.
        3) System will have a smaller footprint and some basement mechanical space may be reprogrammed.
        4) Condensing units will need to be located on the roof. Coordination with 6th floor addition will be required.
        5) The VRF system will be specified to utilize the new refrigerant type required.
        6) The VRF system will likely remove the need to utilize the exterior well equipment.
        7) The VRF system can be connected to a building management system.
        8) The system will require a source of fresh air intake. (2) options were discussed
            1) A centralized shaft from the roof delivering fresh fair to each VRF location.
            2) Direct access ductwork to exterior walls with vents
                - The venting solution appears to have been provided in other historical buildings.
    c. CSAC requests the opportunity to visit one of these systems in person and speak with facilities teams about the operation and maintenance.
        1) Kevin Stillman to provide contacts to the team.

2. Plumbing
    a. The existing system is functioning but currently is estimated well beyond a typical life cycle. Replacement is recommended as part of the project.
    b. The proposed system is a centralized hot water tank with recirculation.
        1) Remote fixture locations with hot water demands may be via insta hot. But use is expected to be limited.

3. Fire Sprinklers
    a. Fire sprinklers will be needed on each floor.
    b. A fire pump will be required.
    c. A riser with standpipe system will be required in (1) stairwell with a zone valve on each floor.
        1) Kevin Stillman to provide HGA with sizing and clearance needs to determine feasibility within existing stairwells.

4. Electrical
    a. The existing system is functioning but currently is estimated well beyond a typical life cycle. Replacement is recommended as part of the project.
    b. The distribution currently occurs via the stairwells which is no longer compliant.

c. It is recommended to provide an electrical room / IT room on each floor.
    1) Rooms can be stacked alternating type each floor.
    2) IT rooms to be large enough to have a rack with clear working space.
d. The team is working to determine if the service size can remain the same or if an increase is required.
    1) Existing service appears to be split into (2) services 300A & 800A.
    2) Proposed single service is expected to be in the 1200A to 1600A range.
    3) If a new service or increased service is needed, SMUD may require that existing vaults be upgraded to current standards and/or replaced. Additional investigation is needed.
    4) Additional information may be needed to validate service size.
        1) Confirmation if elevator needs a generator or back up power due to egress requirements.
        2) Media Room and/or AV needs
            - These rooms warrant additional discussion ahead of conceptual budget.
e. Switchboards are a long lead time running approximately 12-14 months.
f. Emergency Responder Radio Coverage can be tested in the building as is to help determine if a system will need to be incorporated into the design.
    1) Equipment rooms and infrastructure for this function carry specific code requirements that are easier to incorporate at the beginning of the project rather than toward the end of construction.
    2) Mike Mallery to review and coordinate testing options.

5. <u>IT</u>
    a. Existing space is currently limited.
        1) CSAC is looking to put more into the cloud but local servers and switches will still be required.
        2) IT rooms should accommodate a rack and working clearances.
        3) Current locations is on the mezzanine with a preference to relocate it to the 2nd floor
    b. IT rooms can be serviced by a dedicated VRF.
    c. IT rooms will have a UPS
    d. Currently Santa Clara and San Diego use their own ISP but share network equipment space.
    e. Cat 6 cable is preferred.
    f. The County Council team are located in an adjacent building but are connected to the CSAC servers.
        1) When the CSAC building is vacated for demo, the County Council team will need IT service if they remain in their space.
    g. OFOI items:
        1) Switches
        2) Servers
    h. Desire for coax cable connections.
        1) Alterative options may be considered with additional investigation.

I. No intercom/paging system with overhead speakers is needed in the building.

6. Elevator
   a. The existing elevator is functioning but does not meet current standards.
   b. Neither of the two existing elevators or hoistways are suitable for the new building plan which includes access to the basement level, mezzanine, and the new 6th floor addition.
   c. HGA's elevator consultant recommends to replace the elevator and hoistway
      1) Elevator Basis of Design: 4000 lb. capacity modern machine room less (MRL) elevator at 350 fpm.
         1) California code will still require an elevator control room/machine room.
         2) This will be large enough to provide stretcher accessibility with 48-in. wide center opening doors.
         3) The approximate building footprint for this elevator is 10-ft. w. by 8-ft. d.
            - The actual hoistway clear dimensions will be somewhat less than this but this will allow for multiple standard model elevators/manufacturers to fit in this space. Final dimensions to be determined.
            - Hoistway design to be coordinated between HGA and Structural

The foregoing represents HGA's understanding of the discussions and decisions made during this meeting. If anyone has any changes or comments, please notify the author within seven days of the date of this document.

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--End of Section 10--