

**SENECA HEALTHCARE DISTRICT
BOARD OF DIRECTORS REGULAR MEETING MINUTES**
Lake Almanor Clinic (LAC) Conference Room, 199 Reynolds Road, Chester, CA
July 27th, 2023 - at 3:00 p.m.

1) **Call to Order.** President Jerri Nielsen called the Regular Board meeting to order at 3:00pm.

2) **Board Members Roll Call.** The President acknowledged the following Board Members present/absent:

- Kenneth Crandall, Secretary – Present
- Rich Rydell, Treasurer – Present
- Jerri Nielsen, President – Present
- Sherrie Thrall, Vice-President – Absent
- Shelley Stelzner, Assistant Secretary-Treasurer - Absent

3) **Pledge of Allegiance** was conducted by President, Jerri Nielsen, at 3:01pm.

Closed Session Announcement.

The Board will meet in Closed Session pursuant to:

- a. **Government Code §54956.9(d)(1)** Conference with Legal Counsel – Existing Litigation.
[Paragraph (1) of subdivision (d) of Section 54956.9]
➤ **Velez vs SHD - Case: DFEH #202110-15186025**
- b. **Government Code §54956.9(d)(1)** Conference with Legal Counsel – Existing Litigation.
[Paragraph (1) of subdivision (d) of Section 54956.9]
➤ **Robles vs SHD - Case: #CV22-00177**
- c. **Health and Safety Code §32106** – Report(s) involving Trade Secrets.

4) **Public Comment(s) Period.**

This is an opportunity for public attendees to address the Board regarding items which are not on the agenda. Please state your name for the record. Comments are limited to three (3) minutes. Written comments should be submitted to the Board Clerk 24 hours prior to the meeting to allow for distribution. Under Government Code Section 54954.2 – Brown Act, the Board cannot act on any item that is not listed on the agenda. The Board Chair may choose to acknowledge the comment. When appropriate, the Board Chair may briefly answer a question; refer the matter to staff; or move to set the item for discussion at a future meeting.

5) **The Board Responds to Public Comment(s).** There were no written comments or questions written in by the public. Nor were there any comments or questions presented via the virtual ZOOM Meeting.

Jerri Nielsen utilized this time to thank the SHD Executive Team and Staff for the Groundbreaking Ceremony, held on July 26, 2023. She personally thanked Chelssa Outland, SHD Marketing/PR Manager, for all her invested prep time and excellent execution from start to finish, through the entire Groundbreaking Ceremony Day.

Agenda - Items Requiring Action:

6) Approval of Regular Board Meeting Minutes.

Tab A

The Board reviewed for approval, the Minutes of the June 29th, 2023, Regular Board Meeting, as submitted by Deborah Housen, Board Clerk.

Rich Rydell motioned to approve the Minutes as presented. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

7) Approval of Special Board Meeting Minutes.

Tab B

The Board reviewed for approval, the Minutes of the July 12th, 2023, Special Board Meeting, as submitted by Deborah Housen, Board Clerk.

Kenneth Crandall motioned to approve the Minutes as presented. Rich Rydell seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

8) Approval of Special Board Meeting Minutes.

Tab C

The Board reviewed for approval the Minutes of the July 18th, 2023, Special Board Meeting, as submitted by Deborah Housen, Board Clerk.

Rich Rydell motioned to approve the Minutes as presented. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

9) The Almanor Foundation and SHD Agreement.

Tab D

Discussed for approval. Presented by Jerri Nielsen, President, and Shawn McKenzie, CEO. Kenneth Crandall motioned to approve the Agreement as presented. The Board requested the CEO to coordinate with The Almanor Foundation to modify the agreement with minor changes if requested by TAF, any major changes or changes to the fee structure need to come back to the Board for further review and approval.

Rich Rydell seconded the motion.

Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

10) Medical Staff Report.

Requesting Board approval, Dr. Dana Ware, Chief of Staff, submitted the following Medical Staff Appointments as approved at the Medical Staff Meeting held on July 11th, 2023.

Reappointment Medical Staff:

- David Milikow, MD – VRAD – Two (2) Years - 07/25/2023 to 07/25/2025
- Sergey Shkurovich, MD – VRAD – Two (2) Years - 07/25/2023 to 07/25/2025

Initial Allied Health Practitioner: N/A

Reappointment Allied Health Practitioner: N/A

Initial Appointment Medical Staff: N/A

Kenneth Crandall motioned to approve the Medical Staff Appointments as presented. Rich Rydell seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

11) Policies and Procedures.

There were no Policies and Procedures submitted for Board approval by Charlene Almocera, RHIA, CHC.

No Board action was required.

12) Review of DBE Contract (Status) and Sources/Uses Cashflow. Boldt General Conditions/Requirements.

Tab E

Submitted for review, discussion, and approval, the Boldt General Conditions/Requirements. Presented by Donna Huntingdale, Building Rx.

1. Approval requested to move timeline for presenting to the Board, the Guaranteed Maximum Price (GMP) – Change Order. Reconfiguration is expected to occur in October 2023, and will be presented to the Board in November 2023.

Rich Rydell motioned to approve, as presented, the requested future date for GMP presentation. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

2. Approval requested for the Boldt General Conditions/Requirements – Issuance of Notice to Proceed.

Rich Rydell motioned to approve the Boldt General Conditions/Requirements as Presented, with the stipulation that on-site work would not begin until all environmental approvals, etc. are complete. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

13) Signage Bid.

Tab F

Submitted for discussion and approval by Donna Huntingdale, Building Rx.

Rich Rydell motioned to approve the low-end Signage Bid of \$218,801 from Weidner (with modification to sales tax corrected calculation) per the suggestion of

Donna Huntingdale, Building, Rx. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

14) Add-Service for CEQA/NEPA Consultant.

Tab G

Submitted for discussion and approval by Donna Huntingdale, Building Rx.

Kenneth Crandall motioned to approve the final billing of the Add-Service of the CEQA/NEPA contract for \$25,751 as presented. Rich Rydell seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

15) June 2023 Financial Report (in Draft Form).

Tab H

Submitted for discussion and acceptance (draft form), the June 2023 Financial Report. Presented by Steve Boline, CFO.

Rich Rydell motioned to accept the June 2023 Financial Report as presented. Kenneth Crandall seconded the motion. Motion approved by roll call vote. Kenneth Crandall: Aye; Rich Rydell: Aye; Jerri Nielsen: Aye; Sherrie Thrall: Absent; Shelley Stelzner: Absent.

Agenda items – Information only:

16) Guest Speaker: Nasim Afsarmanesh, MD - (Chief Health Officer-Oracle Health).

Nasim Afsarmanesh, MD, was joined by Michelle Flemmings, MD, via ZOOM, to update the Board regarding Cerner Community Works. They addressed questions and concerns as presented by Board Members and SHD Executive Administration.

17) SPT (CAH) Report/Update.

Tab I

Critical Access Hospital (CAH) Information update. Presented by Donna Huntingdale, Building Rx.

18) EMS Update.

Discussion. Shawn McKenzie, CEO, briefed the Board on the status of EMS services in the local area. Seneca has been in conversations with Chester Fire and Peninsula Fire for several months regarding continued continuity of EMS services in the basin. As a Critical Access hospital, Seneca has the potential for receiving higher reimbursement rates for EMS services billed under its license. However, because it is a Special District, Seneca cannot bill for EMS services if there is another Special District providing those same services within 35 miles. Chester Fire has indicated that in addition to the bond measure it placed on the ballot for November to provide funding, it also needs the higher billing rate that can potentially be obtained through an MOU with Seneca. Chester Fire, Peninsula Fire, and Seneca would need to agree on the MOU for this to occur. Seneca is commissioning a feasibility study from a third-party (WIPFLI), using Seneca's funds, to determine whether this is a financially sound option for Seneca to pursue. WIPFLI's study completion is pending receipt of requested data from the fire districts regarding expenses, run volumes, etc.

19) CEO Report.

Tab J

Presented by Shawn McKenzie, CEO.

20) CNO Report.

Tab K

Presented by Judith Cline, CNO.

21) Departmental Documents/Reports.

Tab L

- a. Compliance – Charlene Almocera, HIM Director – **No report submitted.**
- b. IT/Clinical Informatics – TK Trumpf, IT Director – Verbal report presented.
- c. Human Resources - Job List & Newsletter – Corie Howe, HR Assistant – Report submitted.
- d. Marketing/PR – Chelssa Outland, PR Manager – Report submitted.
Chelssa presented a video created by Raven Light – A SHD marketing and promotional video of the local mountain community and the Lake Almanor basin. Rich Rydell stated that the word "Seneca" doesn't show relativity, connection, or proximity to the Chester/Lake Almanor area. UPDATE: Since this meeting, Chelssa has added the location information of Seneca Healthcare District to the video, clearly noting the area represented for medical care needs.

22) Closed Session.

The Board adjourned the Regular Board Meeting and commenced into Closed Session, as noted at the start of Meeting, at 5:44pm.

The Regular Board Meeting was reconvened at 6:07pm.

23) Report on Closed Session. The Board President stated there were no reportable actions taken during Closed Session.

24) Next Regular Board Meeting Announcement.

- **Date:** August 31st, 2023
- **Time:** 3:00 p.m.
- **Location:** LAC-Conference Room

The Regular Board Meeting adjourned at 6:08pm.

OVERALL BID EVALUATION

























8/23/2023

Bidder Name:














HGA



























See specifications, furniture plans and proposal form for additional information. This sheet is a summary page for pricing purposes only. Images shown are representative and may not show the exact model selected. All alternate pricing must be rolled for a minimum of 300 lbs. fabric for base of design and for alternates must be grade 4/grade D. For any alternates provided, a full size sample may be requested for review.

1200 R Street, Suite 100, Sacramento, CA 95808





KBM Hogue (Base Bid)																KBM Hogue (Alternate Bid)															
EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK																	
	BE-2	4	BENCH, DRESSING 20x48 ADA	Upholstered accessible bench	PVC free coated fabrics, bleach cleanable, grade B (2) or higher if upholstered	HOLLAMAN	OSLO BENCH	\$6,818.18	Link		GRAND RAPIDS	BOWEN BENCH	\$2,863.64	Link																	
	BD-1	1	HEADBOARD FOOTBOARD	XL Twin Size Plinth Base, Radius Style/Edges-Include Mattress and Box Spring	High pressure plastic laminate finish	SOMDER CARE	AURA BED	\$6,817.05	Link		SPEC FURNITURE	HARDEN PATIENT BED WITH MATTRESS	\$1,977.27	Link																	
	CHB-1	2	CHAIR, ARMS, BARIATRIC	Minimum weight capacity of 500lb clean-out arm caps wall-saver legs	PVC free coated fabrics, bleach cleanable, grade C (3) or higher	KIMBALL	SYCAMORE	\$1,804.75	Link		9 TO 5	SOPHIE 8119 GT BARIATRIC CHAIR	\$1,171.70	Link																	
	CHC-1	8	CHAIR, CONFERENCE, UPHOLSTERED WITH ARMS AND CASTERS	Upholstered seat, mesh back fixed arms and back 5-star base with casters Pneumatic base	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	KIMBALL	PICADO	\$3,783.91	Link		9 TO 5	ZOOM TASK CHAIR (ZOOM 1125)	\$2,510.45	Link																	
	CHD-1	42	CHAIR, DINING, UPHOLSTERED	Upholstered seat and back clean-out wall-saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	KWALU FURNITURE	CATANIA	\$31,860.82	Link		TON (DPO)	STOCKHOLM ARMCHAIR	\$34,020.00	Link																	
	CHD-2	20	CHAIR, CAFE	Contour seat with perforated back nesting/stacking 4-leg wall-saver legs	Polypropylene include storage cart	SITONIT	RIO SIDE CHAIR	\$2,478.18	Link		9 TO 5	DASH 4 LEG GUEST STACKING CHAIR (DASH 1130 GT)	\$2,537.50	Link																	
	CHG-1	26	CHAIR, GLIDER	Upholstered seat and back clean-out arm caps wall-saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	WELAND	CAPITAL GLIDER	\$48,789.00	Link		WELAND	VERSANT	\$48,884.68	Link																	
	CHG-1 Alternate	26	CHAIR, RECLINING GLIDER	Upholstered seat and back clean-out arm caps wall-saver legs Reclining	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	WELAND	COVE RECLINER	\$78,169.89	Link		NEUSCHOFF	CULLA	\$77,798.50	Link																	
	CHG-2	3	CHAIR, GUEST	Upholstered seat mesh back armless	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	KIMBALL / NATIONAL	JIMINY	\$1,202.59	Link		9 TO 5	CLARY 1510 GT	\$588.24	Link																	
	CHG-3	9	CHAIR, GUEST, ARMS UPHOLSTERED	Upholstered Seat arms mesh back wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	KIMBALL / NATIONAL	JIMINY	\$3,766.30	Link		9 TO 5	BELLA FOUR LEG GUEST CHAIR (BELLA 1360 GT)	\$2,061.82	Link																	
	CHG-4	4	CHAIR, GUEST, ARMS NO UPHOLSTERY	Contour seat 4-leg arms wall saver legs	Polypropylene seat and back	SPEC FURNITURE	URBAN	\$1,053.41	Link		9 TO 5	SHUTTLE 1210 GT	\$591.82	Link																	
	CHG-5	11	CHAIR, GUEST, NO ARMS UPHOLSTERED SEAT PLASTIC BACK	Upholstered Seat, 22" w armless polypropylene back	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	SPEC FURNITURE	URBAN	\$2,896.88	Link		9 TO 5	SHUTTLE 1210 GT	\$1,973.13	Link																	







1200 R Street, Suite 100, Sacramento, CA 95808







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	CHG-6	2	CHAIR, UPHOLSTERED NO ARMS, PEW BACK KNEELER	Upholstered seat and back armless Upholstered foldable kneeler 110d on back of chair	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	SAUDER WORSHIP	VANTAGE WOOD BACKSIDE	\$837.05	Link		BURGESS	200 STACKING CHAIR	\$1,181.82	Link
	CHL-1	8	CHAIR, LOUNGE, UPHOLSTERED, SOLID SURFACE ARM CAPS, POWER	Upholstered seat, back and arms Arm Caps Clean out feature wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	KIMBALL	VILLA	\$11,382.00	Link		LESRO	LUXE GUEST LOUNGE	\$10,440.00	Link
	CHL-2	2	CHAIR, LOUNGE MID-BACK SWIVEL BASE	Upholstered seat, back, and arms 4 star swivel base Clean out feature	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	HERMAN MILLER	STRIAD	\$5,272.50	Link		CAPDELL (DNG)	CONCORD 525 DB LOUNGE CHAIR	\$3,910.23	Link
	CHL-3	4	CHAIR, LOUNGE MID BACK 4-LEGS	Upholstered seat, back, and arms wood 4-leg base wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	NAUGHTONE	ALWAYS CHAIR	\$5,017.50	Link		9 TO 5	JAX SIDE CHAIR 9274, WOOD BASE	\$2,855.68	Link
	CHR-1	2	RECLINER, PATIENT	Upholstered seat, back and arms Feet on casters Independent back motion Fold down arm for patient transfer Clean out feature	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	WRELAND	ACCORD	\$6,886.07	Link		KRUG	JORDAN RECLINER PLUS	\$4,837.45	Link
	CHR-2	4	SLEEP RECLINER, PATIENT	Upholstered seat, back and arms Feet on casters Independent back motion Fold down arm for patient transfer Clean out feature	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	WIELAND	COVE	\$12,854.09	Link		KRUG	JORDAN SLEEP RECLINER	\$9,437.41	Link
	CHK-1	31	CHAIR, TASK	Adjustable height, arms, seat, and back with lumbar support, 5-star casters pneumatic base with hard surface standard tilt tension, back lock	Fabric grade B (2) or higher, urethane arms, mesh back, black trim	KIMBALL	WISH	\$70,486.07	Link		9 TO 5	STRATA 1560	\$14,746.14	Link
	CHW-1	5	CHAIR, WAITING, ARM CAPS, WALL SAVER LEGS, TYP	Upholstered seat and back Clean out 4-leg base wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	KIMBALL	SYCAMORE	\$3,396.48	Link		9 TO 5	SOPHIE 8113 GT SINGLE SEAT	\$2,382.39	Link
	CHW-1A	2	CHAIR, WAITING, 2 TANDERM, ARM CAPS, WALL SAVER LEGS, TYP	Upholstered seat and back Clean out 4-leg base wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	KIMBALL	SYCAMORE	\$2,801.45	Link		9 TO 5	SOPHIE 8122 GT DOUBLE SEAT	\$1,466.02	Link
	CHW-1B	1	CHAIR, WAITING, 3 TANDERM, ARM CAPS, WALL SAVER LEGS, TYP	Upholstered seat and back Clean out 4-leg base wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	KIMBALL	SYCAMORE	\$1,921.74	Link		9 TO 5	SOPHIE 8123 GT TRIPLE SEAT	\$1,102.90	Link
	CHW-4	3	GUEST SEATING, WAITING	Upholstered seat and back Clean out 4-leg base wall saver legs	PVC free coated fabrics, bleach cleanable, grade B (2) or higher Solid surface or urethane arm cap	HEMSCHOFF	PALISADE	\$4,728.57	Link		LESRO	BROOKLYN LOUNGE CHAIR	\$1,678.64	Link

EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	CRD-1	3	CREDENZA/RETURN TOP OVER LOW STORAGE	Return/worksurface top, 48"	High pressure plastic laminate top Powdercoated or painted metal	KNOLL	REF. PROFILES	\$558.14	Link		AIS	UNIVERSAL RECTANGLE	\$352.36	Link
	CRD-2	2	CREDENZA/RETURN TOP OVER LOW STORAGE	Return/worksurface top, 26"	High pressure plastic laminate top Powdercoated or painted metal	KNOLL	REF. PROFILES	\$288.43	Link		AIS	UNIVERSAL RECTANGLE	\$152.86	Link
	FS-1	9"	BOX/BOX/FILE 15" W	File Storage Pedestal 2 lockable drawers	Powdercoated or painted metal "REMOVE WITH STATIONARY DESK ALTERNATE OPTION"	KNOLL	SERIES 2	\$2,669.22	Link		HMO	MERIDIAN FREESTANDING PEDESTAL	\$3,239.18	Link
	FS-2	1	BOX/BOX/FILE 18"W	File Storage Pedestal 2 lockable drawers	Powdercoated or painted metal	KNOLL	SERIES 2	\$294.14	Link		HMI	MERIDIAN FREESTANDING PEDESTAL	\$375.47	Link
	FS-2	5	FILE, STORAGE 2HI, FILE/DRAWER/CABINET/ COMBO UNDER RETURN TOP	Storage cabinet lockable	High pressure plastic laminate top Powdercoated or painted metal	KNOLL	REF. PROFILES	\$2,337.05	Link		BRC GROUP	Standalone 2 High Lateral with Full Front	\$2,764.89	Link
	LKRB-1	4	BENCH LOCKER ROOM ADA	ADA compliant bench floor mounted 48" x 20W	Wood bench with metal base	ULINE	LOCKER BENCH	\$750.00	Link		GUS MODERN (DPG)	TRANSIT BENCH	\$3,071.59	Link
	MKB-1	6	PATIENT BOARDS	Dry-erase boards with customizable finish	Dry erase finish metal trim include accessories	GLOBAL INDUSTRIAL	PATIENT BOARDS	\$1,267.84	Link		GLOBAL INDUSTRIAL	PATIENT BOARDS	\$513.48	Link
	MKB-2	2	MARKER BOARDS 18x30	Dry-erase boards with accessories	Dry erase finish metal trim include accessories	US MARKERBOARDS	MARKERBO ARD	\$333.02	Link		GLOBAL INDUSTRIAL	DRY ERASE BOARDS	\$57.93	Link
	MKB-3	2	MARKER BOARDS, 24x42	Dry-erase boards with accessories	Dry erase finish metal trim include accessories	US MARKERBOARDS	MARKERBO ARD	\$423.64	Link		GLOBAL INDUSTRIAL	DRY ERASE BOARDS	\$121.45	Link
	MKB-4	3	MARKER BOARDS, 36x42	Dry-erase boards with accessories	Dry erase finish metal trim include accessories	US MARKERBOARDS	MARKERBO ARD	\$635.45	Link		GLOBAL INDUSTRIAL	DRY ERASE BOARDS	\$241.60	Link
	MR-1	9	MIRROR	Full length mirror Shatterproof	Metal trim	GLOBAL INDUSTRIAL	Bobick	\$1,615.40	Link		AMAZON	New type Full Length Mirror	\$917.69	Link
	OF-1	1	OTTOMAN	Upholstered round ottoman 36"	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	OPS	HICHANDA OTTOMAN	\$747.34	Link		BLUDGET	BUMPER LARGE OTTOMAN	\$404.83	Link
	SFL-1	1	SOFA, LOUNGE MODULAR 2 SEAT	Modular bench seating upholstered seat no back	PVC free coated fabrics, bleach cleanable, grade B (2) or higher	OPS	ROVEN BENCH	\$588.88	Link		LESKO	LUXE 2 SEAT BENCH	\$680.45	Link













[illegible]



















EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBA-1 (HAT)		Dual Monitor Arm											
	TBA-1 (HAT)		CPU Holder											
	TBA-1 (HAT)		Surface Power Module											
	TBA-1 (HAT)		Undermount Keyboard Tray											
	TBA-1 (HAT)		Pencil Drawer											
	TBA-1 (HAT)	1	HEIGHT ADJUSTABLE TABLE 66X30	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminate top, metal base "confirm quantities/location w/facility"	ELEMENT	SIM23	\$472.10	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$666.35	Link
	TBA-1 (HAT)		Height Adjustable Base	Electric height adjustable 3 stage table base (2 "C" legs), 3 programmable positions, digital display.										
	TBA-1 (HAT)		Worksurface											
	TBA-1 (HAT)		Dual Monitor Arm											
	TBA-1 (HAT)		CPU Holder											
	TBA-1 (HAT)		Surface Power Module											
	TBA-1 (HAT)		Undermount Keyboard Tray											
	TBA-1 (HAT)		Pencil Drawer											
	TBA-1 Alternate	1	HEIGHT ADJUSTABLE TABLE 66X30	Fixed worksurface with 3 drawer pedestal storage, with pencil drawer and bottom drawer to be a file drawer When alternate is used, subtract	High pressure plastic laminate top, metal base "confirm quantities/location w/facility"	KNOLL	REF. PROFILE	\$487.27	Link		BRC GROUP	Straight Desk, Recessed Modesty with BRF Pedestal	\$551.99	Link

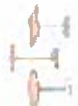

















EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBA-2A (HAT)	1 ON-CALL	HEIGHT ADJUSTABLE TABLE 54x24	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminare top, metal base *confirm quantities/location w/facility	ELEMENT	SUM23	\$454.60	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$576.25	Link
	TBA-2A (HAT)		Height Adjustable Base	Electric height adjustable 3-Stage table base (2 "C" Legs), 3 programmable positions, digital display.										
	TBA-2A (HAT)		Worksurface											
	TBA-2A (HAT)		Dual Monitor Arm											
	TBA-2A (HAT)		CPU Holder											
	TBA-2A (HAT)		Surface Power Module											
	TBA-2A (HAT)		Undermount Keyboard Tray											
	TBA-2A (HAT)		Pencil Drawer											
	TBA-2A Alternate	1	HEIGHT ADJUSTABLE TABLE 54x24	Fixed worksurface with 3 drawer pencil storage, with pencil drawer and bottom drawer to be a file drawer When alternate is used, subtract \$454.60	High pressure plastic laminare top, metal base *confirm quantities/location w/facility	KNOLL	REF PROFILES	\$876.16	Link		BRC GROUP	Straight Desk, Recessed Modesty with BBF Pedestal	\$486.08	Link
	TBA-2B (HAT)	4 SNF RN STAT.	HEIGHT ADJUSTABLE TABLE 54x24	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminare top, metal base *confirm quantities/location w/facility	ELEMENT	SUM23	\$1,818.41	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$2,305.00	Link
	TBA-2B (HAT)		Height Adjustable Base	Electric height adjustable 3-Stage table base (2 "C" Legs), 3 programmable positions, digital display.										
	TBA-2B (HAT)		Worksurface											
	TBA-2B (HAT)		Dual Monitor Arm											
	TBA-2B (HAT)		CPU Holder											

EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBA-2B (HAT)		Surface Power Module											
	TBA-2B (HAT)		Undermount Keyboard Tray											
	TBA-2B (HAT)		Pencil Drawer											
	TBA-3A (HAT)	2 PVT OFFICE	HEIGHT ADJUSTABLE TABLE 60x24	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminate top, metal base *confirm quantities/location w/facility	ELEMENT	SUM23	\$814.77	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$1,152.50	Link
	TBA-3A (HAT)		Height Adjustable Base	Electric height adjustable 3-Stage table base (2 "C" Legs), 3 programmable positions, digital display.										
	TBA-3A (HAT)		Worksurface											
	TBA-3A (HAT)		Dual Monitor Arm											
	TBA-3A (HAT)		CPU Holder											
	TBA-3A (HAT)		Surface Power Module											
	TBA-3A (HAT)		Undermount Keyboard Tray											
	TBA-3A (HAT)		Pencil Drawer											
	TBA-3A Alternate	2	HEIGHT ADJUSTABLE TABLE 60x24	Fixed worksurface with 3 drawer pedestal storage, with pencil drawer and bottom drawer to be a file drawer. When alternate is used, subtract 100 lbs. weight.	High pressure plastic laminate top, metal base *confirm quantities/location w/facility	KNOLL	REF PROFILE	\$1,741.45	Link		BRC GROUP	Straight Desk, Recessed Modesty with BRF Pedestal	\$1,045.98	Link
	TBA-3B (HAT)	4 CONTROL/ OPEN WK. AREAS	HEIGHT ADJUSTABLE TABLE 60x24	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminate top, metal base *confirm quantities/location w/facility	ELEMENT	SUM23	\$1,825.55	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$2,305.00	Link
	TBA-3B (HAT)		Height Adjustable Base	Electric height adjustable 3-Stage table base (2 "C" Legs), 3 programmable positions, digital display.										

[illegible]

EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBA-5 (HAT)	2 PVT OFFICE	HEIGHT ADJUSTABLE TABLE 72X30	Powered height adjustable desk Programmable height memory C leg base shape With pencil drawer	High pressure plastic laminate top, metal base *confirm quantities/location w/facility	ELEMENT	SUM23	\$974.43	Link		BRC GROUP	MESA HEIGHT ADJUSTABLE TABLE	\$1,332.50	Link
	TBA-5 (HAT)		Height Adjustable Base	Electric height adjustable 3-stage table base (2" C" Legs). 3 programmable positions, digital display.										
	TBA-5 (HAT)		Worksurface											
	TBA-5 (HAT)		Dual Monitor Arm											
	TBA-5 (HAT)		CPU Holder											
	TBA-5 (HAT)		Surface Power Module											
	TBA-5 (HAT)		Undermount Keyboard Tray											
	TBA-5 (HAT)		Pencil Drawer											
	TBA-5 Alternate	2	FIXED WORKSURFACE 72X30	Fixed worksurface with 3 drawer pedestal storage, with pencil drawer and bottom drawer to be a file drawer when alternate is used, subtract 100 lbs. max load	High pressure plastic laminate top, metal base *confirm quantities/location w/facility	KNOLL	REF. PROFILES	\$1,837.59	Link		BRC GROUP	Straight Desk, Recessed Modesty with BRF Pedestal	\$1,161.32	Link
	TBB-1	26	BESIDE TABLE	lockable, drawer and hinged door	High pressure plastic laminate, solid surface top	KIMBALL	SANCTUARY	\$17,671.14	Link		BRC GROUP	Custom Box Drawer & Closed Storage	\$11,112.93	Link
	TBC-1	1 PVT REG.	TABLE, CONFERENCE, D SHAPE, 36X60	Conference room table D shaped Power and data from wall	High pressure plastic laminate top gronomel	ENWORK	D-TOP VIDEO CONFERENCE ING TABLES	\$1,454.83	Link		AUS	DAY-TO-DAY O-TOP TABLE	\$482.99	Link
	TBC-2	4	TABLE, CONFERENCE FLIP TOP TRAINING TABLES 24X48	Conference room table Rectangle shape Power and data from wall	High pressure plastic laminate top option for power	POPPIN	IRONS FLIP-TOP TRAINING TABLE	\$2,829.00	Link		ELEMENT CONTRACT	VFLUP TRAINING TABLE	\$1,463.64	Link
	TBC-3	1 PVT OFFICE	TABLE, CONFERENCE 36R	Conference room table round top	High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$445.14	Link		AUS	DAY-TO-DAY TABLES STEEL X-BASE	\$286.73	Link

EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBD-1	8	TABLE, DINING SQUARE 30X30 WITH DROP LEAVES TO 42" ROUND	ADA compliant	High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$1,387.27	Link		AIS	DAY TO DAY TABLES STEEL X BASE	\$286.36	Link
	TBD-2	4	TABLE, CAFE 36X42 ADA	ADA compliant	High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$1,501.36	Link		AIS	DAY TO DAY TABLES DOUBLE POST BASE	\$1,355.91	Link
	TBD-3	1	DINING TABLE RECTANGULAR 36X78	ADA compliant	High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$551.88	Link		AIS	DAY TO DAY TABLES DISC BASE	\$506.31	Link
	TBD-4	2	TABLE DINING 36X36		High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$883.20	Link		AIS	DAY TO DAY TABLES DISC BASE	\$717.68	Link
	TBD-5	3	TABLE DINING 30X36		High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$1,093.43	Link		AIS	DAY TO DAY TABLES DOUBLE POST BASE	\$968.35	Link
	TBD-6	1	TABLE DINING 60X36	ADA compliant	High pressure plastic laminate top, metal base	KNOLL	DIVIDENDS X-BASE	\$721.34	Link		AIS	DAY TO DAY TABLES DISC BASE	\$362.08	Link
	TBS-1	5	TABLE SIDE 20R	20" round side table	High pressure plastic laminate top, metal base	BERNHARDT	QUIET	\$3,106.53	Link		ONS	STRAP	\$2,387.63	Link
	TBS-2	4	TABLE SIDE 30X30	30"x30" square side table	High pressure plastic laminate top, metal base	KIMBALL	VILLA	\$3,913.09	Link		AIS	LB LOUNGE	\$1,375.77	Link
	TBS-3	6	TABLE SIDE 17R	17" round side table	High pressure plastic laminate top, metal base	BERNHARDT	QUIET	\$3,844.43	Link		ONS	STRAP	\$2,343.89	Link

EXAMPLE PHOTO	CODE	QTY	DESCRIPTION	DETAILS	FINISHES	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK	ALTERNATE (IMAGE)	MANUFACTURER	PRODUCT	PRICE (TOTAL)	WEBSITE LINK
	TBS-4	1	TABLE, SIDE 24R	24" round side table	High pressure plastic laminate top, metal base	BERNHARDT	QUIET	\$711.82	Link		OFS	STRAP	\$520.72	Link
	TBS-4	3	TABLE, SIDE 24R	24" round side table	High pressure plastic laminate top, metal base	BERNHARDT	QUIET	\$2,135.45	Link		OFS	STRAP	\$1,562.15	Link
	TKBD-1	1	TACKBOARD	30X42	Tackboard with metal trim, include accessories	US MARKERBOARDS	TACKBOARD	\$108.59	Link		GLOBAL INDUSTRIAL	CORBOARD	\$11.94	Link
	TKBD-2	2	TACKBOARD	42X48	Tackboard with metal trim, include accessories	US MARKERBOARDS	TACKBOARD	\$289.59	Link		GLOBAL INDUSTRIAL	CORBOARD	\$95.68	Link
	TKBD-3	2	TACKBOARD	24x42	Tackboard with metal trim, include accessories	US MARKERBOARDS	TACKBOARD	\$177.48	Link		GLOBAL INDUSTRIAL	CORBOARD	\$73.89	Link
	TKBD-4	2	TACKBOARD 10X108	AT RN STATIONS SNF	Tackboard	US MARKERBOARDS	TACKBOARD	\$377.00	Link		GLOBAL INDUSTRIAL	CORBOARD	\$38.59	Link
	ERG-1	13	WIRE MANAGEMENT	NOT SHOWN ON ORIGINAL LIST BUT LISTED IN HGAS DOCUMENTATION	WIRE MANAGEMENT	HUMANSCALE	NEATECH	\$1,213.31	Link		HAT COLLECTIVE	FLEX WIRE MANAGEMENT TRAY	\$452.05	Link
	ERG-2	13	CPU HOLDER	NOT SHOWN ON ORIGINAL LIST BUT LISTED IN HGAS DOCUMENTATION	CPU HOLDER	HUMANSCALE	CPU600 CPU HOLDER	\$1,319.58	Link		ESI	CPU05	\$1,666.36	Link
	ERG-3	13	KEYBOARD TRAYS	NOT SHOWN ON ORIGINAL LIST BUT LISTED IN HGAS DOCUMENTATION	KEYBOARD TRAY	HUMANSCALE	KEYBOARD SYSTEMS	\$3,241.39	Link		ESI	AA903 Keyboard Tray	\$1,388.64	Link

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Seneca Healthcare District New Hospital



Commissioning Services

submitted on 8/21/2023



Top: Kaiser Permanente Ambulatory Surgery Center, Folsom

Bottom: Highland Hospital, Oakland



August 21, 2023

Seneca Healthcare District
c/o Building Rx
Lisa Lazalier

Re: RFQ/P for Commissioning Authority Services for the new Seneca Healthcare District Hospital Build

Dear Members of the Selection Committee,

Seneca Healthcare District has an exciting project in the works with the new hospital build in Chester, CA. There is no doubt this project will require the very best assembly of knowledge, teamwork and thought leadership to get the project over the finish line. That includes selecting the very best and most qualified commissioning agent available to you. That's where we come in!

As your commissioning agent, our top priority is, as always, to provide **safe, secure, quality healing and working spaces that perform properly and optimally year-round**. Ensuring proper commissioning of the **magnitude of systems** present on this campus will not only have a positive impact on the facility and your staff, but also on your patients and **your local community** as a whole.

In addition to the enormous breadth of experience the Capital commissioning team will bring to your project, you can trust us to provide innovation, unprecedented quality of service, and a true sense of teamwork. We bring prior **healthcare commissioning and design experience** on other successful projects and an incredible amount of **HCAI knowledge**. A great team is a powerful tool, when assembled correctly, and selecting Capital as your commissioning agent is the last link in your search for the team that will see your project through to successful completion.

Capital's commissioning services are built on **quality, reliability, and operational excellence**. The proposal we have assembled for you is designed to give you **peace of mind** with very **clear expectations and scope**, with **tailored solutions - Good, Better, Best - (all of which cover the minimum code requirements)** to meet your project needs. These include, but are not limited to, level of involvement (meeting attendance, site investigations), use of sampling strategy, trend analysis, back-check and follow-up, extra support of end-user and building and grounds facility staff, etc.

The following package includes all the required firm information, resumes, project experience and other information as requested in the RFQ. These documents describe highly qualified and experienced individuals and their relevant projects. The real story, however, is the positive connection we will establish with Seneca Healthcare District and the additional team members, and how that positive connection has the capability of fostering something truly spectacular with this new hospital build and the positive impact it will have on your local community.

We look forward to the opportunity to meet with you to confirm our commitment to your ongoing success and further discuss how we can work together effectively to meet your goals and responsibilities. If you have any questions or require additional information, please contact me at (916) 851-3500 or email: aazarkeyvan@capital-engineering.com.

Sincere Regards,

Ashkan Azarkeyvan, P.E., CxA, LEED AP, EMP
Associate Principal, Director of Commissioning
aazarkeyvan@capital-engineering.com

Firm Information



Capital Engineering Consultants, Inc.

11020 Sun Center Drive #100
Rancho Cordova, CA 95670

Phone: (916) 851-3500 / Fax: (916) 631-4424

POC: Ashkan Azarkeyvan, aazarkeyvan@capital-engineering.com

www.capital-engineering.com

Staff

Capital is a 75+ year California Corporation with a core team of Principal owners. We currently have over 70 employees, including 16 registered Professional Engineers, 10 LEED Accredited Professionals, 3 Certified Commissioning Authorities, field services personnel, technicians and support staff. We currently maintain offices in both northern and southern California, as well as in Oregon and Nevada.

Commissioning Services

For over 20 years Capital has offered building optimization services independent from traditional engineering design to address the unique requirements of high performance and sustainable building projects.

The Commissioning Team is comprised of certified commissioning authorities, project managers, senior energy analyzers, LEED Accredited Professionals, Accredited Energy Management Professionals, and field personnel and is complemented by our **full-service engineering staff**. As a team, our associates have a broad range of experience including fundamental and comprehensive commissioning, experience with code required commissioning, Green programs such as LEED and Living Building Challenge (LBC), sustainability consulting, design engineering, construction management, technical/operational training, quality assurance supervision and inspection, and energy management and cost reduction.

Building commissioning and optimization relies heavily on engineering fundamentals, and Capital is uniquely qualified amongst the myriad of providers, since we understand the technical basis, criteria for performance, and long-term maintainability. We are a team of commissioning Engineers backed by our healthcare design team boasting over 1,000 healthcare projects.

Capital Engineering was selected as the Commissioning Authority for the Sutter Santa Rosa Hospital project. They demonstrated a good understanding of the commissioning process and collaborated well with the design and construction team. Based on our experience with Capital, and their longstanding reputation, we would recommend them as Commissioning Authority.

Robert Thiele, P.E.
Principal, R&A Engineering Solutions, Inc.

Healthcare Commissioning Experience

As a result of one of the **deepest portfolios in the state** for the design of mechanical, plumbing and electrical systems on hospitals and Medical Office Buildings, we have developed a **comprehensive focus and understanding** in the commissioning of healthcare facilities. **With over 1,000 HCAI designed projects and over 30 commissioned healthcare facilities - WE UNDERSTAND HEALTHCARE!** Our experience in providing commissioning services has evolved to embrace many forms ranging from Net Zero, Carbon Neutral, and green specialized programs such as USGBC's LEED Rating Systems and CAL Green, to Living Future, Title 24 and beyond.

Our commissioning team excels in a collaborative environment, with extensive experience in both **conventional project methods and design-build delivery models**. We implement multiple protocols for capturing and retaining critical information, including early incorporation of operating personnel, robust training, and O&M documentation. We will also work with the owner to include project requirements in the verbiage of the specification book to be implemented by the construction team.

During the design phase we work closely with the owner to clearly understand and define the project requirements. We then work with the project team to include and implement the OPR in the drawings and specifications. We have access to industry standard specifications and, over our 75+ years in operation, we have established our own add-on specification requirements to improve clarity of scope, enhance the construction process and improve the quality of final product, a fully operational building that **meets and exceeds the owner expectations**. Our team members at Capital are carefully selected from top quality friendly and knowledgeable industry experts with the most **efficient output** and highest communication skills. We take pride in our effective communicative approach as your commissioning agent and we are very confident that our **proactive coordination skills** will make your project a success.

In the past five years, Capital has provided commissioning services for over a dozen healthcare projects in California. Some of those projects include:

- Kaiser - Moreno Valley MC Cooling Tower Replacement
- Kaiser- Corona Medical Center - MOB-1 AC Replacement
- VA Loma Linda 4NW Renovation
- Santa Rosa Memorial Hospital - New MOB
- Livermore Palo Alto Healthcare Division, VISN 21, Boiler Replacement
- Dignity Health - Mercy San Juan MC – Steam Boiler RO Sys Add
- Dignity Health - Mercy San Juan MC – Central Sterile PD Remodel
- Dignity Health - Mercy San Juan MC - NICU Renovation
- Dignity Health - Mercy General Hospital - EP Lab Modernization
- UCD MC - Air Compressor Replacement
- UCD MC -5 x Chlorination Station Replacement
- UC Davis Health - Health Administration Services - TI
- Indian Health Services, NCYRTC
- VA Livermore Steam Plant Replacement

Highland Hospital



Building Optimization + Sustainability, Commissioning

Owner

Alameda County Medical Center

Location

Oakland, CA

Architects

SmithGroupJJR

Ratcliff Architects

Shah Kawasaki Architects

Project Value

\$668,000,000

Project Area

358,000 SF

Completion Date

Phase 1: 2013; Phases 2 & 3: 2016

Delivery Method

Design Build

LEAN Integrated Project Delivery

Services

LEED Documentation

Whole Building Commissioning

BIM Integration and Modeling

OSHPD Peer Review

Awards

2016 Construction Management Association of America Northern California Chapter Project Achievement Award

Certification

LEED Gold for New Construction



The multi-phase Acute Tower Replacement project for Highland Hospital's Oakland campus is Alameda County Medical Center's first LEED Silver certified project.

Phase 1, the New Satellite Building, features a 78,000 SF, 3-story medical office building above a 3-story subterranean parking garage.

Phase 2, the New Acute Tower and Central Utility Plant, features a 300,000 SF, OSHPD compliant, 9-story, 169-bed tower that houses an intensive care unit, labor and delivery, neonatal intensive care wing, miscellaneous diagnostic, treatment, and support functions.

Phase 3 involves the demolition of the existing acute medical tower and a connector building bridging the medical campus together.

Capital provided comprehensive commissioning and peer review services for mechanical, fire sprinkler and plumbing systems, as well as all LEED related systems, including coordination and LEED documentation with video training on all commissioned systems. Commissioned systems include HVAC, plumbing, fire sprinklers, communications, low voltage systems (access control, security cameras, nurse call, paging, cable tv, electronic safety and security, and distributed antenna system (DAS) Infant tagging) vertical transportation, window washing, pneumatic tube systems, kitchen equipment, medical gas and vacuum.



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Sutter Medical Center of Santa Rosa



Building Optimization + Sustainability, Commissioning

Owner

Sutter Health

Location

Santa Rosa, CA

Architect

HGA

Project Value

\$284,000,000

Project Area

182,300 SF

Completion Date

2014

Services

LEED Documentation

Whole Building Commissioning

Certification

LEED for New Construction Gold
Certification



Set on 25-acres, the new 2-story, 84-bed hospital provides a full range of award-winning care and services including intensive care, emergency services, obstetrics, nursery care and level III neonatal intensive care, medical and surgical services, invasive cardiac surgery, supporting ancillary services and women's reproductive health services.

Capital provided commissioning for HVAC systems, which included chillers, boilers, pumps, fuel oil systems, piping systems, heat exchanges, radiators, air handling units, humidifiers, air terminal units, fan coil units, computer room a/c units, lab air systems, ventilation systems, variable frequency drives, pressure monitors, room pressurization systems, controls and chemical treatment systems. Plumbing systems included water heaters, water booster pumps and hot water recirculation pumps. Electrical power systems included lighting controls, emergency generators and automatic transfer switches (ATS). Fire protection systems included fire and smoke dampers, fire and jockey pumps.

Other systems including medical gas alarm systems, medical and dental vacuum pumps, medical and dental air compressors, deionized water systems, dialysis water systems, utility grade domestic water well and treatment system, pneumatic tube system, and biosafety level laboratories.

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Santa Rosa Memorial Hospital MOB



Building Optimization + Sustainability, Commissioning

Owner

Santa Rosa Memorial Hospital

Location

Santa Rosa, CA

Architect

Project Value

\$106,000,000

Project Area

92,000 SF

Completion Date

2020

Delivery Method

Design Build

Services

LEED Documentation

Whole Building Commissioning



New 4-Story, 92,000 SF with a six-level 600 space parking structure is a Medical Office Building located in Santa Rosa, California. The building is Type II construction and Type-V occupancy. The program included outpatient licensed imaging center (OSHDP-3) on the first floor and medical office spaces on the second and third floors. The project was design/build delivery method. Commissioned systems included HVAC and Building Automation System, Lighting Controls, Domestic Hot Water System, Irrigation, Underground Utilities, Emergency Power and integration of new controls to the existing campus control system. The Commissioning scope of work was per the Title 24 and CALGreen requirements. HVAC systems included Custom Air Handling Units, Heating Hot water boilers serving the VAV terminal units. The facility utilized a skid mount domestic water booster station. Interior and Exterior Lutron Lighting controls with Daylight and occupancy sensor and astronomical timer.

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Mercy San Juan Medical Center NICU



Healthcare, Commissioning

Owner

Dignity Health

Location

Carmichael, CA

Architects

HGA Architects

Project Value

\$35,000,000

Project Area

17,869 SF

Completion Date

2020

Delivery Method

Design-Build

Services

Mechanical Engineering

Plumbing Engineering

Whole Building Commissioning

Awards

Sacramento Business Journal's Best
Real Estate Projects of 2021



Capital provided both mechanical engineering design and commissioning services on a new expansion of the Neonatal Intensive Care Unit (NICU) at Mercy San Juan Medical Center. This expansion provides a state-of-the-art facility equipped with the latest technology and care environments where babies born prematurely or with serious medical conditions can receive the very best care from a dedicated staff specializing in infant care.

The new NICU infilled the entire 3rd floor of the new McAuley Tower of the hospital, which had been "shelled" in reserve specifically for this planned expansion of a critical facility. The NICU provides accommodations for care of 40 infants in 16 private rooms (including four dedicated Isolation Suites) as well as eight 3-bed pods, which allow at least one parent to remain with their baby 24 hours a day until they are healthy enough to go home.

In occupying an entire floor, the NICU incorporates a central nursing station, infant feeding preparation area, and dedicated offices and staff lounge support areas immediately adjacent to the care suites to provide 24/7 care while keeping parents informed every step of the way. The unit is equipped throughout with state-of-the-art specialized care equipment including invasive monitoring, inhaled nitric oxide and high-frequency oscillator ventilation, and other specialty medical gas services supporting infant-specific care.

Capital's Commissioning group worked closely with the Owner, Design-Build team, Inspector of Record as well as the AHJ to complete the commissioning activities and confirm fully functional systems prior to beneficial occupancy of the department. Our commissioning team confirmed that custom training was provided to both end users of the systems at the NICU, as well as the facility operators.

No sampling strategy was used as part of the commissioning of critical systems. All Cx activities were merged into the project schedule to meet the project milestones. Commissioned systems included HVAC, Building Management System, Plumbing, Medical Gas System, Lighting Controls, Door Functionality, Fire Alarm, Infant Security, Nurse Call, and Security and Access Control.



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hereby certifies that

Ashkan Azarkeyvan, CxA

Capital Engineering Consultants, Inc.

has met all prerequisites demonstrating independence and the technical, management, and communications skills required to implement the commissioning process in new and existing buildings, and passed the necessary examination to be awarded this certificate in recognition of their qualifications as an ACG

Certified Commissioning Authority

Registration number: 311-781 . This certificate, valid only for the year 2023, is renewable on an annual basis upon meeting all requirements noted in the CxA Candidate Handbook.



Program #1215



Justin F. Garner, P.E., CxA
Certification Council Chair

Ray Bert
ACG Executive Director

This certificate is the sole property of ACG and must be returned upon request.



hereby certifies that

Ashkan Azarkeyvan, PE, CxA, EMP

Capital Engineering Consultants, Inc.

has demonstrated the technical, managerial, financial, and communications knowledge required to plan and implement energy management, and passed the necessary examination to be awarded this certificate in recognition of his qualifications as an EMA

Energy Management Professional (EMP)

This registration number 523-E128 and this certificate, valid effective 5/03/2023 and expiring on 12/31/2023, are renewable on an annual basis upon meeting all requirements for maintaining EMP certification.



Gretchen A. Coleman, PE, CxA, EMP, EMA Certification Council Chair

Anna Kosova, Executive Director

This certificate is the sole property of EMA and must be returned upon request.



hereby certifies that

Aaron Wintersmith, CxA

Capital Engineering Consultants, Inc.

has met all prerequisites demonstrating independence and the technical, management, and communications skills required to implement the commissioning process in new and existing buildings, and passed the necessary examination to be awarded this certificate in recognition of their qualifications as an ACG

Certified Commissioning Authority

Registration number: 514-1160 . This certificate, valid only for the year 2023, is renewable on an annual basis upon meeting all requirements noted in the CxA Candidate Handbook.



Program #1215



Justin F. Garner, P.E., CxA
Certification Council Chair

Ray Bert
ACG Executive Director

This certificate is the sole property of ACG and must be returned upon request.



hereby certifies that

Ramon Ramos, CxA

Capital Engineering Consultants, Inc.

has met all prerequisites demonstrating independence and the technical, management, and communications skills required to implement the commissioning process in new and existing buildings, and passed the necessary examination to be awarded this certificate in recognition of their qualifications as an ACG

Certified Commissioning Authority

Registration number: 920-1860 . This certificate, valid only for the year 2023, is renewable on an annual basis upon meeting all requirements noted in the CxA Candidate Handbook.



Program #1215



Justin F. Garner, P.E., CxA
Certification Council Chair

Ray Bert
ACG Executive Director

This certificate is the sole property of ACG and must be returned upon request.

Comprehensive Five-Year Summary

Capital has had no litigation and civil judgments within the past 5 years.

We have, however, incurred one claim (on the design side). A Contractor on a project alleged delays and cost increases due to design of a utility corridor. Capital's experts demonstrated that the contractor did not follow the plans and specifications, there were no cost increase due to design and that the system was constructible as designed.

There have been **zero claims** in connection with Capital's commissioning services.

Capital has been in business since 1947 and has been able to stay out of the courtroom during that entire time through quality design, knowledgeable, experienced construction administration, and proactive efforts of early and aggressive resolution of problems if they arise.

It is extremely difficult to avoid conflicts in the design and construction of buildings. Projects are highly complex, prototypes, with no two buildings or projects being the same. As such breakdowns do occur, either through design errors or omissions, contractor mistakes or owner's expectations not clearly communicated. Often problems become so comingled between trades and areas of responsibility that they are not clear as to who 'owns' the problem, resulting in arguments about fault and cost of resolution.

When problems come up, it is important to address them early, as they come up and not wait and lump together with other problems. Also, many issues are time sensitive and need to be addressed quickly. We have been very successful in resolving problems at a lower cost that would have resulted had not quick action been taken. We also admit fault when it is clearly our issue and step up to take responsibility because concealing that fact or not taking ownership where due, compounds the problem, polarizes the team and creates mistrust. We operate on a doctrine of fairness and trust and it has served us well over the 75+ years we have been in business.

If problems cannot be resolved through informal means, we also encourage a less formal, mediation or alternate dispute resolution in lieu of litigation, which is costly, time consuming and generally only a win for the attorneys involved, and not the individuals in dispute. Where projects have gone to alternate dispute resolution formats, the firm has been a team player regardless of fault and assisted in bringing the action to closure.

We maintain ample amounts of insurance as a back-up measure.

Comments or Objections

PAGE 1:

2. RECITALS.

2.1 Contractor.

Contractor desires to perform and assume responsibility for the provision of certain **SIGNAGE** services required by District on the terms and conditions set forth in this Agreement. Contractor represents that it is experienced in providing COMMISSIONING AUTHORITY services to public clients, is licensed in the State of California, and is familiar with the plans of District.

Comment: Replace SIGNAGE with Commissioning

PAGE 24:

4. REQUIRED CONTRACT PROVISIONS IN ACCORDANCE WITH APPENDIX II TO PART 200 – CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.326)

(F) Appendix II to Part 200 (G) – Clean Air Act and Federal Water Pollution Control Act: If this contract is in excess of \$150,000, Contractor shall comply with all applicable standards, orders, or requirements issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387).

(i) Pursuant to the Clean Air Act, (1) Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq., (2) Contractor agrees to report each violation to the District and understands and agrees that the District will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office, and (3) Contractor agrees to include these requirements in each subcontract exceeding \$150,000.

(ii) Pursuant to the Federal Water Pollution Control Act, (1) Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., (2) Contractor agrees to report each violation to the District and understands and agrees that the District will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office, and (3) Contractor agrees to include these requirements in each subcontract exceeding \$150,000.

Comment: While we believe this section does not apply to our services, we do not object to including this section in the agreement.

Approach

Our Goal:

Optimized Operation, Effective Training, Organized Documentation

Offering peace of mind and a custom scope that fits your needs

Commissioning is a quality Control program. Our involvement can vary based on multiple factors. Criticality of the project, project duration, owner specific needs/ preferences, contractors expertise, etc.

We can increase or reduce our meeting attendance or the number of our site inspections and focus on the systems/ areas that our client prefers. That is why we have proposed **three levels of involvement (Good, Better, Best) all of which cover the minimum code requirements.**

The success of your project and the safety of your patients are our top priorities. We are here to give you peace of mind!

Fostering teamwork and cooperation

COMMUNICATION, COMMUNICATION, COMMUNICATION

We believe in teamwork. Whether it is happening on-team or in relation to our client and contractors. Rather than proposing a one-man approach, we believe in information flow and effective communication. The Lead CxA at Capital, Ashkan Azarkeyvan, is responsible for having a clear understanding of the project, scope of work, upcoming activities and technical challenges. He then engages the appropriate project manager/specialist/ team member (such as design, controls, CUP experts, etc.) to provide efficient and timely input and solve any technical challenges in a streamlined manner.

Depending on the complexity of the systems and design/construction timeline, our team will request monthly, weekly and/or daily commissioning coordination meetings to track progress and coordinate commissioning tasks with the design team, contractor, subcontractors, and owner operations personnel where needed.

Working with the Design and Construction team with respect to supporting their obligations to comply with AHJ (OSHDPD / HCAI)

A successful CxA is the owner advocate who is approachable and is part of the solution. A team member that gains and earns the trust of not only the Owner, the DB team, the GC team but also the AHJ. The CxA speaks the common language of all parties involved. While maintaining high standards of quality, the CxA should be the **voice of reason**, all the comments must have a clear reference to project requirements or codes/regulations. Recommendations outside project requirements shall be clearly communicated with owner, design and construction teams. Proposed modifications will be tracked through appropriate channels until properly implemented.

Commissioning an acute care hospital is different in that it involves OSHPD (HCAI). OSHPD (HCAI) is the most stringent “authority having jurisdiction.” Their requirements for the completeness of documentation prior to the construction and functionality of systems prior to occupancy are unlike any. This has worked to our advantage in a recent healthcare project. Once the OSHPD (HCAI) inspector realized our commissioning review process is more thorough and our attention to completed documentation is paramount she began to use us as a resource; refusing to accept an inspection request until we confirmed the system’s readiness. This reduced the number of OSHPD (HCAI) punch list items and kept the construction team focused on closing commissioning issues which worked to everyone’s advantage.

Integrate commissioning into the normal design and construction process

We are natural to the process of design and construction. Capital is providing design services as well as Commissioning and Energy Analysis. Our team of Commissioning agents understand the design process and have good knowledge of project delivery methods. Our approach is to **merge into the culture of the project** and offer solutions where needed. While making sure project requirements and design intent are met, the commissioning agent can be an approachable team member that follows the flow of the design and construction and organically communicates the shortcomings or improvement opportunities to team members.

We follow the project scheduling protocols. CxA defines and explains the Cx steps and processes to all team members and then with the help of the Cx team, all Cx activities are then added to the project schedule. Where possible, Cx activities are scheduled in parallel with other activities to minimize any time or cost effect on the project.

Determining the appropriate level of commissioning effort for the various systems and equipment

As described earlier, different projects involve various levels of complexity or different type systems.

The owner’s Project Requirement is the most important document that shall be followed. Once the design takes shape, we identify the commissioned systems and the level of detail that is required for the commissioning of each system. It is imperative to recognize the role of sub-contractors. On many projects, the Contractor’s Cx Manager on the Design-Build team is responsible to execute on most Cx activities where the CxA takes the supervisory role. CxA shall work with the program manager and the owner to identify the roles and responsibilities of all team members.

The Cx plan document will address all the details of the process and the level of verification and testing that each system requires.

We recognize that some systems are verified/certified by third party agencies and we see those as opportunities to minimize duplication work and a chance to save time and cost

Project schedule

We closely monitor the project schedule and all Cx activities are coordinated with the Design-Build team and injected into the main project schedule. This will eliminate the risk of Cx activities being ignored. We are very familiar with **pull planning** and our team members are willing to work with all disciplines to meet the project milestones.

Willingness to accommodate project needs

The nature of the construction comes with changes in durations and unforeseen activities. **We understand the need to remain as flexible as possible** around project activities to accommodate the timely execution of commissioning activities. If needed, Capital Engineering is ready to engage multiple resources on one or multiple projects to meet the deadlines.

What sets Capital Engineering apart

We have successfully completed very complex and high-profile projects in the state of California and, unlike many other commissioning firms, Capital's team has the unique advantage of **access to a full service design engineering firm**. We are true design engineers AND commissioning agents. This affords our team the background, experience and troubleshooting support necessary to successfully examine and execute all aspects of commissioning a complex healthcare project. **Not many other commissioning providers can say the same.**

We have CCxM Experience

Capital Engineering Commissioning team has been involved in more than 14 projects acting as Contractor's Cx Manager. We have experienced both sides of the aisle and as a result, we have a better understanding of the causes and possible solutions. Not every commissioning team has been exposed to this aspect of the business. This makes Capital a better fit working in a Design-Build project delivery environment.

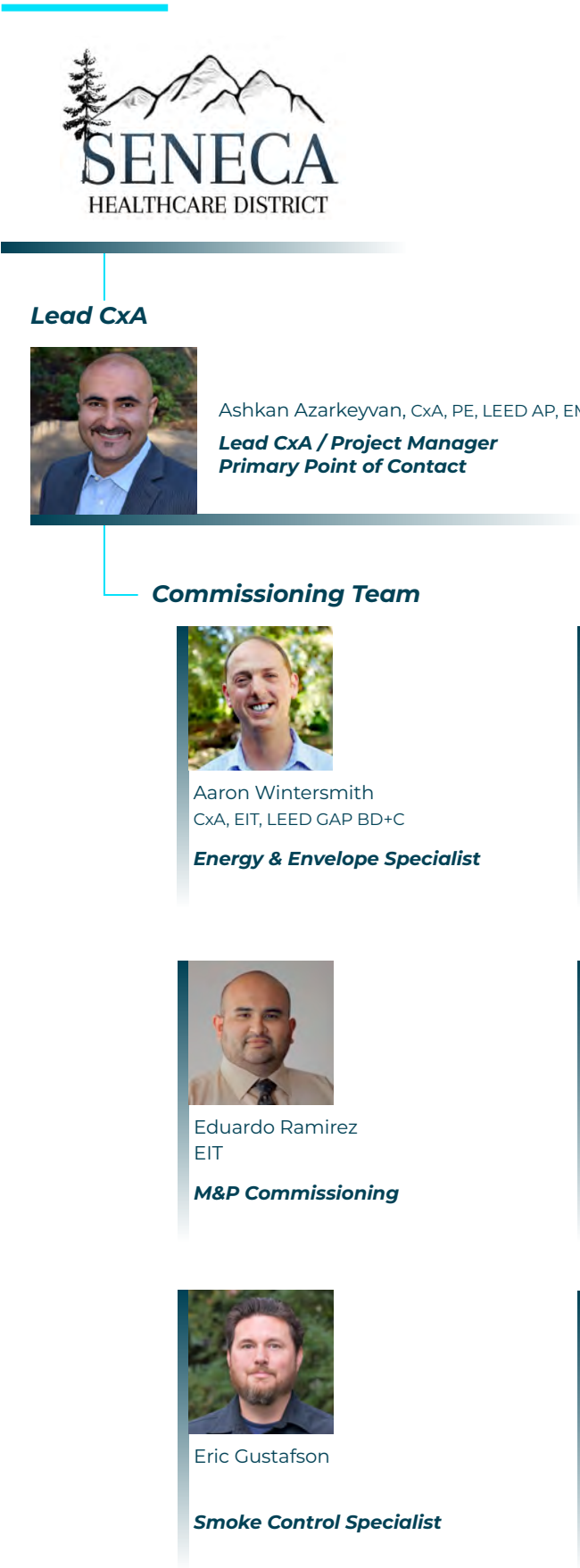
Project Director with Operations, Design and Commissioning Experience

Ashkan Azarkeyvan, the Director of Cx at Capital, has years of hands-on Facility Operations experience. Not only he has completed more than 130 commissioning projects but also he has experience in Healthcare design. He just completed the Design of four Pharmacies as part of code upgrade requirements. In addition, Alberto de Barrena-Sarobe brings 20 years of healthcare design experience and Aaron Wintersmith brings 20 years of energy and commissioning experience. **Seneca Healthcare will have a top-notch commissioning group with the Capital team.**

An EXPERT Team

Capital offers the Seneca Healthcare District team a commissioning team of true experts in their respective fields. Our **in-house experts** include mechanical, electrical and plumbing commissioning engineers and designers, healthcare/HCAI commissioning and design experts, building envelope expert, an energy and optimization expert, a fire protection and life safety expert, and a safety systems and smoke control expert.

Commissioning Team Org Chart



This organizational chart indicates the individuals you will have regular access to throughout the duration of your project. Ashkan Azarkeyvan will serve as the **Lead CxA** and **primary point of contact** for the Seneca Healthcare team.

Assisting Ashkan in the day-to-day commissioning tasks are the **Commissioning Team members** shown here. This experienced and knowledgeable commissioning team is available and ready to start work on your project.

While Ashkan will remain the primary point of contact for the team, we believe that open communication flow amongst our team members will allow for the best possible results for the entire team.

Commissioning Team



Ashkan Azarkeyvan, CxA, PE, LEED AP, EMP

Ashkan Azarkeyvan will serve as the **lead commissioning agent** for the contracted project with Seneca Healthcare.

Ashkan is currently the Director of Commissioning at Capital Engineering. His background offers a unique resume of experience in operations, design and commissioning. After receiving his B.S. in Naval Architecture (ship design), he explored an operations career as a ship engineer on VLCC oil tankers, followed by technical coordinator role at a shipbuilding facility. With years of operational experience under his belt, he embarked on his commissioning career which has been his **passion** for the past 14 years now. In recent years he has refined his expertise with involvement in HCAI design work. One example is the design for code upgrade of four pharmacies.

His unique resume establishes a common ground and complete understanding between a code compliant and practical design that is operator friendly with optimized functionality.

Ashkan has successfully completed five large-scale healthcare commissioning projects and is currently working on three active healthcare commissioning projects. **Large complex HCAI-1 healthcare projects Ashkan has completed as Lead CxA include Sutter Santa Rosa New Hospital; Highland Hospital Acute Care Tower, MOB and CUP; and Mercy San Juan NICU Department.**

As a certified Commissioning Authority and licensed engineer, he brings engineering principals, theoretical design, and field evaluation to the team. He has extensive experience in BAS trending, troubleshooting building systems' performance, HVAC controls, building automation, mechanical and electrical equipment and systems.



"I am an approachable, hardworking team player who strives for the success of the project and never gives up learning. I have commissioned 133 projects and +10M SF of buildings in various markets from Healthcare to education, Hospitality, Civic and specialty such as CUPs."

Below you will find a chart summarizing the expertise and years of experience for each team member. The following pages include more detailed resumes for each team member, as well.



Ashkan Azarkeyvan	15 years of Cx, 3 years of design, 4 years of operation
Aaron Wintersmith	16 years of Energy and Design, 6 years of Cx
Alberto de Barrena-Sarobe	20 years of Healthcare design, 4 years of Cx
Ramon Ramos	8 years of Cx
Eduardo Ramirez	3 years of Cx, 5 years of construction management
Steven Lopez	12 years of fire protection, mechanical and plumbing design, and construction administration
Nathan Hearn	18 years of electrical design and commissioning combined
Eric Gustafson	10 years of mechanical design and smoke control Cx
Jason O'Boyle	11 years of building envelope

Ashkan Azarkeyvan

PE, CxA, LEED AP, EMP

Role: Lead CxA, Primary Point of Contact
Associate Principal, Director of Commissioning



Highland Hospital
Oakland

Education

Bachelor of Science, Mechanical Engineering, 2001, Sharif University of Technology, Tehran, Iran

Professional Registration

Professional Engineer,
Registration #M37717, California

LEED Accredited Professional

ACG Certified Commissioning
Authority

AABC Certified Commissioning
Authority

EMA Certified Energy
Management Professional

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

U.S. Green Building Council

Associated Air Balance Council
Commissioning Group

California Society of Healthcare
Engineers

Association of Medical Facility
Professionals

Experience and Background

Ashkan has over 15 years experience as a Lead Commissioning Agent and Project Manager and has successfully completed five large-scale healthcare commissioning projects and is currently working on three active healthcare commissioning projects. This is in addition to his four years of facility operation and manufacturing experience prior to joining the Capital team.

As a certified Commissioning Authority and licensed engineer, he brings engineering principals, theoretical design, and field evaluation to the team. He has extensive experience in BAS trending, troubleshooting building systems' performance, HVAC controls, building automation, mechanical and electrical equipment and systems.

Since joining Capital 15 years ago, his commissioning experience has grown to encompass every facet of commissioning under different code and program requirements like HCAI, Title 24, CALGreen, LEED, CHPS and custom commissioning. Tasks he regularly tackles include specifications, design and construction constructability reviews, writing test protocols, commissioning plan development, hands-on technical evaluations and field observation, scheduling, TAB reports and submittal reviews. He has experience commissioning healthcare, education and civic projects, all of varying degrees of complexity, and specializes in new construction, commercial interior, existing building commissioning and retro-commissioning.

Summary of Relevant Projects

- » Highland Hospital Acute Care Tower and Medical Offices Commissioning, Oakland (HCAI)
- » Sutter Medical Center of Santa Rosa Hospital and Central Utility Plant, Santa Rosa (HCAI)
- » Santa Rosa Memorial MOB, Santa Rosa (HCAI)
- » Kaiser Permanente Ambulatory Surgery Center, Folsom (HCAI)
- » Kaiser Permanente Moreno Valley Medical Center Cooling Tower Replacement (HCAI)
- » Sutter Medical Center of Sacramento (HCAI)
- » VA Sierra Nevada Health Care System Building 1A, Reno, NV
- » VA Sierra Nevada Health Care System Building 1A Seismic Upgrades, Reno, NV
- » UC Davis Medical Center
 - 5 Chlorination Station Replacements (HCAI)
 - Air Compressor Replacement (HCAI)
 - Administration Services TI - LEED ID+C v.4 Enhanced Cx
- » Los Angeles World Airports Central Utility Plant Commissioning, Los Angeles
- » Department of General Services Central Utility Plant Renovation, Sacramento
- » Dignity Health Mercy San Juan
 - New NICU, Carmichael (HCAI)
 - Steam Boiler Addition (HCAI)
 - Central Sterile Processing Department Remodel (HCAI)
- » Desert Sage Youth Wellness Center, Hemet
- » VA Loma Linda 4NW Renovation Commissioning
- » VA Menlo Park Div. Building 323 Seismic Replacement and Infrastructure Commissioning
- » Beale Air Force Base Medical Clinic Addition and Alteration, Marysville

Aaron Wintersmith

EIT, CxA, LEED AP BD+C

Role: Energy & Envelope Specialist
Senior Associate, Director of Sustainability



Highland Hospital

Oakland

Education

Bachelor of Science, Mechanical Engineering, 2006, California State University, Sacramento

Professional Registration

Engineer in Training,
Registration #EIT123381,
California

Certified Commissioning
Authority, ACG Commissioning
Group

LEED Accredited Professional,
Building Design and
Construction

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

U.S. Green Building Council

Experience and Background

Aaron Wintersmith, certified Energy Plans Examiner, brings depth, diversity, and strong analytical capabilities to our whole building commissioning team. Utilizing his energy simulation and mechanical design background, Mr. Wintersmith provides the team energy-efficient design and control strategy optimization for improved building energy performance, ultra-low EUI, and lowered energy costs. He is an expert on the requirements of Title 24, as well as the application and submission processes for Savings By Design, LEED Rating Systems and ZNE Certifications.

Using my field testing and commissioning coordination experience I provide Building Envelope Commissioning from the definition of the project requirements, through design and specification, to culminating construction phase observation and testing. Building Cx ensures construction team execution of the Owner's requirements to provide optimized air and water resistive systems. This includes observation and field testing of roof, wall, window, and below grade components. I have organized and directed BeCx teams from design through construction phases and conducted field testing using the relevant AAMA and ASTM testing standards, such as 501.1 & 50.2 ("hose nozzle") tests and E1105 Water Infiltration test for Window Assemblies.

Summary of Relevant Projects

- » Highland Hospital Acute Care Tower and Medical Offices, Oakland
- » Bayer CropScience R&D Center, Greenhouse and Pilot Plant, West Sacramento
- » Desert Sage Youth Wellness Center, Hemet
- » Sutter Health Eden Medical Center Replacement Hospital, Castro Valley (LEAN/IPD)
- » VA Mather Medical Office Building, Mather
- » VA Monterey Bay Health Care Clinic, Monterey
- » VA Palo Alto Radiology Addition and Remodel, Palo Alto
- » VA Palo Alto Research and VMU, Palo Alto
- » Berkeley Mental Health Clinic – ZNE Study and Daylighting Analysis
- » UC Davis Health Point West Clinic, Sacramento
- » UC Davis Health Roseville Clinic, Roseville
- » UC Davis New Agricultural and Natural Resources Office Building
- » University of California, Davis
 - Walker Hall
 - Briggs Hall Electrical Renovations
 - New Agricultural and Natural Resources Building
 - Chemistry Annex
 - Controlled Environmental Facility Expansion
- » 350 Bush Street Mixed-Use High Rise, San Francisco
- » 500 Pine Street Mixed-Use High Rise, San Francisco
- » Blue Shield of California New Centralized Customer Service Center, Lodi
- » The Belvedere New Multi-Use High-Rise, Oceanside
- » Fausel Professional Building, Placerville
- » California State Office Building O Street, Energy Modeling, Sacramento
- » Architectural Nexus Office Building Living Building Challenge, Sacramento
California's first Certified Living Building Challenge building

Alberto de Barrena-Sarobe

PE

**Role: HCAI Specialist
Associate, Senior Project Manager**



Sutter Eden Medical Center,

Castro Valley

Education

Bachelor of Science, Mechanical Engineering, California State University, Sacramento

Professional Registration

Professional Engineer,
Registration #32499, California

Professional Engineer,
Registration #15475, Hawaii

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

American Society for Health
Care Engineering

Experience and Background

As Project Manager of Capital's Cx and Sustainability Team, Alberto provides day-to-day "hands-on" Cx project management during all phases of construction. He is involved in OPR and BOD review, criteria consulting, design review, controls sequence review, coordination and oversight of Cx meetings, install verification, site observations, functional tests witnessing and reporting.

Mr. de Barrena-Sarobe has worked on a wide variety of facilities for the healthcare, government and education sectors. He holds extensive experience with LEED and LEAN processes and principles, as well as the WELL Building Institute challenge.

Summary of Relevant Projects

- » UC Davis Medical Center
 - 5 Chlorination Station Replacements- Cx (HCAI)
 - Air Compressor Replacement- Cx (HCAI)
- » UC Davis
 - Cruess Hall North Renovation- QAM [Cx]C
 - Tupper Hall North [Cx]C
- » Mercy San Juan Medical Center, NICU Renovation, Carmichael (HCAI)
- » Barton Memorial Hospital, South Lake Tahoe
 - Covid-19 Emergency Project (ongoing)
 - MRI Replacement
 - Nuclear Room Remodel
- » Kaiser Permanente Medical Center Emergency Department Expansion, South Sacramento (ongoing) (HCAI)
- » Kaiser Permanente Medical Center
 - MRI Addition, South Sacramento
- CT Scanner Replacement, South Sacramento
- Nuclear Medicine Replacement, South Sacramento
- Fluoroscopy Replacement South Sacramento
- Outpatient Surgery Center, Folsom
- » Marin General Hospital Operating Room, Janitor Closet Remodel, Greenbrae (HCAI)
- » Sutter Health
- » Eden Medical Center Replacement, Castro Valley (LEAN/IPD) (HCAI)
- » California Pacific Medical Center Pharmacy Renovation, San Francisco (HCAI)
- » Pediatric Emergency Room & Lobby Remodel, Sacramento (HCAI)
- » California Conservation Corp. MP & Dorm Placer Center, LEED-2009 +T24-2013-Cx, Greenwood
- » St. Francis Memorial Hospital Operating Room Renovation, San Francisco
- » VA Loma Linda 4 NW Renovation-Cx, Loma Linda
- » Sutter Health
 - Pharmacy Renovation, Novato
 - Pharmacy Renovation, Sacramento
 - Pharmacy Renovation, Tracy
 - Lakeside Pharmacy Renovation, Lakeport
 - Eden Medical Center Replacement, Castro Valley
 - California Pacific Medical Center Pharmacy Renovation, San Francisco
 - Pediatric Emergency Room & Lobby Remodel, Sacramento
- » San Jose Behavioral Health Hospital, San Jose

Ramon Ramos

CxA

Role: MEP Commissioning Engineer Commissioning Engineer



Desert Sage Youth Wellness Center

Hemet

Education

Bachelor of Science,
Engineering, California State
University, Sacramento, 2014

Professional Registration

Certified Commissioning
Authority, ACG Commissioning
Group

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

Experience and Background

Mr. Ramos joined the Whole Building Optimization team in 2015 as a project assistant and has taken a lead role in commissioning administration. He holds experience with programs such as LEED, CalGreen, CHPS and T-24 for projects across healthcare, K-12, and commercial sectors. His responsibilities include writing functional test scripts and performing onsite functional testing. Ramon also assembles all commissioning documentation and manuals for handoff to building operations and maintenance staff.

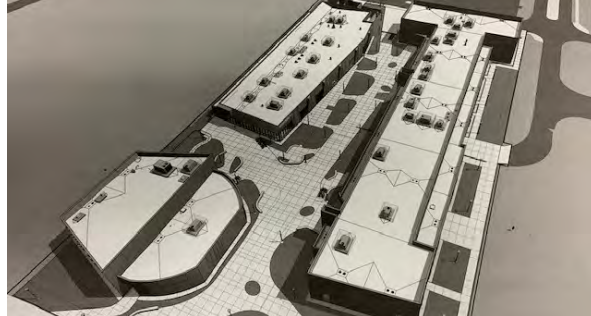
Relevant Projects

- » Highland Hospital Acute Care Tower Replacement, Oakland
- » Highland Hospital New Care Pavilion, Oakland
- » Desert Sage Youth Wellness Center, Hemet
- » San Francisco VA Health Care System Building 203 Chiller Replacement, San Francisco
- » VA Menlo Park Division Building 323 Seismic Replacement and Infrastructure, Menlo Park
- » 350 Bush Street Mixed-Use High Rise, San Francisco
- » Architectural Nexus Office Building Living Building Challenge, Sacramento
California's first Certified Living Building Challenge building
- » Cal Fire Dormitory LEED Documentation, Lone
- » CDCR Laguna Springs Corporate Center Building F Tenant Improvement, Elk Grove
- » City of Berkeley Mental Health Services Renovation
- » HGA New Office Building, Sacramento
- » Restoration Hardware New Distribution Center and Warehouse, Patterson
- » TenTen High-Rise Mixed-Use Wilshire Corporate Housing Expansion, Los Angeles
- » Las Positas College Student Services, Chabot-Las Positas Community College District
- » University of California, Davis
 - Engineering Student Design Center - Cx Coordinator
 - Hot Water Quad Loop Building Conversions - Cx Coordinator
 - Hot Water Quad Loop and Hutchinson Conversion - Cx Coordinator
 - Briggs Hall Lab Renovation
 - California Lecture Hall
 - Cruess Hall North Renovation
 - New Agricultural and Natural Resources Office Building
- » Huntington Beach City School District Office
- » Beacon Park School New Campus, Irvine Unified School District
- » Dry Creek Joint Elementary School District Energy Consulting and Commissioning
- » Long Beach Unified School District
 - Browning High School
 - Newcomb Elementary School
 - Roosevelt Elementary School
- » Natomas Unified School District
 - Natomas Charter School Star Academy
 - Natomas Park Elementary School
- » San Diego Unified School District
 - Longfellow K-8 New Classroom Building
 - Patrick Henry High School Classroom Building
- » San Francisco Unified School District
 - Daniel Webster Elementary School
 - Lowell High School New Classroom Building

Eduardo Ramirez

EIT

Role: M&P Commissioning Engineer



Irvine Valley College Fine Arts Building
Google Rendering Image

Professional Registration

Licensed Engineer in Training

Experience and Background

Eduardo has served as Project Engineer since joining the Capital team in 2021. His responsibilities include Title 24 and Cal Green commissioning activities from design phase to construction completion. He has experience utilizing AutoCad and Autodesk Inventor software and has a background in creating project budgets from planning, design and construction phase.

Relevant Projects

- » San Joaquin County Public Health Services Facility Replacement, Stockton
- » El Dorado Community Health Center Title 24
- » Livermore Palo Alto Healthcare VISN 21 Boiler Replacement
- » Architectural Nexus Office Building Living Building Challenge, Salt Lake City, UT
- » San Joaquin County Morgue Replacement, French Camp,
- » San Joaquin County District Attorney Facility Replacement, Stockton
- » Yolo County Jail Expansion and Renovation - Cx Coordinator Services
- » Yolo County Jail Leinberger Center - Cx Coordinator Services
- » Baywood Hotels Residence Inn by Marriott
- » Sierra Vista Veterans Memorial Park Sports Complex
- » City of Stockton Northeast Library and Recreation Center
- » DGS RESD OES Mather
- » DGS RESD CHP Academy
- » DGS RESD Bureau of Automotive Repair Energy Upgrade
- » Lange Twins Winery Corporate Office
- » Sonora Courthouse LEED Enhanced
- » Taft Charter High School Modernization, Los Angeles Unified School District
- » Hillcrest Elementary School Modernization and New Building, San Francisco Unified School District
- » Thurgood Marshall High School Modernization, San Francisco Unified School District
- » Sacramento City USD HVAC Assessments
- » Irvine Valley College Fine Arts Building, South Orange County Community College District
- » San Mateo Union High School District Districtwide Controls Replacement
- » College of Marin Kentfield New Learning Resource Center
- » UC Davis
 - Health Administration Services
 - Chemistry Addition and 1st Floor Renovations
 - Cruess Hall North Renovation
 - Engineering Student Design Center
 - C.N. Gorman Museum Relocation
 - Briggs Hall Renovation
- » Arboga ES Modernization, Marysville Joint Unified School District
- » Bell Ave Elementary School Modernization & Modular Bldg Addition Cx, Robla School District, Sacramento
- » Murray Elementary School Modular Buildings & Library, Dublin Unified School District
- » Northpointe K-8 Campus, Natomas Unified School District

Steven Lopez

**Role: Fire Protection & Life Safety Specialist
Associate, Director of Fire Sprinkler Design**



University of California, Davis,
Point West Medical Office Building,
Sacramento

Education

Associate Degree, Drafting/
Design, High Tech Institute,
Phoenix, AZ

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

American Society of Plumbing
Engineers

U.S. Green Building Council

Experience and Background

Mr. Lopez has served as Project manager and Senior Designer since joining the Capital team in 2016. His responsibilities include day-to-day project management for the mechanical and plumbing engineering design team, documentation management and general project administration. Steven has over 12 years of mechanical and plumbing design and engineering experience.

Relevant Projects

- » VA Mather Building 650 PACT Remodel
- » VAPA Building 100 Upgrade to Cath Lab Suite
- » Dignity Health
 - Nuclear Medicine Expansion
 - Tenant Improvement
- » Kaiser Permanente RMC MOB
- » UC Davis Health
 - Zap X
 - Point West Clinic
 - Redding Expansion
- » USC Endoscopy Suite
- » Kern Valley Hospital Anusol Kitchen Hood
- » Porterville Allied Health Peer Review
- » Mammoth Hospital Expansion
- » Redlands Community Hospital Operating Room Expansion
- » CCC Auberry Residential Center
- » 200 Kansas Street, San Francisco
- » Yuba Water Agency Headquarters Redesign
- » Applied Adhesives Warehouse Study
- » CDCR VSP Water Treatment Plant
- » DGS Bonderson Tenant Improvement
- » Newark Civic Center
- » CA State Capitol CHP IT Room Relocation
- » JAMM Office, Playa Court, Culver City
- » Orange County Juvenile Hall Multi-Purpose Rehabilitation, Orange
- » Los Angeles County Camp Kilpatrick Juvenile Detention Center, Malibu
- » Los Angeles World Airports, Los Angeles
 - LAX Midfield Satellite Concourse
- » John Wayne Airport Terminal C
- » Coast Community College District
 - Golden West College Student Services Center, Huntington Beach
 - Golden West College Math & Science Building, Huntington Beach
 - Orange Coast College Student Union, Costa Mesa
- » Long Beach City College
 - Building E (American Language & Culture Institute), Long Beach
 - Building D (Science), Long Beach
 - Building J (Auditorium), Long Beach
- » California State Polytechnic University Vista Grande Dining Facility, San Luis Obispo
- » San Diego State University Central Plant Upgrades, San Diego

Nathan Hearn

EE, LEED AP BD+C

Role: Electrical Commissioning Associate



Kaiser Permanente
South Sacramento, CA

Education

Bachelors in Electrical Engineering, University of Texas, Dallas - 2009

Professional Registration

California Lic. # 23927
Texas Lic. # 109952
South Carolina Lic. # 36171
Oklahoma Lic. # 30747
Louisiana Lic. # 43320
Arkansas Lic. # 18742
Florida Lic. # 86935
Georgia Lic. # 44387
Wyoming Lic. # 18861

LEED Accredited Professional, Building Design and Construction

Affiliations

National Society of Professional Engineers
California Society of Professional Engineers
U.S. Green Building Council

Experience and Background

Mr. Hearn has extensive experience designing electrical systems for many types of facilities including hospitals, medical offices and clinics, office, industrial, commercial, municipal, and water utility projects.

Nathan has been project manager and electrical design engineer for new nursing homes, assisted living centers, and memory care facilities with emergency electrical distribution systems subject to NEC 517. Nathan's hospital designs consists of updating and expanding existing electrical distribution systems for facility additions and repurposing. He has performed electrical coordination studies in hospitals for modified and expanded electrical distribution systems and created Time Current Curves to demonstrate new circuit breakers for panels, subpanels, and equipment that are fully coordinated with existing upstream and downstream circuit breakers.

Relevant Electrical Engineering Projects

- » Kaiser Permanente Electrical Coordination Studies, Sacramento CA
- » West Point new Alzheimer Care Memory Care Facility, New Braunfels, TX
- » Mansfield new Alzheimer Care Memory Care Facility, Mansfield, TX
- » Cartmell new Assisted Living Facility, Palestine, TX
- » Clear Creek Ambulatory Surgical Center, Medical Office Building and Imaging Center, Killeen, TX
- » Presbyterian Village North new Assisted Living and Skilled Nursing Facility, Dallas, TX
- » Heritage Farms new Alzheimer Care Memory Care Facility, Colleyville, TX
- » Southpark Meadows new Assisted Living and Memory Care Facility, South Austin, TX
- » Heartis Arlington Assisted Living with Memory Care facility, Arlington, TX
- » Meridian Assisted Living with Memory Care facility, Shavano Park, TX
- » SCI Waco Nursing facility, Waco, TX
- » SCI Katy Nursing facility, Katy, TX
- » Children's Health, Emergency Generator Replacement, Plano, TX
- » Collin County Disaster Recovery Data Center – Plano, TX
- » Volatiles Laboratory Renovation at the Environmental Services Center, North Texas
- » Municipal Water District, Wylie, TX
- » United States Courthouse, San Antonio, TX
- » TxDOT District 3 Headquarters Electrical and Water Improvements, Wichita Falls, TX
- » The Park at Granite Bay, Placer, CA
- » Jack Slaven Park and Spring Lake Park Phase 2, Woodland CA
- » Lodi Middle School & North Country Elementary School Modernizations, Lodi CA
- » Center High School & North Country Elementary School HVAC Modernizations, Antelope CA
- » Homestead Villages, Dixon CA

Eric Gustafson

Role: Safety Systems and Smoke Control Specialist



Escondido Village, Stanford

Bing image search

Education

Current Undergraduate Student, California State University, Sacramento

Professional Registration

HERS Rater

Affiliations

American Society of Heating, Refrigerating and Air-Conditioning Engineers

Experience and Background

Eric has more than 10 years of experience in mechanical system design, special air distribution, industrial facilities design, and field analysis of mechanical systems. Eric incorporates a hands-on approach to designs. His project experience includes new and retrofit engineering in campus facilities, high-rise buildings, and laboratory design to list a few.

Eric has experience in providing consultation, establishing protocol, performing smoke control system test and commissioning. He has experience working with various regulatory agencies, Authorities Having Jurisdiction, owners, designers, and contractors. He has provided help with focus group training to inspectors to demonstrate concepts, devices, air balance tools and instruments, measurements and field conditions encountered during smoke control system testing and inspection.

His ability to find solutions to unforeseen problems during the construction, test and commissioning process positions him as a valuable asset to the team of skilled professionals involved in such projects.

Smoke Control System Experience

- » Smoke management system theory, application, and commissioning.
- » Implementation and validation of smoke control methods consistent with Rational Analyses.
- » Integration of Fire Life Safety Systems, Mechanical, Electrical, Fire alarm and Fire Protection.
- » Critical Space Environments, IAQ and Pressurization Management.
- » Construction methodologies and materials to establish space envelope and barriers.
- » System concept, analysis, design, operation, and commissioning.

- » HVAC system equipment, distribution, volumetric and isolation methodologies.
- » High-rise building mechanical systems.
- » Hospital/Laboratory/Clean Room system design.
- » Temperature control, energy conservation, application, and design.
- » Computer modeling methodology and application.

Smoke Control Projects

- » City of Hayward Library and Community Learning Center
- » Escondido Village, Stanford
- » Folsom Powerplant HVAC and Fire Alarm Upgrades

- » Penumbra Inc., 630 Roseville Pkwy, Roseville

HVAC System Evaluation Projects

- » 1947 Center St. Civic Center, Berkeley
- » 452 East Hill Rd, Willits
- » 4509 Skyway, Olivehurst
- » 1060 Kaiser Rd, Napa
- » 1080 Airport Blvd, Santa Rosa
- » 3580 Westwind Blvd, Santa Rosa
- » 1111 Green Island Rd, American Canyon

Jason O'Boyle
PE, REWC, RRO



**Role: Building Envelope Specialist
Regional Manager (Intertek)**



Whole Building Air Tightness Test

Education

Bachelor of Science,
Architectural Engineering,
Milwaukee School of
Engineering

Professional Registration

Professional Engineer - AZ, IL,
OH

Registered Exterior Wall
Consultant - US

Registered Roof OBserver - US

Affiliations

Building Enclose Council (BEC)
- Former Board Member

IIBEC

ACE Mentor Program (former)

Experience and Background

Jason has been working in the building enclosure industry for over 10 years. His work includes quality assurance, consulting, peer reviews, assessments, and testing on new and existing building enclosure projects. He has worked on commercial, industrial, multifamily, healthcare, and education projects. Jason also performs Property Condition Assessments (PCAs) and Americans with Disabilities Act (ADA) audits on commercial properties. Jason has experience with air/vapor barriers, low- and steep-sloped roofing, metal panels, fenestrations, and waterproofing. Jason recently relocated from the Midwest to Phoenix, Arizona and is the Regional Manager over Phoenix, Dallas, New Orleans, and Southern California.

Building Enclosure Commissioning

- » Pima County Office of the Medical Examiners - Tucson, AZ
- » ASU ISTB-7 - Tempe, AZ
- » ASU Thunderbird School of Global Management - Phoenix, AZ
- » NAU Student Athlete High Performance Center - Flagstaff, AZ
- » ASU Durham L&L Renovation - Tempe, AZ
- » UA Tech at the Bridges - Tucson, AZ
- » Undisclosed Data Center - Mesa, AZ
- » Comarch Data Center - Mesa, AZ
- » ASU Bateman Renovation - Tempe, AZ

- » APS HUBwest Service Center - Buckeye, AZ
- » APS Cottonwood Service Center - Cottonwood, AZ
- » The Spark - Madison, WI
- » Port of San Antonio Tech II - San Antonio, TX
- » Scottsdale Fire Training Facility - Scottsdale, AZ

Building Enclosure Consulting/Testing

- » Pima County Historical Courthouse - Tucson, AZ
- » Yuma County Administration Building—Yuma, AZ
- » Mexican American Cultural Center - El Paso, TX
- » Yuma Foothills - Yuma, AZ
- » Hobbs Hospital - Hobbs, NM
- » Vista Ridge - Phoenix, AZ
- » Project 29 West - Mesa, AZ
- » Lillibridge Desert Medical Campus - Mesa, AZ

- » CTHS Renovation - New Orleans, LA
- » Biltmore Golf Club - Phoenix, AZ
- » Lycee Francais - New Orleans, LA
- » Holloman AFB - Holloman, NM
- » Silos - Edmond, OK
- » Clearview Mall Apartments - Metairie, LA

Documentation Samples

As requested, we have provided attachments of the following sample work products written by members of the Capital commissioning team from previous healthcare projects:

1. Commissioning plan that was executed
2. Commissioning specifications
3. An actual Functional Test Procedure was executed
4. Example of project monthly report

Each document is provided in the Appendix at the end of our proposal package.

Understanding of project details and scope

From Seneca Healthcare RFQ/P:

Project Description and Schedule:

Project includes the design and construction of a new OSHPAD-1 Hospital, OSHPD-2 SNF and Non-OSH-PD support Services Buildings. The project is located at 130 Brentwood Dr., Chester, CA 96020.

The building's details are as follows:

- » OSHPD-1 Building/Hospital (I-2 Occupancy) – 29,643 square feet
 - Acute-care – 8 beds: inclusive of 3 private rooms, 2 semi-private rooms, and 1 private isolation room
 - Standby Emergency Services – triage, 5 exam rooms
 - Pharmaceutical Services – a drug room for supply and distribution
 - Surgery – 1 OR, 1 Endoscopy/Procedure Room, 3 PACU
 - Laboratory Services – with blood bank
 - Dietary Services – kitchen and dining
 - Imaging Services – X-Ray, CT, and Ultrasound
 - Central Utility Plant
- » OSHPD-2 Building/Skilled Nursing Facility (I-2 Occupancy) – 14,740 square feet
 - Skilled Nursing Beds – 24 semi-private and 2 private/isolation
 - Occupational Therapy
 - Physical Therapy
- » Non-OSHPD Support Services Building (Shop Building) - 2200 square feet
 - Maintenance/Shop
 - Offices (Maintenance, Housekeeping, Purchasing)
 - Additional Storage

Current Design progress and the estimated project schedule is as follows:

- » Current Design Progress:
 - Grading/Site plans - design under jurisdiction of Plumas County (PC) with HCAI indicating they will require Increment 1 to be submitted for review/approval prior to proceeding with construction of compacted base & 1st AC lift of driveways/parking areas and associated concrete curbs. Note BSK has been contracted for independent inspection of earthwork activities. Plans submitted to PC 5/18, permit pending.
 - Increment 0 has been submitted for a Preliminary Review – submitted 5/22.
 - Increment 1 is Critical Access Hospital (CAH) Core & Shell – submitted 6/23
 - Increment 2 is Skilled Nursing Facility (SNF) Core & Shell – submitted 6/23
 - Increment 3 is Interiors (CAH & SNF) – 100% CD to be submitted November 2023
- » Estimated Construction schedule:
 - Foundation Finish: 01/07/2024
 - Structural Steel Finish: 08/20/2024
 - Exterior Envelope Finish: 11/26/2024
 - Interiors Finish: 09/23/2025
 - Startup and Commissioning Finish: 11/26/2025
 - Close Out Finish: 02/04/2026

Scope of Work:

1. Applicable Code, Standards, and Green Programs
 - a. 2022 Title-24 Part 6 California Energy Code Section 120.8
 - b. 2022 Title-24 Part 11 California Green Building Standards Code Section 5.410.2
 - c. ASHRAE Guideline 0 – Commissioning Process

2. Commissioning Activities:

a. Design Phase

i. Design Development:

1. Kick-off meeting: Commissioning Authority (CxA) will lead the required Cx kick-off meeting. Attendance by the owner or owner's representative and design team is required.
2. OPR (Owner's Project Requirements) Review: Review the OPR provided by the owner or owner's representative.
3. BOD (Basis of Design) Review: Review the BODs written for commissioned systems by the design professionals.
4. Design Review: CxA will engage in a design review and ensure commissioning requirements are shown in the DD documents.

ii. Construction Documents:

1. Design Review meetings: Commissioning Authority (CxA) will lead the required Cx meetings. Attendance by the owner or owner's representative and design team is required.
2. Design Review: CxA will engage in a design review and ensure commissioning requirements are shown in the construction documents.
3. Completion of the Title-24 Commissioning Form: Design professionals are assumed to document wherein their construction documents their design shows compliance with NRCC-CXR-E form requirements.
4. Commissioning measures shown in CDs: Review the Arch, Mechanical, Plumbing, Fire and Life safety and Electrical project specifications to confirm compliance with CA Energy and CA Green code Commissioning requirements. Provide markups or specification sections as necessary to comply with CA energy and CA Green code Commissioning requirements.

b. Permitting Phase:

- i. Commissioning Authority(CxA) shall be available to provide clarification/ respond to any bid phase RFIs.

c. Construction Phase

i. Fabrication Phase

1. Commissioning Coordination Meetings: Attend a limited number of meetings to coordinate and lead commissioning activities with construction team members.
2. Review and one back-check of commissioned systems' submittals packaged and transmitted as per the specifications.

ii. Installation Phase:

1. Commissioning Coordination Meetings: Attend a limited number of meetings to coordinate and lead commissioning activities with construction team members.
2. Installation verification: Attend a limited number of site inspections to confirm equipment is installed per the construction drawings with maintenance access provided and equipment is ready for startup.

3. Functional Testing:

- a. Development: Write functional tests for commissioned systems and distribute them to the Commissioning team for their review and comments. Revise and finalize the test procedures accordingly.
- b. Witnessing: Attend functional testing of commissioned systems executed by the Contractor.
- c. Recording: Commissioning Agent to complete the functional test forms and

maintain a commissioning issues log indicating any test failures.

4. Issues Back-check: When the Commissioning Agent is notified that noted corrections have been made, CxA will back-check the corrections and update the issues log. Test and issues log will be provided to the owner.

iii. Close-Out Phase:

1. Operations Training: The Commissioning Agent will review the training plans provided by the Contractor.

2. Systems Manual and Commissioning Report: CxA will assemble content provided by self and others as required by the code

d. Post Occupancy Phase

i. Not Applicable

Commissioned Systems:

1. Building Pressurization (including Thermography and Air Tightness testing),
2. Heating, Ventilation, Air Conditioning and Refrigeration
3. Energy Systems (including renewables)
4. Indoor Environmental Quality (IEQ)
5. Electrical Systems and Emergency Power/Generation, Smoke Control, Fire Protection, Fire Suppression, Fire Alarm, Lighting Systems
6. Plumbing, Domestic Water, and non-potable System

Sampling Strategy During Installation Verification and Functional Tests:

System	Good	Better	Best
Building Envelope System	Attend selected Coordination meetings Frequent site inspections Review Envelope test reports completed by the DB contractor	CD Phase design review Attend selected Coordination meetings Frequent site inspections Two Days of Glazing and WBAT tests Thermography Pressurization Training, O&M and Warranty review	CD Phase design review Submittal review Attend selected Coordination meetings Frequent site inspections Two Days of Glazing and WBAT tests Thermography Pressurization Roof flood test Hose Nozzle test Training, O&M and Warranty review
Heating, Ventilation, Air Conditioning and Refrigeration Including Control System	25%	50%	100%

Energy Systems (including renewables)	25%	50%	100%
Indoor Environmental Quality (IEQ)	Prepare Construction Phase and Pre-occupancy IEQ plan	Prepare Construction Phase and Pre-occupancy IEQ plan Including building Flush out	Prepare Construction Phase and Pre-occupancy IEQ plan Including building Flush out and Industrial Hygiene testing reports review
Electrical Systems and Emergency Power/ Generation	25%	50%	100%
Fire Protection, Fire Suppression	Review AHJ Test report	Attend AHJ Test activities	Pretest the system with Contractor and Attend AHJ Test activities
Smoke Control	Review AHJ Test report	Attend AHJ Test activities	Pretest the system with Contractor and Attend AHJ Test activities
Fire Alarm	Review AHJ Test report	Attend AHJ Test activities	Pretest the system with Contractor and Attend AHJ Test activities
Lighting Systems	25%	50%	100%
Plumbing, Domestic Water, and non-potable System	25%	50%	100%

Summary of Major Activities:

Summary of major activities provided in this fee proposal:

Activity	Good	Better	Best
Design Development			
Virtual Meetings	3	4	6
In-Person Meetings	0	0	1 (Sacramento)
Number of Design Reviews	1	1	1
Construction Documents			
Virtual Meetings	3	4	6
In-Person Meetings	0	0	1 (Sacramento)
Number of Design Reviews	1	1	1
Permitting			
Virtual Meetings	1	2	3
In-Person Meetings	0	1	2 (Sacramento)
Fabrication			
Virtual Meetings	3	5	8
In-Person Meetings	0	1 (Onsite)	2 (On-site)
Submittal Review	1	1	1

Installation			
Virtual Meetings	6	8	15
In-Person Meetings	2	5 (Onsite)	14 (On-site)
Installation Verification Field Investigations (combined with the on-site meetings)	2	5	14
TAB Sample verification / Startup Witnessing / Duct leakage Testing / Piping Pressure testing site visits	0	1	2
Functional tests Site Visits	5	7	10 (5 x 2 day visits)
Issues Back-check Site Visits	1	2	3
Closeout			
Training Review	Report Review Only	1 (Onsite)	2 (On-site)
Trend Analysis	1	1	2

Total Compensation

Phase	Good	Better	Best
Design Development	\$15,660	\$16,060	\$17,060
Construction Documents	\$25,910	\$26,310	\$27,510
Permitting	\$1,460	\$1,710	\$2,550
Fabrication	\$34,240	\$36,490	\$38,990
Installation	\$79,400	\$129,300	\$169,900
Close out	\$20,780	\$23,630	\$27,730
Total	\$177,450	\$233,500	\$283,740

Deduct Alternate Savings	Good	Better	Best
Building Envelope System	\$32,600	\$58,900	\$80,300
Fire Protection, Fire Suppression, Smoke Control, Fire Alarm	\$13,450	\$19,900	\$25,600

All costs and expenses Capital would charge Seneca Healthcare District are included in the fees above.

**Capital Engineering Consultants, Inc.
2023 - 2024 Hourly Billing Rates**

	<u>2023</u>	<u>2024</u>
Sr. Principal	\$245.00	\$260.00
Principal	\$223.00	\$236.00
Director	\$215.00	\$228.00
Sr. Project Manager	\$205.00	\$217.00
Project Manager	\$196.00	\$208.00
Field Services	\$192.00	\$204.00
Senior Engineer	\$175.00	\$185.50
Engineer	\$160.00	\$169.50
Senior Designer	\$150.00	\$159.00
Designer	\$138.00	\$146.00
Technician / CADD	\$127.00	\$134.50
Intern	\$120.00	\$125.00
Project Administrator	\$107.00	\$113.50
Sr. Admin.	\$75.00	\$79.50
Clerical / Admin.	\$60.00	\$63.50

APPENDIX

Sample Documents

Redacted

COMMISSIONING PLAN

April 2022

Prepared by
Capital Engineering Consultants, Inc.
11020 Sun Center Drive, Suite 100, Rancho Cordova, CA 95670
Office (916) 851-3500 | Fax (916) 631-4424

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Commissioning Plan

GENERAL PROJECT INFORMATION:

The project is located at the corner of El Camino Real and South Spruce Ave in South San Francisco. The proposed project to be 63,111 sf. Built-to-Suit grocery store located in S. San Francisco, CA. The Grocery Store will be on the second level of a two-story building with customers accessing the Grocery Store from the street and lower-level parking areas. Access to the grocery store from parking areas via (2) elevators, (2) escalators and (2) grand staircases. The ground level Loading dock/Platform shall access to the second level store stockroom via (2) Freight Elevators per approved Conceptual Design.

PURPOSE OF COMMISSIONING PLAN:

- A. The commissioning (Cx) plan provides direction for the commissioning process during construction, including documentation requirements and format needed for commissioning per specifications.
- B. Define the roles and responsibilities of all team members.
- C. Define the process for reporting and correcting deficiencies identified.
- D. The services shall comply with section 120 of the 2019 California Energy Code section 5.410.2 of the 2019 California Green Building Standards required for non-residential buildings with conditioned spaces of 10,000 SF or more.

COMMISSIONING GOALS:

Commissioning of this project is intended to achieve the following specific objectives according to the Contract Documents.

- 1. Ensure Owner's Project Requirements (OPR) and Basis of Design (BOD) are accomplished through delivered systems.
- 2. Confirm that applicable equipment and systems are installed properly and receive adequate operational checkout by installing contractors.
- 3. Verify and document proper performance of equipment and systems.
- 4. Ensure that the owner's operating personnel are adequately trained.
- 5. Submit the Commissioning Report detailing the commissioning process and reporting recommendations for the operational phase of the building.

COMMISSIONING PROCESS:

Cx Specifications: Commissioning Authority (CxA) develops commissioning specifications as part of project manual.

Commissioning Plan: Developed by CxA, this plan provides guidance in execution of the commissioning process.

Submittals: Commissioned Equipment documentation submitted to CxA for development of functional test scripts.

Start-up/Pre-functional checklists: Contractor to develop startup plans and checklists to be completed during the startup process. The startup plans and checklists will be submitted to the CxA for review.

- 1. California Title-24 Acceptance Testing: The General Contractor is responsible for scheduling the appropriate field tech to verify the installation and operation of newly installed equipment or construction elements of a nonresidential building.
- 2. Only a lighting Acceptance Test Technician (ATT) certified by an ATT Certification Provider (ATTCP) may perform testing for indoor and outdoor lighting systems and controls.
- 3. The Mechanical Contractor shall perform testing for HVAC systems and controls until the industry thresholds in section 10-103.2 are met.

Commissioning Plan

Functional Performance Testing: CxA develops tailored functional test procedures for the commissioned equipment/systems in accordance with the construction documents and final approved sequence of operations. The test scripts are then shared with the subcontractors for review and comments.

1. The Commissioning Coordinator (CxC) waits until the Certificates of Installation and Acceptance Tests have been submitted with the necessary signatures, confirming that the systems are ready for functional testing, at which point the CxC schedules the CxA to perform the functional tests.
 2. The CxA oversees, witnesses and documents the functional testing of a sample of commissioned equipment and systems while the subcontractors execute the functional tests.
- A. Commissioning Issues Log: An issues log will be developed to track all issues found during the commissioning process.
 - B. Deficiencies and Resolution: CxA documents items of non-compliance in materials, installation or operation. Items shall be corrected at the contractor's expense and any re-testing shall be at contractor's expense.
 - C. Operations and Maintenance Documentation: CxA reviews O&M documentation for completeness.
 - D. Training: CxA verifies that training has been provided by the responsible contractor to the satisfaction of the owner.

PRE-CONSTRUCTION COMMISSIONING PROCESS:

- A. Compose an evolving commissioning plan that ensures the owner's requirements are incorporated as well as the team's comments and issues to the appropriate parties.
- B. Integrate all commissioning activities into the overall construction schedule.
- C. Schedule introductory Commissioning kick-off meeting to review team responsibilities and review the Cx plan for activities.

CONSTRUCTION AND TESTING PHASE PROCESS:

- A. Coordination of commissioning activities.
- B. Ensure commissioning activities are scheduled.
- C. Commissioning Plan is being maintained per schedule changes and progress changes.
- D. Plan and conduct commissioning meetings as required.
- E. Review of requested documentation such as start-up reports, O&M materials, sequence of operations.
- F. Site visits to observe component and system installations and monitor construction and commissioning progress.
- G. Coordination of start-up requirements and TAB requirements.
- H. Functional Test scripts procedures for equipment and systems, reviewed by owner and subcontractors.
- I. Coordinating, witnessing and documenting functional performance tests completed by contractors.
- J. Coordination of retesting and back-checking as necessary until satisfactory performance is verified.
- K. Maintaining issues and resolutions encountered during commissioning.
- L. Review of training plan proposed by contractor to the owner's operating personnel.
- M. Review of Operation and Maintenance Manuals.
- N. Final Cx Report to include all documentation and process of Cx activities throughout the project.

Commissioning Plan

REPORTING:

- A. Communication between the commissioning team regarding the progress of activities and scheduling changes will be through memos as necessary.
- B. The final Cx Report will summarize tasks, findings and documentation of the commissioning process.

COMMISSIONED SYSTEMS:

The following marked systems will be commissioned in this project. All general references to equipment in this document refer only to equipment that is to be commissioned.

1. HVAC Systems and Related Controls
2. Lighting Controls as applicable to Title-24 2019
3. Domestic Hot Water Systems
4. Irrigation Controls

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Who Executes Test	Sampling %
Packaged Air Conditioning Units	DX Coil, Gas Furnace, Supply Fan, Return Fan, condenser fan, Power Exhaust, Occ. Sensor, temperature sensors, zone temp controller, damper actuators, sensors, safeties, controls.	Sequence of Operation, Scheduling, Setpoints, Cooling, Heating, CO2 Levels, Free cooling, Economizer FDD, OA min req.	Controls Contractor and Mechanical Contractor	Per Contract Agreement
Heating Hot Water System	Heating Coils, HW Pumps, Sensors, Gauges, Safeties, Alarms	Sequence of Operation, Pump Rotation, validation of controllers and sensors, power loss, alarms	Controls Contractor and Mechanical Contractor	Per Contract Agreement
Energy Management System	BMS workstation, global control panels, local control panels, point to point communication, servers	Normal power, loss of power, loss of communication, control graphics, trends, schedules, logics, access levels and privileges, time delays, alarms	Controls Contractor	Per Contract Agreement
Exhaust Fans	Fan, Sensors, Gauges, Safeties, Interlocks, Communications	Sequence of Operation, Schedule, Manual Control, Temperature Sensor Controls	Controls Contractor and Mechanical Contractor	Per Contract Agreement

Commissioning Plan

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Who Executes Test	Sampling %
Ductless Split System	Fan, Dx Cooling, temperature controller	Sequence of Operation, Cooling Operation, validation of controllers and sensors, power loss, alarms	Controls Contractor and Mechanical Contractor	Per Contract Agreement
Water Heaters	Temp Sensor, Gauges, Heating Element, Safeties, Alarms	Setpoints, Output Temp, Tank Temp, Loss of Power	Plumbing Contractor	Per Contract Agreement
Circulation Pumps	Power, Timeclock, Aquastat	SOO, Schedules, Setpoints, Communication, Loss of Power	Plumbing Contractor	Per Contract Agreement
Temperature Mixing Valve	Blending, Setpoint, Safeties	Flow, Temperature	Plumbing Contractor	Per Contract Agreement
Lighting Controls	Occupancy sensors, Daylight Sensors, Controllers, Lighting Control Panels, Dimming Controllers, Switches	Occupied, Unoccupied, Scenes, Different Light Levels, Time of Day Schedules, Manual Controls	Electrical Contractor	Per Contract Agreement
Irrigation Controls	Valves, Control Panel, Sensors	Time schedules, validation of controllers and sensors	Landscape Contractor	Per Contract Agreement

Commissioning Plan

COMMISSIONING TEAM INFORMATION:

Team Member	Company & Contact Names	Contact Information
Owner Contact		
Developer		
Architect		
Mechanical / Plumbing Engineer		
Refrigeration		
Landscape Architect		
Electrical Engineer		
General Contractor	TBD	TBD
Mechanical Contractor	TBD	TBD
Plumbing Contractor	TBD	TBD
Electrical Contractor	TBD	TBD
Landscape Contractor	TBD	TBD
Commissioning Agent Ashkan Azarkeyvan	Capital Engineering 11020 Sun Center Drive, Suite 100 Rancho Cordova, CA 95670	(916) 851-3500

Commissioning Plan

DEFINED ROLES AND RESPONSIBILITIES:

A. Commissioning Authority (CxA):

1. Review plans, specifications and design intent document.
2. Develops commissioning requirements and directs commissioning activities.
3. Review commissioned system submittals for development of functional test scripts.
4. Coordinate commissioning work with General Contractor and owner.
5. Prepares commissioning plan.
6. Conducts inspections (as necessary) of work in progress.
7. Reviews pre-functional checklists and start-up reports provided by subcontractors.
8. Writes functional performance test procedures for commissioned equipment and systems.
9. Witness, direct and document functional performance tests.
10. Assist contractor in resolution of system deficiencies.
11. Document deficiencies during testing and follow-up for corrective action.
12. Provide Final Commissioning Report.
13. Review training plans proposed by appropriate sub-contractors.
14. Review Operation and Maintenance Manuals.

B. General Contractor (GC):

1. Integrates commissioning activities into construction process and schedule.
2. Ensures subcontractors execute their responsibilities, including commissioning requirements.
3. Perform normal review of contractor submittals, management and resolution of RFIs and tracking of change orders.
4. Provide adequate accessibility to all mechanical/electrical equipment for maintenance and component replacement or repair.
5. Review start-up reports and functional test procedures.
6. Assist in training of owner personnel.
7. Assemble and review O&M Manuals.
8. Remedy deficiencies identified during testing and commissioning.
9. Ensure completion of punch list items.
10. Obtain final inspection approvals.
11. Warranty period responsibilities.

C. Subcontractors (SC):

1. Integrate commissioning activities into the construction process and schedule.
2. Ensure cooperation and participation of specialty subcontractors.
3. Ensure participation of major equipment manufacturers in appropriate training and testing activities.
4. Provide TAB report.
5. Provide completed Title-24 Acceptance forms (Electrical by ATTCP).
6. Provide start-up reports for commissioned systems.
7. Assist in start-up, pre-functional checkout and functional performance testing and demonstrate proper system performance.
8. Conduct mechanical system orientation.
9. Prepare and submit O&M manuals.
10. Remedy deficiencies identified during testing and commissioning.
11. Ensure completion of punch list items.

D. Owner (O, OR):

1. Manage the contract of the architect/engineers, General Contractor, and Commissioning Authority.
2. Arrange for O&M personnel to participate in the commissioning process including:
 - i. Construction coordination meetings.

Commissioning Plan

- ii. Training sessions.
 - iii. Equipment start-up.
 - iv. Functional Performance Tests.
 - v. Final Walk-through (punch list).
 3. Review shop drawings.
 4. Review and approve change orders.
 5. Review and approve O&M manuals.
 6. Final approval and acceptance of the construction and commissioning process.
 7. Review start-up reports and functional test procedures.
 8. Witness start-up tests and functional testing of selected equipment and systems.
- E. Design Engineers (A/E)
1. Normal construction administration duties.
 2. Participate in the resolution of system deficiencies.
 3. Respond to Request for Information (RFI) if generated during construction site visits by commissioning team.
 4. Provide Design Intent document.
 5. Review and approve O&M manuals.
 6. Review functional performance testing procedures.
 7. Review and approve TAB report.
 8. Review and comment on final commissioning documentation.

RESPONSIBILITY TABLE:

Activity	Commissioning Authority (CxA)	General Contractor and Subcontractors	Owner	Design Engineers
Cx Plan	Writes and manages the Cx Plan.	Reviews Cx Plan for understanding and scope issues.	Reviews and accepts.	Reviews and comments.
Construction submittals of commissioned equipment	CxA informally reviews commissioned equipment submittals in aid to writing the functional test scripts.	Subs provide, general contractor reviews for compliance with the specifications.	Reviews CxA and Design Engineer's comments and reviews selected submittals where concerned.	Reviews CxA comments and responds with concerns. Incorporates approved CxA comments with their own and submits to contractor.
Scheduling	Reviews the contractor's schedule for commissioning activities. Provides input. Notifies owner if any concerns.	Controls the schedule.	None.	Coordinates through contractor via owner. Notify owner of concerns.
Management and Keeper of Issues Log	Manages (develops and keeps updated).	Uses issues log to address issues.	Reviews and provides input to CxA.	None.
Pre-Functional Checklists, Test and start-up forms	Review generic list/forms and approves. Coordinates commissioning activities to be integrated into construction schedule.	Prepares start-up forms, tests and manufacturer data. Executes the checklists. Sub-contractor submits completed forms to CxA.	Spot checks selected items and reviews completed forms.	None.
Construction observation	Some Observation of critical systems and issues.	Observe to ensure Sub-contractors are executing accepted installation and start-up plans.	Periodic walk-through. Report findings to contractors.	Normal per contract.

Commissioning Plan

Start-up and Acceptance Tests	Reviews completed forms.	Coordinates tasks and schedules with Sub-contractors. Sub-contractors to complete the forms.	Observe selected systems.	May witness selected systems.
Coordination/Shop Drawings	Ensure that they are being developed.	Produces the drawings.	May review.	Review drawings. Helps resolve issues.
Functional Performance Test Procedure Development	Writes procedures for testing of equipment listed in this commissioning plan.	Reviews for safety, warranty and scope.	May review.	None.
Commissioning Meetings and Test Plan (process, schedule and sequencing)	Plan, conduct meetings as needed and distribute minutes for commissioning meetings. Develop plan with input from contractor.	Attend commissioning meetings. Reviews and accepts.	Attend commissioning meetings. May review plan.	Attend selected commissioning meetings
Functional Performance Test Execution	Oversees and witnesses all tests and documents testing.	Executes testing.	Participate in selected tests.	Normal construction administration per contract. Resolve issues.
T and B of Air and Water Systems	Review and comment to A/E.	Execute and document per project contract.	May review.	Review T&B Report and help resolve issues, if any. Approve final Results (Stamp).
O&M Manuals	Reviews with OTS and accepts for clarity, accessibility, usability and completeness.	Develops O&M Manual and submits to A/E.	Review and comment. Resolve comments from reviewers. Provides final direction to Contractor.	Reviews and comments to owner.
Training	Ensures Operations personal receive training.	Uses and fills in training agendas reviewed and approved by CxA. Executes training. contractors submit forms to CxA.	Receive training.	In accordance with their contract, provides a system overview and design and operational intent at the beginning of each primary equipment /system training.
Commissioning Final Report	Compiles and submits to Owner.	None.	None.	None.
Acceptance of the Systems	Recommends acceptance to the Owner, subject to outstanding issues.	None.	Accepts.	Per their contract.

Commissioning Plan

COMMISSIONING SCHEDULE:

The commissioning schedule is developed along with a detailed timeline; the timeline is fine-tuned as design and then construction progresses. In particular, thirty days prior to submission of equipment submittals, the CxA meets with OR, A/E and GC to develop a detailed commissioning schedule. The commission plan is approved by the architect and owner. The following commissioning milestones and estimated durations to be included in the master project schedule:

Commissioning Activity	Estimated Duration	Comment
Equipment Submittal Review	Per Contract Agreement	For development of functional test scripts. Not a formal review.
Control submittal Review	Per Contract Agreement	For development of functional test scripts. Not a formal review.
Commissioning Kick-off Meeting	Per Contract Agreement	As early as MEP rough in, no later than after equipment start up.
Installation Verification	Per Contract Agreement	Before ceiling tiles drop, once all equipment is installed.
Publish Functional Test procedures	Per Contract Agreement	Upon approval of all submittals
Equipment Startup Review	Per Contract Agreement	Upon completion of startup
Controls Startup Review	Per Contract Agreement	Upon completion of controls startup
Test and Balance Report Review	Per Contract Agreement	Upon completion of TAB work
Trends Setup	Per Contract Agreement	Completed by CC prior to Functional tests
Functional Testing	Per Contract Agreement	Upon completion of above listed activities
Trend Review	Per Contract Agreement	Minimum of 14 calendar days of normal operation
Issues close out	Per Contract Agreement	After all issues are confirmed resolved by construction team
Training Verification	Per Contract Agreement	Training coordinated and completed by construction team
Substantial Completion	Per Contract Agreement	

SECTION 01 91 13 – GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Owner's Project Requirements and Basis of Design documentation are included by reference for information only.

1.2 SUMMARY

- A. An independent Commissioning Authority (CxA) has been retained to implement and coordinate the commissioning process for this project. This section describes the scope of the formal commissioning process and the general requirements for the building systems outlined herein. The objectives of the commissioning process are to:
 - 1. Achieve, verify and document that the performance of facilities, systems, and assemblies meet the Owner's Project Requirements, Basis of Design, and Construction Documents.
 - 2. Verify that O&M documentation left on site is complete.
 - 3. Verify that the Owner's operating personnel are adequately trained.
- B. Related Sections
 - 1. Division 22, Section 22 08 00, Commissioning of Plumbing Systems.
 - 2. Division 23, Section 23 08 00, Commissioning of Mechanical Systems.
 - 3. Division 26, Section 26 08 00, Commissioning of Electrical Systems.

1.3 SYSTEMS TO BE COMMISSIONED

- A. This specification section is applicable to the following systems and equipment to be commissioned in this project:
 - 1. All HVAC systems, equipment, and controls including the BAS.
 - 2. Plumbing Fixtures, Domestic Hot Water (DHW) systems and associated controls.
 - 3. Lighting Control Systems
 - 4. Electrical Distribution Systems
 - 5. Building Energy Metering (Natural Gas & Electricity) including submetering.

1.4 REFERENCES

- A. California Building Standards Commission:
 - 1. Title 24, Part 11, 2019, California Green Building Standards Code, Section 5.4.10.2 Commissioning
- B. California Energy Commission:
 - 1. Title 24, Part 6, 2019, Building Energy Efficiency Standards, Section 10-103 and Section 120.8-Building Commissioning

C. ASHRAE:

1. ASHRAE Guideline 0-2013, The Commissioning Process

1.5 DEFINITIONS

- A. Basis of Design (BOD): The documentation of design criteria and assumptions for systems, components, and methods chosen to meet the Owner's Project Requirements and applicable regulatory requirements, standards, and guidelines. The document includes narrative descriptions of the systems to be commissioned. The BOD is prepared by the Design Professionals.
- B. Building Automation System (BAS): The automated building system providing control and user interaction with select building systems, such as the HVAC, domestic hot water and lighting systems. Also, often referred to as building management system (BMS), energy management system (EMS), or an energy management and control system (EMCS).
- C. Commissioning (Cx): A quality-focused process to verify and document that building systems are installed and perform as intended per the OPR, BOD and design documents.
- D. Commissioning Authority (CxA): An independent agent hired directly by the Owner and not otherwise associated with the Design Professionals or the General Contractor. The CxA is the authority on commissioning results and other commissioning program elements completion and assists the General Contractor with coordinating commissioning activities and witnesses the activities on behalf of the Owner.
- E. Commissioning Issue: A condition that affects, prevents or inhibits commissioning, and must be resolved to complete the commissioning process.
- F. Commissioning Issues & Recommendations Log (Cx Log): A log maintained by the CxA listing and describing all Cx issues and any recommendations documented during the commissioning process, including providing the status, suggested action, contractor updates and resolution, and associated dates. All Cx issues require action, correction and closure.
- G. Commissioning Report (Cx Report): The final report issued at the conclusion of the commissioning process. The report will include an executive summary abbreviating the outcome of the commissioning process and identifying all outstanding issues. The report also contains all commissioning documentation collected throughout all phases of the project.
- H. Commissioning Plan (Cx Plan): A document that outlines the organization, coordination, and requirements of the commissioning process in more detail and contains project specific commissioning forms.
- I. General Contractor (GC): The contractor directly contracted to the Owner with overall responsibility for the project and all commissioning activities described herein.
- J. Commissioning Coordinator (CxC): Individual within the GC firm who plans, schedules, directs and coordinates all the Trade Subcontractor's commissioning activities, and serves as the CxA's single point of contact for all administrative, documentation and coordination functions.

- K. Deferred Testing: Testing performed at a later time, due to partial occupancy, equipment, load, seasonal requirements, design or other site conditions that disallow the test from being performed prior to substantial completion.
- L. Deficiency: A condition in the installation, function or performance of a component, equipment or system that is not in compliance with the contract documents and design. A deficiency will be considered a Cx issue and documented on the Cx Log.
- M. Design Professional (DP): Architects, engineers and other consultants involved in the design of the project.
- N. Functional Performance Test (FPT): A test of the dynamic function, operation and control of the equipment and systems to verify system performance to the fullest extent. Systems are tested under various operating modes and control sequences including failure modes. The FPTs are performed using manual (direct observation) or monitoring methods. The FPTs can include sequence of operation tests, performance tests, verification tests, integrated systems tests, and trend analysis.
- O. HVAC: Heating, ventilation, and air conditioning.
- P. Installation Verification (IV): Field verification and documentation of proper installation of system equipment, assemblies and components. The IV process is typically complete when systems are ready for startup or operation. IV is organized and documented under the System Readiness Checklist (SRC) forms.
- Q. Monitoring: The recording of parameters (temperature, flow, current, status, pressure, etc.) of equipment operation, which shall be completed using data-loggers or the trending capabilities of BAS or control systems.
- R. Owner's Project Requirements (OPR): A document describing the operational and functional requirements of a project, the expectations of how the facility will be used and operated, and the equipment and system expectations and requirements, as defined by the Owner. This document provides an explanation of the ideas, concepts, goals, success criteria, and supporting information for the project.
- S. Percent Sampling: Witnessing the startup, checkout or testing of a selected fraction of the total number of identical or near-identical pieces of equipment or systems.
- T. Pre-Functional Checklist (PFC): These are various checks and tests performed on a piece of equipment or system before, during, or after the initial startup and operation, but prior to the FPT phase. They are performed to confirm the system equipment and individual components are working properly and meeting applicable performance requirements and specifications. **The Contractor shall execute PFCs for 100% of commissioned equipment in the project scope. The PFC forms must be completed and signed by the Contractor prior to FPT.** They are all organized and documented under the SRC forms and are to be completed prior to FPTs.
- U. Startup: Initial starting or activating of equipment performed by the Trade Subcontractor or the Manufacturer's authorized representative.
- V. Systems Manual: A manual that provides the operating staff the information needed to understand and optimally operate the commissioned systems. It expands upon the scope of traditional operating and maintenance documents and is compiled of multiple documents such as the final BOD, single line diagrams, and as-built controls drawings and sequences of operation. It also includes the current facility requirements (CFR), O&M preventive maintenance information and an ongoing Cx plan.

- W. TAB: Testing, Adjusting, and Balancing work on the mechanical and plumbing systems to ensure design flow, pressure and temperature conditions are met. Performed by the TAB Trade Subcontractor.
- X. Trade Subcontractor: Typically, a subcontractor to the GC who provides and installs specific building components and systems and/or provides certain services.
- Y. Trending: Monitoring using the BAS or a control system, to aid in functional testing and to verify system operation and performance under actual operating conditions.
- Z. Warranty Phase: The phase of the project immediately after the initiation of the building equipment warranty which spans the entire length of the project warranty.

1.6 SUMMARY DESCRIPTION OF COMMISSIONING

- A. Commissioning is a quality-focused process for achieving, verifying and documenting that building systems are installed and perform functionally as intended according to the OPR, BOD, and the requirements of the contract and design documents.
- B. Commissioning during the construction phase is intended to achieve the following specific objectives:
 - 1. Commissioning review of the Trade Subcontractor submittals for systems to be commissioned, concurrent with the Design Professional's review.
 - 2. Finalize the Cx Plan including project specific checklist and test forms.
 - 3. Verify the applicable equipment and systems are installed according to the design documents, manufacturer's recommendations and to industry-accepted minimum standards, and that they receive the required operational checkout and testing by the Trade Subcontractors.
 - 4. Verify and document proper performance of equipment and systems through execution of pre-functional and functional performance tests.
 - 5. Develop a Systems Manual, including the current facility requirements, O&M preventive maintenance information and an ongoing Cx plan, which provides the operating staff the information necessary to optimally operate the commissioned systems.
 - 6. Verify the Owner's facilities and operations personnel and building occupants are trained according to contract document requirements.
 - 7. Prepare the commissioning report and documentation.
- C. Commissioning during the post-occupancy, warranty phase is intended to achieve the following specific objectives:
 - 1. Perform any necessary seasonal or deferred testing, to be defined in the Cx Plan.
 - 2. Review the system operations and performance through trend analysis. The CxA will perform quarterly trend analysis during the first year of building operation. The CxA will report any identified issues and recommendations for system improvements from the trend analysis.
 - 3. Review the system operations with the O&M staff, and any open or new Cx issues and recommendations with the commissioning team members, within 10 months of substantial completion (and no later than 2 months prior to the end of the warranty phase).

- D. The commissioning process does not take away from or reduce the responsibility of the GC to provide a finished and fully functioning building. The GC has overall responsibility to assure that all systems are properly checked, tested and commissioned, and that all required commissioning documents are completed and provided to the CxA.

1.7 GENERAL COMMISSIONING PROCESS

- A. Unless otherwise noted in the trade specific commissioning specification sections, the general commissioning process is as follows. See the trade specific commissioning specification sections for additional details on the commissioning process.
- B. Submittal Reviews by the CxA (concurrent with the Design Professional reviews):
 - 1. The GC shall include the CxA on the distribution of the Trade Subcontractor issued submittals, for the systems to be commissioned. The CxA will review pertinent submittals and provide review comments.
- C. Cx Plan and Form Development:
 - 1. The CxA prepares a Cx Plan that provides guidance in the execution of the commissioning process during construction.
 - 2. The CxA develops the PFC and FPT forms and provides them to the GC and Trade Subcontractors for review and comment.
 - 3. The GC and Trade Subcontractors shall submit to the CxA, for review and approval, representative blank forms and plans for completing Startup tasks.
- D. Prefunctional Checklist (PFC):
 - 1. The CxA shall develop and provide the PFC forms to the General Contractor.
 - 2. The Trade Subcontractors and the General Contractor shall document completion of the PFC tasks on the PFC forms, and provide the completed forms to the CxA for inclusion in the Final Cx Report.
 - 3. The General and Trade Subcontractors shall perform the PFC tasks for 100% commissioned systems and equipment (no sampling allowed).
 - 4. The CxA will review the completed PFC forms and will also perform various field observations and reviews and witness a sample of the Startup and PFC activities
 - a. The Trade Subcontractor shall resolve any results deemed non-compliant with the Construction Documents by the CxA.
 - b. For non-compliant items the Trade Subcontractor shall execute a new PFC to be witnessed by the CxA.
 - c. The CxA shall deem the PFC acceptable after resolution of all issues and any witnessed sampling results in no issues.
- E. Startup:
 - 1. The Construction Team shall conduct Startup by using the startup forms as provided by individual equipment manufacture/suppliers.
 - 2. Startup technician qualifications shall be as required by the technical specifications.
 - 3. If the equipment manufacturer and supplier do not publish startup procedures the Construction Team shall use their own procedures and provide a written summary to the CxA describing their startup procedures.
 - 4. Submit complete and signed forms to the CxA for review

F. Functional Performance Testing:

1. The CxA will provide test scripts to be use for FPT.
2. The contractor shall execute the FPT scripts and document the results on 100% percent of commissioned equipment.
3. Perform and complete each step of the approved test procedures in the order listed.
4. Record data observed during performance of tests on approved data forms at the time of test performance and when the results are observed.
5. Test results that are not within the acceptance criteria shall be corrected and tests re-conducted.
6. On successful completion of a test, sign the completed test procedure and data form. Tests for which test procedures and data forms are incomplete, not signed, or which indicate performance that does not comply with acceptance criteria will be rejected. Tests for which test procedures and data forms are rejected shall be repeated and results resubmitted.

G. Functional Performance Testing Demonstration:

1. Perform test demonstrations on a sample of equipment after Functional Performance Testing submittals are approved. The sampling rate for test demonstrations shall be:
 - a. 100% of System Level HVAC Equipment
 - b. 25% of Zone Level HVAC Equipment
 - c. 100% of DHW Heating Equipment
 - d. 25% of Plumbing Fixtures
 - e. 100% Main Server Board(s)
 - f. 25% Panelboards
 - g. 25% of Lighting Controls
 - h. 100% Utility Metering and submetering
2. Notify CxA (or alternative Owner's Witness) at least 10 days in advance of each test demonstration.
3. The contractor shall execute the test steps as directed by the CxA
4. The CxA shall record the results on the FPT forms.
5. Provide full access to Owner's witness to directly observe the performance of all aspects of system response during the test demonstration. On completion of a test demonstration, sign the completed data form and obtain signature of Owner's witness at the time of the test to authenticate the reported results.
6. Test demonstration data forms not signed by Contractor and Owner's witness at the time of the completion of the procedure will be rejected. Test demonstrations

for which data forms are rejected shall be repeated and results shall be resubmitted.

a. Exception for Failure of Owner's Witness to Attend: Failure of Owner's witness to be present for agreed-on schedule of test demonstration shall not delay Contractor. If Owner's witness fails to attend a scheduled test, Contractor shall proceed with the scheduled test. On completion, Contractor shall sign the data form for Contractor and for Owner's witness, and shall note the absence of Owner's witness at the scheduled time and place.

7. The GC & Trade Subcontractors shall provide all industry standard test equipment, special tools, ladder/lifts, two-way radios and equipment required for performing the specified tests
8. The CxA recommends the Trade Sub-Contractors complete the Title 24 acceptance testing and forms (see further details below) as part of the contractor's pre-testing and readiness for the CxA witnessed FPTs.
 - a. The CxA will document the results of all FPTs on the associated FPT forms created by the CxA, unless indicated otherwise on the FPTs and excluding completion of the Title 24 Certificate of Acceptance forms.
9. The completion of the Title 24 Certificate of Acceptance forms (is a contractor responsibility, not the CxA responsibility).
10. The system specific commissioning specifications (listed in Paragraph 1.2) and/or the Cx Plan will define any required seasonal or deferred testing.

H. Commissioning Issues & Recommendations:

1. Throughout the process, the CxA records Cx issues and recommendations on the Cx Log and distributes the list to the team. The GC and Trade Subcontractors shall correct Cx issues and retest the system(s) without delay at no additional cost to the Owner. The CxA will verify the completion of the issues and recommendations, and make all amendments to the Cx Log.

I. Training Verification and Final Documentation:

1. The GC shall submit a comprehensive Training Plan for review by the Design Professionals, CxA and Owner, prior to conducting any training. The Training Plan shall meet the specific requirements in the contract documents and specifications for each applicable system to be commissioned and may include both operations and maintenance (O&M) staff training and building occupant training. The GC shall coordinate with the Owner and/or Owner's Representatives, as needed, regarding any specific requirements for occupant training.
2. The CxA will verify completion of the training by receiving a copy of all training class sign-in sheets and any training materials / handouts, to be provided by the CxC or Trade Subcontractors. The CxA may also sample witness some of the training sessions.
3. The CxC will confirm the GC has issued all O&M manuals to the owner per contractor documents.

4. The CxA will develop the Systems Manual (per the LEED requirements), including the current facility requirements, preventive O&M information and an ongoing Cx plan, with assistance from the GC and Trade Subcontractors.
5. The CxA will complete the Commissioning Report and all associated documentation for the Owner with assistance from the GC and Trade Subcontractors.

J. Monitoring Based Commissioning:

- a. The CxA will conduct monitoring-based Commissioning in accordance with the requirements and procedures of LEED v4.
- b. The CxA shall evaluate and assess the performance of the commissioned systems quarterly during the first year of building operation, as measured from the date of substantial completion.
- c. The General and Trade Subcontractors shall provide Building Utility Metering data for the analyzed period to the CxA.
- d. For systems monitored and trended by the BMS, The General and Trade Subcontractors shall provide BMS trend data for the analyzed period to the CxA. These trends shall be initialized at the conclusion of the FPT Demonstration phase.
- e. Data shall be provided either by access to the BMS system, or data trends in CSV format.

K. Post-Occupancy Warranty Phase Commissioning:

1. No later than either 10 months after substation completion or two months prior to the expiration of the first 12-month warranty period of building occupancy, the CxA will return to the facility to interview facility O&M staff, walk the facility and review systems operation and trend data where applicable.
2. Key representatives from the GC and Trade Subcontractors shall attend a site walk-through and meeting, as determined by the CxA.
3. The CxA will report any identified operational or performance issues (identified by the building O&M staff or warranty phase Cx activities) to the CxC via a Warranty Phase Cx Log for resolution by the GC and Trade Subcontractors during or prior to the end of the warranty period.
4. The Trade Subcontractors shall execute any defined seasonal or deferred FPTs, witnessed by the CxA.
5. The CxA will review trend data during the Warranty Phase and will report any identified issues and recommendations from the trend analysis.

1.8 COMMISSIONING TEAM

- A. The Commissioning Team is responsible for performing the process and achieving successful commissioning results. The Commissioning Team is comprised of the following:

1. Owner's Representatives
2. Design Professionals (DP).
3. Commissioning Authority (CxA).
4. General Contractor (GC).
5. GC's Commissioning Coordinator (CxC).
6. Trade Subcontractors responsible for the systems to be commissioned.

1.9 RESPONSIBILITIES

A. General:

1. The Commissioning Team and all others involved in the commissioning process shall follow the Cx Plan, attend the commissioning kickoff meeting, and attend additional commissioning meetings as necessary.

B. Commissioning Authority (CxA)

1. The primary role of the CxA is to oversee, organize and lead the commissioning team and assist the GC and Trade Subcontractors in executing the commissioning process. The CxA shall:
 - a. Prepare the Cx Plan
 - b. Develop the PFC and FPT forms.
 - c. Work with the GC and CxC to schedule commissioning activities.
 - d. Lead commissioning team meetings, prepare meeting agendas and distribute meeting minutes.
 - e. Observe and witness on a sampling basis, the system and equipment installation, start-up, checkout, and testing for compliance with the OPR, BOD, and Contract Documents; and review completion of commissioning documentation.
 - f. Witness the execution of the FPTs by the Trade Subcontractors.
 - g. Be the authority on commissioning test results and other commissioning program elements completion.
 - h. Prepare, maintain, and distribute the Cx Log.
 - i. Review and comment on Training Plan and verify training is completed.
 - j. Lead the effort in developing the Systems Manual.
 - k. Assemble the commissioning documents and prepare the Commissioning Report.
2. The CxA is not responsible for:
 - a. Design, design concept or design criteria
 - b. Review for code compliance
 - c. Inspector of record services
 - d. Design and construction scheduling
 - e. Cost estimating
 - f. Construction management
 - g. Providing tools and test equipment used for commissioning.
 - h. Scheduling startup and testing
 - i. Coordinating the work of Trade Contractors and any special testing agents
 - j. Performing startup and testing
 - k. Completing California Title 24 certificate of acceptance forms.

C. General Contractor:

1. The GC is responsible for performing all commissioning tasks, including tasks assigned to Trade Subcontractors and ensures that all Trade Subcontractors execute their commissioning responsibilities according to the contract documents, Cx Plan, and schedule. The GC shall:
 - a. Include the cost for commissioning in the project cost.

- b. Assign a CxC for the duration of the project with responsibilities outlined herein.
 - 1) The CxC shall have at least five years' experience within the disciplines of construction.
 - 2) The GC shall submit the name of the person assigned as the CxC to the CxA within a month of contract award. For large projects, more than one individual may be assigned as the CxC, as long as there is clear delineation of which systems the associated CxC is responsible for.
 - c. Schedule and coordinate the commissioning meetings with the CxA.
 - d. Plan, schedule, coordinate and facilitate the commissioning work performed by the Trade Subcontractors. Provide sufficient lead time of at least 10 days to notify the CxA in advance of commissioning activities.
 - 1) Update the master construction schedule periodically with commissioning progress and activities.
 - e. Review, comment and accept the Cx Plan prepared by the CxA.
 - f. Furnish continual updates of any construction related documents such as change orders, submittals, shop drawings, ASIs and RFIs to the CxA. Electronic files are acceptable.
 - 1) The CxC shall ensure the issuance of the requested submittals for review by the CxA when also issued to the Design Team.
 - g. Obtain and review the Trade Subcontractor PFC forms and plans prior to use.
 - h. Using the PFC, and Startup, and FPT forms, document and certify the completion of all work and all systems are installed, operational, and functionally tested.
 - i. Ensure completion of the California Title 24, Part 6, Certificate of Acceptance forms.
 - j. Organize all Trade Subcontractor completed Cx forms to be submitted to the CxA for review.
 - k. Evaluate issues and recommendations identified on the Cx Log. The CxA will track the issues and recommendations according to the responsible entity. Collaborate with Trade Subcontractors and recommend corrective action. Assure resolution of all Cx issues.
 - l. Prepare a Training Plan including a schedule of all training, along with the Trade Subcontractor training agendas, and submit to Design Professionals, CxA and Owner for review.
 - m. Execute training of Owner's operating personnel and building occupants per approved training plan, schedule and agendas.
 - n. Assist the CxA in developing the Systems Manual.
- D. Trade Subcontractors:
- 1. See the trade specific commissioning specification sections for the Trade Subcontractor responsibilities.
 - 2. Trade Subcontractors may be assisted by Manufacturer Representatives supplying equipment, materials, components and controls for the systems to be commissioned.

1.10 SUBMITTAL REQUIREMENTS FOR COMMISSIONING

- A. Commissioning Coordinator (CxC) Assignment and Qualifications. The GC shall submit the qualifications and resume for proposed person to be assigned as the project CxC, with responsibilities and minimum experience outlined herein.
- B. Training Plan. The GC shall submit a comprehensive Training Plan per the requirements of the contract documents and specifications, and the LEED Enhanced Commissioning requirements, including any required building occupant training in addition to O&M staff training. The CxA will review the Training Plan and provide any comments to the Design Professionals, GC and/or the Owner. The Training Plan shall include the following:
 - 1. A list and schedule of all the training sessions.
 - 2. An agenda for each training session, which includes:
 - a. equipment and/or systems covered;
 - b. recommended attendees;
 - c. proposed location;
 - d. estimated duration;
 - e. level of instruction to be provided and an outline of the training topics and subjects to be covered;
 - f. list of any materials and handouts to be provided (or provided in advance);
 - g. company to provide the training and the instructor's name and qualifications.
 - 3. A matrix of building O&M staff by position or name and specific training sessions they should attend (this matrix is a requirement per LEED enhanced commissioning). Consult with the Owner and/or building O&M staff to develop this matrix.
- C. O&M Manuals. The GC shall:
 - 1. Prepares O&M manuals according to the contract documents, including clarifying and updating the original sequences of operation to as-built conditions.
 - 2. Submit O&M manuals to CxA for review prior to Owner operating personnel training.
 - 3. Provide O&M Manuals to the CxA for inclusion in the Systems Manual.

1.11 SCHEDULE

- A. Contractor schedules and scheduling is the responsibility of the Contractor. The CxA shall provide commissioning scheduling information to the Contractor for review and planning activities. CxA-developed commissioning activities are to be integrated into the construction schedule by the Contractor.
 - 1. Schedule the start date and duration for the following commissioning activities:
 - a. Submittals.
 - b. Preliminary operation and maintenance manual submittals.
 - c. Pre-functional Checklist

- d. Startup
- e. Functional Performance Tests.
- f. Functional Performance Test demonstrations.

- 2. Schedule shall include a line item for each activity specific to the equipment or systems involved.
- 3. Determine milestones and prerequisites for commissioning process. Show commissioning milestones, prerequisites, and dependencies in monthly updated critical-path-method construction schedule and short-interval schedule submittals.

4.

B. Two-Week Look-Ahead Commissioning Schedule:

- 1. Two weeks prior to the beginning of Pre-functional Checklists, submit a detailed two-week look-ahead schedule. Thereafter, submit updated two-week look-ahead schedules weekly for the duration of commissioning process.
- 2. Two-week look-ahead schedules shall identify the date, time, beginning location, Contractor personnel required, and anticipated duration for each startup or test activity.
- 3. Use two-week look-ahead schedules to notify and coordinate participation of Owner's witnesses.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 TEST EQUIPMENT

- A. The responsible Trade Subcontractor shall furnish all standard testing equipment required to perform all Cx tasks.
- B. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerance specified in the Contract Documents. If not otherwise specified, the following minimum requirements apply:
 - 1. All equipment shall be calibrated according to the manufacturer's recommended intervals (or within one year if not otherwise specified) and recalibrated when dropped or damaged.
 - 2. Calibration tags shall be affixed to or certificates readily available for all test equipment.
 - 3. Any portable or hand-held setup/calibration devices required to initialize the control system shall be provided by the control system subcontractor and equipment supplier for testing

4. Proprietary test equipment and software required by any equipment manufacturer for programming and/or startup, whether specified or not, shall be provided by the manufacturer of the equipment. Manufacturer shall provide the test equipment, demonstrate its use, and assist in the commissioning process as needed. Proprietary test equipment (and software) shall become the property of the Owner upon completion of the commissioning process.

3.2 SCHEDULING AND COORDINATION

- A. The CxA will provide an initial list of commissioning activities, milestones and deliverables to the CxC for scheduling purposes.
- B. The GC shall integrate all commissioning activities, milestones and deliverables into the master construction schedule with assistance and input from the CxA.
- C. The CxC shall provide sufficient notice to the CxA and Owner for scheduling and coordinating commissioning activities. A minimum 10 days' notice shall be provided to the CxA for witnessing equipment Startups, PFC and FPT tasks.

3.3 MEETINGS

- A. When commissioning team member attendance is required, as determined by the CxA and CxC, team members shall be punctual and attentive during the meeting.
 1. The CxA will conduct a commissioning kick-off meeting, usually within 60 days of the commencement of construction. All team members involved in the commissioning process shall attend the kick-off meeting.
 2. The CxA will plan other commissioning meetings as deemed necessary as construction progresses. These meetings will cover planning and coordination, Cx tasks and documentation, and Cx issues resolution.
 3. The frequency of meetings will vary through construction, but generally increase during startup and commissioning activities.
- B. The CxA will write and distribute meeting minutes documenting the meeting discussion, conclusions, and actions for each team member.

3.4 COMMISSIONING ISSUES, BACK-CHECKS AND RE-TESTS

- A. All Cx issues shall be corrected promptly. The responsible party shall correct the issue and inform the CxC and CxA of the resolution and completion date. The CxA will record completion on the Cx Log after a successful witnessed re-test, field review, back-check, verification obtained through appropriate documentation or photographs, review of the written resolution or documentation, or acceptance by the Design Professional or Owner.
 1. The results shall be deemed acceptable once all noted issues are resolved
 2. The CxA will witness one (1) re-test or will perform one (1) field back-check or verification of any Cx issue.
 3. The CxA's total onsite time for FPTs including initial testing, re-test witnessing and field verification, and back-check of Cx issues will be limited to no more than 5 work days (full 8-hour work days) for all applicable systems in the commissioning scope.
 4. The Owner may back-charge the GC for any additional fees from the CxA, resulting from any additional re-testing or field back-checks or verification beyond this allocated total time.

3.5 COMMISSIONING ACCEPTANCE, CLOSEOUT AND REPORTING

- A. Completion of the main commissioning activities (system readiness checks, functional performance tests, and training) shall be accomplished as a prerequisite for substantial completion. Completion of any re-testing shall be completed prior to final acceptance of commissioning.
- B. After completion of the main commissioning activities and following review of the completed commissioning documents, test results and the current Cx Log with the Owner, the Owner will indicate whether they accept completion of the project construction phase commissioning or if not, the requirements for acceptance. Upon Owner acceptance, any remaining open Cx issues will be transferred to the warranty phase Cx Log for tracking resolution and completion as part of the warranty phase commissioning.
- C. Upon completion of all commissioning activities, the CxA will prepare and submit to the Owner a Cx Report detailing all completed commissioning activities and documentation.
- D. The CxC shall provide all GC and Trade Subcontractor commissioning documentation to the CxA for use in the report.
- E. The CxA work with the CxC to develop and compile a Systems Manual for the systems and equipment commissioned. The Systems Manual will contain the following sections and detail:
 - 1. OPR (design team & owner)
 - 2. Design narrative and BOD (by designers)
 - 3. Single-line drawings and schematics for major systems (by designer)
 - 4. As-built control drawings (by CxC)
 - 5. As-Built Sequences of control (by CxC)
 - 6. Table of Original Setpoints (by CxC)
 - 7. Table of Original Programmed Time Schedules (by CxC)
 - 8. Recommendations for recommissioning frequency by equipment type with blank test forms from the original commissioning plan (by CxA)
 - 9. Recommended schedule of maintenance requirements and frequency per manufacturer's recommendations (by CxC)
 - 10. Recommended schedule for calibrating sensors and actuators (by CxC)
 - 11. Equipment O&M (by CxC)
 - 12. Equipment Preventative Maintenance Schedules (by CxC)
 - 13. Confirmation of Training (by CxC)
 - 14. Ongoing System Optimization Procedures (by CxA)
 - 15. Recommended standard trend logs (by CxA)

END OF SECTION 01 91 13

SECTION 23 08 00 - COMMISSIONING OF HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes Cx process requirements for the following HVAC systems, assemblies, and equipment:
 - 1. Heat generation systems. (Air Source Heat Pumps)
 - 2. Cooling generation systems (Water Cooled Chillers, Cooling Towers, etc.)
 - 3. Dedicated Outdoor Air Systems (DOAS)
 - 4. Variable Refrigerant Flow systems (outdoor & indoor units)
 - 5. Heating and cooling terminal units
 - a. VAV/CAV Boxes
 - b. Chilled Beams (active & passive)
 - c. Radiant Ceiling Panels (cooling & heating)
 - 6. Split System Heating & Cooling Equipment.
 - 7. Hydronic distribution systems
 - 8. HVAC controls.
 - 9. TAB verification.
- B. Related Requirements:
 - 1. Section 01 91 13 "General Commissioning Requirements" for general Cx process requirements and CxA responsibilities.
 - 2. For Pre-functional Checklists (PFC) comply with requirements in various Division 23 Sections specifying HVAC systems, system components, equipment, and products.
 - 3. For Functional Performance Testing (FPT) comply with requirements in various Division 23 Sections specifying HVAC systems, system components, equipment, and products.

1.3 DEFINITIONS

- A. BAS: Building automation system.
- B. Cx: Commissioning, as defined in Section 019113 "General Commissioning Requirements."
- C. CxA: Commissioning Authority, as defined in Section 019113 "General Commissioning Requirements."

- D. "Systems," "Assemblies," "Subsystems," "Equipment," and "Components": Where these terms are used together or separately, they mean "as-built" systems, assemblies, subsystems, equipment, and components.
- E. TAB: Testing, adjusting, and balancing.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For **BAS and HVAC** testing technician.
- B. PFC & FPT FORMS:
 - 1. Draft Cx plan, including draft PFCs to be prepared by CxA under Section 01 91 13 "General Commissioning Requirements." Div. 23
 - 2. Subcontractor is to review PFCs in accordance with requirements in Section 019113 "General Commissioning Requirements" and to resolve any issues with the CxA.
 - 3. Subcontractor is to review FPTs in accordance with requirements in Section 019113 "General Commissioning Requirements" and to resolve any issues with the CxA
- C. Test Equipment and Instruments: For all test equipment and instruments to be used in conducting Cx tests by Div. 23 Subcontractor, provide the following:
 - 1. Equipment/instrument identification number.
 - 2. Planned Cx application or use.
 - 3. Manufacturer, make, model, and serial number.
 - 4. Calibration history, including certificates from agencies that calibrate the equipment and instrumentation.
 - 5. Equipment manufacturers' proprietary instrumentation and tools. For each instrument or tool, identify the following:
 - a. Instrument or tool identification number.
 - b. Equipment schedule designation of equipment for which the instrument or tool is required.
 - c. Manufacturer, make, model, and serial number.
 - d. Calibration history, including certificates from agencies that calibrate the instrument or tool, where appropriate.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For BAS and HVAC systems and components to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. BAS Testing Technician Qualifications: Technicians performing BAS PFC verification tests, PFC verification test demonstrations, Cx tests, and Cx test demonstrations are to have the following minimum qualifications:
1. Journey level or equivalent skill level with knowledge of BAS, HVAC, electrical concepts, and building operations.
 2. Minimum **three years** experience installing, servicing, and operating systems manufactured by approved manufacturer.
 3. International Society of Automation (ISA)-Certified Control Systems Technician (CCST) Level I.
- B. HVAC Testing Technician Qualifications: Technicians to perform HVAC PFC verification tests, PFC verification test demonstrations, Cx tests, and Cx test demonstrations shall have the following minimum qualifications:
1. Journey level or equivalent skill level; vocational school four-year-program graduate or an Associate's degree in mechanical systems, air conditioning, or similar field. Degree may be offset by three years' experience in servicing mechanical systems in the HVAC industry. Generally, required knowledge includes HVAC systems, electrical concepts, building operations, and application and use of tools and instrumentation to measure performance of HVAC equipment, assemblies, and systems.
 2. Minimum **three years** experience that is to include installing, servicing, and operating systems manufactured by approved manufacturer.
- C. Testing Equipment and Instrumentation Quality and Calibration:
1. Capable of testing and measuring performance within the specified acceptance criteria.
 2. Be calibrated at manufacturer's recommended intervals with current calibration tags permanently affixed to the instrument being used.
 3. Be maintained in good repair and operating condition throughout duration of use on Project.
 4. Be recalibrated/repared if dropped or damaged in any way since last calibrated.
- D. Proprietary Test Instrumentation and Tools:
1. Equipment Manufacturer's Proprietary Instrumentation and Tools: For installed equipment included in the Cx process, test instrumentation and tools manufactured or prescribed by equipment manufacturer to service, calibrate, adjust, repair, or otherwise work on its equipment or required as a condition of equipment warranty, shall comply with the following:
 - a. Be calibrated by manufacturer with current calibration tags permanently affixed.
 - b. Include a separate list of proprietary test instrumentation and tools in operation and maintenance manuals.
 2. HVAC proprietary test instrumentation and tools become property of Owner at the time of Substantial Completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 Cx PROCESS:

- A. Perform Cx process in accordance with Section 019113 "General Commissioning Requirements" for **BAS and HVAC** and in accordance with the following:
 - 1. 2019 CA Energy Code
 - 2. LEED v4 & USGBC

3.2 SYSTEMS TO BE COMMISSIONED

- A. Heat generation systems, including the following:
 - 1. Air Source Heating Pump (Air to Water).
 - 2. Auxiliary equipment.
- B. Cooling generation systems, including the following:
 - 1. Water chillers.
 - 2. Cooling towers.
 - 3. Direct-expansion refrigeration systems.
- C. Dedicated Outdoor Air systems, including the following:
 - 1. Supply, return, and exhaust air fans, motors, and drives.
 - 2. Automatic and gravity dampers.
 - 3. Heating and cooling devices.
 - 4. Air filters.
 - 5. Hangers and supports.
 - 6. Interlock between air-handling system and fire/smoke alarm system.
- D. Variable Refrigerant Flow (VRF) systems, including the following:
 - 1. Outdoor Units
 - 2. Indoor Units
 - 3. Branch Piping Distribution Units.
 - 4. Controls Integration
 - 5. Refrigerant Piping, Insulation, and accessories
- E. HVAC Terminal Units, including the following:
 - 1. VAV/CAV Boxes.
 - 2. Passive Chilled Beams
 - 3. Active Chilled Beams
 - 4. Radiant Ceiling Panels
- F. Air duct systems, including the following:
 - 1. Duct systems.

2. Air-duct accessories, including volume dampers, fire and smoke dampers, turning vanes, sound attenuators, and flexible connectors.
 3. Duct-mounted access doors and panels.
 4. Hangers and supports.
- G. Hydronic distribution systems, including the following:
1. Condensate piping systems, including condensate pumps and all accessories.
 2. Hydronic piping systems and all accessories.
 3. Pumps and all accessories.
 4. Variable Speed drives and all accessories
 5. Meters and gauges.
 6. General-duty and specialty valves.
 7. Heat tracing.
- H. HVAC Split and unitary equipment, including the following:
1. Fan-coil units.
 2. Unitary & Split System heating and cooling equipment.
- I. Controls and instrumentation, including the following:
1. Energy monitoring and recording system.
 2. Controllers and sensors.
 3. Automatic control valves, dampers, and actuators.
 4. Control interface with fans, pumps, dampers, and other equipment and systems.
 5. Demand-control systems.
- J. TAB Verification:
1. Airflow.
 2. Water flow.
- K. Documentation:
1. Mechanical systems manuals.
 2. Documentation of required commissioning.
- L. Mechanical insulation, including the following:
1. Duct and plenum insulation.
 2. HVAC piping insulation.

3.3 Cx TESTING PREPARATION

- A. Contractor shall Certify that HVAC systems, subsystems, and equipment have been installed, calibrated, and started and that they are operating in accordance with the Contract Documents and approved submittals.
- B. Contractor shall Certify that HVAC instrumentation and control systems have been completed and calibrated, point-to-point checkout has been successfully completed, and systems are operating in accordance with their design sequence of operation, Contract Documents, and approved submittals. Certify that all sensors are operating within specified accuracy and all systems are set to and maintaining set points as required by the design documents.

- C. Contractor shall Certify that TAB procedures have been completed and that TAB reports have been submitted, discrepancies corrected, and corrective work approved.
- D. Contractor shall Set systems, subsystems, and equipment into operating mode to be tested in accordance with approved test procedures (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).

3.4 Cx TEST CONDITIONS

- A. Perform tests using design conditions, whenever possible.
 - 1. Simulated conditions may, with approval of CxA, be imposed using an artificial load when it is impractical to test under design conditions. Before simulating conditions, calibrate testing instruments. Provide equipment to simulate loads. Set simulated conditions as directed by CxA, and document simulated conditions and methods of simulation. After tests, return configurations and settings to normal operating conditions.
 - 2. Cx test procedures may direct that set points be altered when simulating conditions is impractical.
 - 3. Cx test procedures may direct that sensor values be altered with a signal generator when design or simulating conditions and altering set points are impractical.
- B. If tests cannot be completed because of a deficiency outside the scope of the HVAC system, document the deficiency and report it to Architect. After deficiencies are resolved, reschedule tests.
- C. If seasonal testing is specified, complete appropriate initial performance tests and documentation, and schedule seasonal tests.

3.5 Cx TESTS COMMON TO HVAC SYSTEMS

- A. Measure capacities and effectiveness of systems, assemblies, subsystems, equipment, and components, including operational and control functions, to verify compliance with acceptance criteria.
- B. Test systems, assemblies, subsystems, equipment, and components for operating modes, interlocks, control responses, responses to abnormal or emergency conditions, and response in accordance with acceptance criteria.
- C. Coordinate schedule with, and perform Cx activities at the direction of, CxA.
- D. Comply with PFC requirements, including material verification, installation checks, startup, and performance test requirements specified in Division 23 Sections specifying HVAC systems and equipment.
- E. Provide technicians, instrumentation, tools, and equipment to perform and document the following:
 - 1. Cx Construction Checklist verification tests.

2. Cx Construction Checklist verification test demonstrations.

3.6 PRE-FUNCTIONAL CHECKLISTS

- A. Preliminary detailed PFCs are to be prepared **by the CxA** under Section 019113 "General Commissioning Requirements" for each **BAS and HVAC** system, assembly, subsystem, equipment, and component required to be commissioned. **Contractor** performs the following:
 1. Review **BAS and HVAC** preliminary PFCs and provide written comments on checklist items where appropriate.
 2. Return preliminary PFCs with review comments within **10** days of receipt.
 3. When review comments have been resolved, the CxA will provide final forms marked "Approved for Use, (date)."
 4. Use only forms marked "Approved for Use, (date)" When performing tests. Mark construction checklists in the appropriate place as indicated Project events are completed, and provide pertinent details and other information.
- B. Complete PFCs for 100% of commissioned systems and as described in Section 01 91 00. Submit Completed forms to CxA

3.7 STARTUP

- A. The Construction Team shall conduct Startup by using the startup forms as provided by individual equipment manufacture/suppliers.
- B. Startup technician qualifications shall be as required by the technical specifications.
- C. If the equipment manufacturer and supplier do not publish startup procedures the Construction Team shall use their own procedures and provide a written summary to the CxA describing their startup procedures.
- D. Submit complete and signed forms to the CxA for review

3.8 FUNCTIONAL PERFORMANCE TESTS (FPT)

- A. Preliminary detailed FPTs are to be prepared **by the CxA** under Section 019113 "General Commissioning Requirements" for each **BAS and HVAC** system, assembly, subsystem, equipment, and component required to be commissioned. **Contractor** performs the following:
 1. Review **BAS and HVAC** preliminary FPTs and provide written comments on items where appropriate.
 2. Return preliminary FPTs with review comments within **10** days of receipt
 3. When review comments have been resolved, the CxA will provide final forms marked "Approved for Use, (date)."
 4. Use only forms marked "Approved for Use, (date)" When performing tests. Mark construction checklists in the appropriate place as indicated Project events are completed, and provide pertinent details and other information.

- B. Complete FPTs for 100% of commissioned systems and as described in Section 01 91 00. Submit completed forms to CxA.

3.9 FUNCTIONAL PERFORMANCE TEST DEMONSTRATION

- A. Perform FPT DEMONSTRATIONS on a sample of equipment after Functional Performance Testing submittals are approved.
 - 1. The sampling rate for test demonstrations shall as specified in Section 01 91 00.
- B. FPT Demonstration shall be directed by the CxA. The intent is to demonstrate to the CxA and other witnesses the correct operation of the Commissioned Systems.

3.10 PRE-FUNCTIONAL CHECKLIST EXAMPLES

- A. Final test procedures for all commissioned systems are to be developed by the CxA. The paragraphs below represent a potential outline of procedures for certain typical systems and are provided as examples.
- B. PRE-FUNCTIONAL CHECKLIST EXAMPLE

PROJECT NAME: PROJECT NO. XXX	SYSTEM: PACKAGE AC UNIT EQUIP: PACKAGED ROOF TOP UNIT EQUIP TAG: AC-XX LOCATION:_____
----------------------------------	--

GENERAL NOTE FOR ALL DISCIPLINES:

Pre-Functional verification checklist to be completed prior to factory startup process and initial checkout of the equipment in preparation for functional performance testing.

1. This checklist does not take the place of the manufacturer's recommended checkout and startup procedures or report.
2. This checklist does not comprehensively address fire and life safety or basic equipment safety controls.
3. Items that do not apply shall be noted with the reasons on this form (N/A = not applicable).
4. If this form is not used for documenting, one of similar rigor shall be used.
5. Contractor's assigned responsibility for sections of the checklist shall be responsible to see that checklist items by their subcontractors are completed and checked off.
6. Each contractor to find their designated pages of this checklist and complete accordingly with respect to their discipline.

FINAL SIGN OFF

System / Equipment has been installed in accordance with the Contract Documents and is ready for startup.

DISCIPLINE	SIGNATURE	DATE
General Contractor		
Commissioning Coordinator		
Commissioning Authority		

 Pre-Functional Checklist 1 | 5

C. FUNCTIONAL PERFORMANCE TEST (FPT) EXAMPLE

	Project:	
	Building:	
	System:	Packaged Gas Fired Rooftop Units
	Revision:	01

COMMISSIONING FUNCTIONAL PERFORMANCE TESTS

TEST ATTENDEES

Date: _____

Discipline	Company	Name
OWNER		
CXA		
CXC (GC)		
MC		
EC		
PC		
CC		
TAB		

EXECUTION OF FUNCTIONAL TESTS

Prior to execution of functional tests, the CxA has provided a copy of the primary equipment tests to the installing subcontractor (via the GC) who has reviewed the tests for feasibility, safety, warranty and equipment protection. The CxA oversees, witnesses, and documents the functional testing of all equipment and systems. The subcontractors execute the tests.

PREREQUISITE DOCUMENTS

Factory Test Report	
Construction Checklist	
Startup Report	
Controls Startup Report	
Test and Balance Report	
System Readiness Checklist	

	Project:	
	Building:	
	Test:	
	Revision:	0

TOOLS REQUIRED (PROVIDED AND UTILIZED BY CONTRACTOR)

Air Temperature	IR Thermometer
Water Temperature	Probe Thermometer
Air Pressure	Magnehelic (0.0- 5.0) INWC
Water Pressure	Water Pressure Gauge (0.0 – 50.0) PSI
Air Flow	Digital, 2 x 2 Hood
Air Velocity	Fluke 922

ACCEPTANCE CRITERIA

Water Temperature	±1°F
Air Temperature	±2°F
Air Pressure	±0.1 INWC
Water Pressure	±0.5 PSI
Air Flow	-5% / +10%
Air Velocity	1% FPM

ABBREVIATIONS

AHU	Air handling Unit	SAT	Supply Air Temperature
BAS	Building Automation System	SOO	Sequence Of Operation
CAV	Constant Volume Air	SP	Setpoint
CCL	Construction Checklist	TAB	Test and Balance
DP	Differential Pressure	TS	Temperature Sensor
EAT	Exhaust Air Temperature	VAV	Variable Air Volume
FSD	Fire Smoke Damper	VFD	Variable Frequency Drive
MAT	Mixed Air Temperature	ZT	Zone Temperature
RAT	Return Air Temperature		



Legend

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	Project:	
	Building:	
	Test:	
	Revision:	0

FUNCTIONAL TESTS

Test No.	01
Test Type	Normal Operation
Sequence of Operation	N/A
Test Description and Expectations	<p>Test 1: Note the operation schedule for the AC unit. Expectation: System runs off of the schedule within the controller.</p> <p>Test 2: Simulate the system to be in occupied mode. Expectation: Supply fan operates continuously.</p> <p>Test 3: Simulate the system to be in unoccupied mode. Expectation: The Supply fan shall shut off and the OA Damper shall close and RA Damper shall open.</p> <p>Test 4: While in unoccupied mode, simulate space temperature to be higher and lower than unoccupied space temperature setpoints (i.e. 55°F and 95°F). Expectation: The fan and system will run in order to achieve desirable space temperature range. It will shut off after desirable space temperature is achieved.</p> <p>Test 5: Check fan for abnormal vibration or noise. Expectation: Fan Starts and gradually ramps up to design air flow to maintain required return capacity. No excessive oscillations.</p>
Test Notes	<p>Test 1: Current Schedule: Time of day / Day of Week</p> <p>Test 2: Supply Fan Status: ON / OFF</p> <p>Test 3: Supply Fan Status: ON / OFF OA Damper position: _____% RA Damper position: _____%</p> <p>Test 4: Supply Fan Status with High Space Temp: ON / OFF Supply Fan Status with Low Space Temp: ON / OFF</p> <p>Test 5 Notes:</p>
Issues	
Pass/Fail	

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CAPITAL ENGINEERING
PROJECT NO.

	Project:	
	Building:	
	Test:	
	Revision:	0

Test No.	02
Test Type	Economizer
Sequence of Operation	THE CO2 SENSOR SHOULD PROVIDE CONTROL TO THE AIR HANDLER OUTSIDE AIR DAMPER WHENEVER THE FRESH AIR ECONOMIZER CANNOT BE USED. THE ECONOMIZER SHALL HAVE PRIORITY AND BE ENABLED WHEN THERE IS A DEMAND FOR COOLING AND THE OUTDOOR AMBIENT TEMPERATURE IS 65°F OR BELOW. ECONOMIZER SHALL BE INTEGRATED AND PROVIDE PARTIAL TO FULL COOLING IN COMBINATION WITH THE COOLING CIRCUIT AS REQUIRED TO MEET COOLING LOAD.
Test Description and Expectations	<p>Test 1: Simulate the system in occupied mode, OA temperature is 65°F or below, and room temperature is 90°F. Expectation: the OA damper shall modulate open and the RA damper shall modulate closed to cool the space.</p> <p>Test 2: Simulate OA temperature to be 80°F. Expectation: OA Damper will modulate to minimum Vent Damper position.</p> <p>Test 3: Release all overridden system parameters. Expectation: System returns to normal operation.</p>
Test Notes	<p>Test 1: OA Temperature: _____°F Room Temperature: _____°F OSA Economizer Lockout: _____°F OA Damper Position: _____% RA Damper Position: _____%</p> <p>Test 2: OA Temperature: _____°F OSA Economizer Lockout: _____°F OA Damper Position: _____% RA Damper Position: _____%</p> <p>Test 3 Notes:</p>
Issues	
Pass/Fail	

Test No.	03
-----------------	----

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	Project:	
	Building:	
	Test:	
	Revision:	0

Test Type	Demand Control Ventilation
Sequence of Operation	SYSTEM SHALL HAVE THE CAPABILITY OF MONITORING CO2 LEVELS AND SHALL BE CONFIGURED TO PROVIDE THE MINIMUM VENTILATION RATE DURING ALL OCCUPIED HOURS. VENTILATION MUST BE MAINTAINED THAT WILL RESULT IN A CONCENTRATION OF CO2 AT OR BELOW 600 PPM ABOVE AMBIENT LEVEL. UPON DETECTION OF 600 PPM CONCENTRATION OF CO2 THE OUTSIDE AIR DAMPER WILL MODULATE OPEN AND CLOSED BETWEEN THE MINIMUM AND THE MAXIMUM VENTILATION RATES (REFERENCED ABOVE) LINEARLY WHEN DETECTED CO2 LEVELS IN THE SPACE ARE ABOVE 600 PPM OVER OUTDOOR AMBIENT CO2 LEVELS.
Test Description and Expectations	<p>Test 1: While AC unit is running on normal operation, simulate a significant rise in CO2 level concentrations (1100PPM ambient). Expectation: Normal zone damper operation shall be overridden by the system and the damper shall modulate open on rising CO2. A high zone CO2 alarm will be generated at the thermostat.</p> <p>Test 2: Continuing with the aforementioned scenario, simulate the CO2 levels to return to normal levels that are less than the CO2 level threshold. Expectation: Economizer shall resume normal operation.</p>
Test Notes	<p>Test 1: Initial zone damper position: _____ % CO2 Concentration: _____ PPM Zone damper overridden to modulate open: YES / NO</p> <p>Test 2: CO2 Level: _____ PPM High zone CO2 level alarm at BMS: YES / NO</p>
Issues	
Pass/Fail	

Test No.	04
Test Type	Power Exhaust Fan
Sequence of Operation	SYSTEM SHALL BE SET TO MAINTAIN MAXIMUM 0.03 IN. WG. POSITIVE PRESSURE BETWEEN MINIMUM OUTSIDE AIR CFM AND FULL ECONOMIZER MODE CFM
Test Description and Expectations	Test 1: Simulate the room pressure to be at a value that will trip the room pressure sensor to activate the power exhaust fan.

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	Project:	
	Building:	
	Test:	
	Revision:	0

	<p>Expectation: The power exhaust fan starts.</p> <p>Test 2: Simulate the room pressure to be at a value that will release the room pressure sensor to deactivate the power exhaust fan.</p> <p>Expectation: The power exhaust fan stops. (Setpoint = 0.03INWC)</p> <p>Test 3: Check the damper for free movement.</p> <p>Expectation: Power exhaust fan operates to maintain zone pressure within required margin.</p>
Test Notes	<p>Test 1: PEF local status: ON / OFF</p> <p>Building Static Pressure: _____ in. W.C.</p> <p>Test 2: PEF local status: ON / OFF</p> <p>Building Static Pressure: _____ in. W.C.</p>
Issues	
Pass/Fail	

Test No.	05
Test Type	Automatic Demand Reduction Controls
Sequence of Operation	
Test Description and Expectations	<p>Test 1: Verify that the system has the capability to implement demand shed for all non-critical zones.</p> <p>Expectation: Upon command, non-critical zones will call for automatic demand reduction while critical zones shall not be impacted.</p>
Test Notes	Test 1: Automatic Demand Reduction Capability? YES / NO
Issues	
Pass/Fail	

Test No.	06
Test Type	Heating Operation
Sequence of Operation	
Test Description and Expectations	<p>Test 1: Simulate the system to be in occupied mode and the space temperature to be at 60°F.</p> <p>Expectation: The first stage of heating is energized to achieve the space temperature setpoint.</p>

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PROJECT NO.

	Project:	
	Building:	
	Test:	
	Revision:	0

	<p>Test 2: Simulate the space temperature to remain at 60°F for 10 minutes until higher stage of heating is activated. Expectation: Second stage of heating is activated.</p> <p>Release all overridden system parameters. System shall return to normal operation.</p>
Test Notes	<p>Test 1 Notes: SA Temp: _____°F Room Temp: _____°F Room Temp Setpoint: _____°F # Heating Stages Activated: 0 1 2</p> <p>Test 2 Notes: Room Temp: _____°F Room Temp Setpoint: _____°F Time it takes to activate higher stage of heating: _____ minutes # Heating Stages Activated: 0 1 2</p>
Issues	
Pass/Fail	

Test No.	07
Test Type	Cooling Operation
Sequence of Operation	
Test Description and Expectations	<p>Test 1: Simulate the system to be in occupied mode, economizer function is locked out, and the space temperature to be at 90°F. Expectation: The first stage of DX cooling is energized to achieve the space temperature setpoint (75.5°F).</p> <p>Test 2: Simulate the space temperature to remain at 90°F for 10 minutes until higher stage of cooling is activated. Expectation: Second stage of cooling is activated.</p> <p>Test 3: Release all overridden system parameters. Expectation: System shall return to normal operation.</p>
Test Notes	Test 1 Notes:

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CAPITAL ENGINEERING
PROJECT NO.

	Project:	
	Building:	
	Test:	
	Revision:	0

	OA Temp _____°F Cool Lockout Temp _____°F Heat Mode off? YES / NO Economizer Damper Position _____% SA Temp _____°F Room Temp _____°F # Cooling Stages Activated: 0 1 2 Test 2 Notes: Room Temp _____°F Time it takes to activate higher stage of cooling: _____minutes # Cooling Stages Activated: 0 1 2 Test 3 Notes:
Issues	
Pass/Fail	

Test No.	08
Test Type	Smoke Detector
Sequence of Operation	1. Smoke Detector a. When particles of combustion are detected in the return duct stream by the AC Unit smoke detector, the AC Unit shall shut down via hardwire interlock.
Test Description and Expectations	Test 1: Verify the unit has been tested by fire marshall or simulate the presence of smoke during system operation. Expectation: The AC unit shall shut down via hardwire interlock.
Test Notes	Test 1: Smoke in system? YES / NO AC Unit Status: ON / OFF
Issues	
Pass/Fail	

Test No.	09
Test Type	Fault Detection Diagnostics
Sequence of Operation	

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	Project:	
	Building:	
	Test:	
	Revision:	0

Test Description and Expectations	<p>Test 1: Simulate a temperature sensor failure or fault. Expectation: An alarm will be generated at thermostat for FDD status indication of the economizer status.</p> <p>Test 2: Simulate the economizer to be closed while the system is calling for the economizer to be enabled. Expectation: An alarm will be generated at thermostat for FDD status indication of the economizer status.</p> <p>Test 3: Simulate the economizer to be open while the system is calling for the economizer to be disabled. Expectation: An alarm will be generated at thermostat for FDD status indication of the economizer status.</p> <p>Test 4: Simulate economizer damper modulation failure. Expectation: An alarm will be generated at thermostat for FDD status indication of the economizer status.</p> <p>Test 5: Simulate excess outdoor air being allowed by the economizer. Expectation: An alarm will be generated at thermostat for FDD status indication of the economizer status.</p>
Test Notes	<p>Test 1: T-Stat indicated FDD alarm for temperature sensor failure/fault? YES / NO</p> <p>Test 2: T-Stat indicated FDD alarm for economizer failure? YES / NO</p> <p>Test 3: T-Stat indicated FDD alarm for economizer in-hand? YES / NO</p> <p>Test 4: T-Stat indicated FDD alarm for economizer failure? YES / NO</p> <p>Test 5: T-Stat indicated FDD alarm for excess outdoor air? YES / NO</p>
Issues	
Pass/Fail	

Test No.	10
Test Type	After hours override test
Sequence of Operation	N/A

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Test Description and Expectations	<p>Test 1: While RTU-XX is in unoccupied mode, push the override button on the space sensor. Expectation: Supply Fan and RTU-XX energizes to start.</p> <p>Test 2: Wait until the occupancy override time expires. Expectation: Once time expires, unit goes off.</p>
Test Notes	<p>Test 1 Notes: Supply Fan: _____</p> <p>Test 2 Notes: Supply Fan: _____</p>
Issues	
Pass/Fail	

Test No.	11
Test Type	Loss of Power
Sequence of Operation	N/A
Test Description and Expectations	<p>Test 1: While AC unit is running in normal operating conditions, simulate loss of power then restore the power. Expectation: AC unit stops, outside air damper closes.</p> <p>Test 2: Simulate the restoration of power. Expectation: AC unit energizes to start and outside air damper resumes normal operation.</p>
Test Notes	<p>Test 1: AC Unit Status: ON / OFF Outside Air Damper Position: _____% Zone Temperature Setpoint: _____°F (prior to loss of power)</p> <p>Test 2: AC Unit Status: ON / OFF Outside Air Damper Position: _____% Zone Temperature Setpoint: _____°F (after restoration of power)</p>
Issues	
Pass/Fail	

Test No.	0X
Test Type	Optimal Start
Sequence of Operation	AHU OPTIMAL START:

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	THE UNIT SHALL HAVE THE ABILITY TO START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONES TO REACH THEIR OCCUPIED SETPOINT. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.
Test Description and Expectations	<p>Test 1: Start system via 'Optimal Start Sequence' BAS procedure. Simulate time of day, previous warm-up time of 50 minutes, outdoor air temperature of 50°F, indoor air temperature of 60°F, indoor heating setpoint of 68°F. Expectations: BAS sends a signal to the AC unit to start one hour prior to occupancy. Space temperature requirements are met 10 minutes prior to occupancy.</p> <p>Test 2: Start system via 'Optimal Start Sequence' BAS procedure. Simulate time of day, previous warm-up time of 50 minutes, outdoor air temperature of 40°F, indoor air temperature of 55°F, indoor heating setpoint of 68°F. Expectations: BAS sends a signal to the AC unit to start more than one hour prior to occupancy. Space temperature requirements are met 10 minutes prior to occupancy.</p> <p>Test 3: Start system via 'Optimal Start Sequence' BAS procedure. Simulate time of day, previous warm-up time of 50 minutes, outdoor air temperature of 80°F, indoor air temperature of 75°F, indoor heating setpoint of 68°F. Expectations: BAS sends a signal to the AC unit to start one hour prior to occupancy. Space temperature requirements are met 10 minutes prior to occupancy.</p>
Test Notes	<p>Test 1: Time of Day: SF Status: ON / OFF Outdoor Air Temperature: _____ °F Indoor Air Temperature: _____ °F Time taken to reach setpoint:</p> <p>Test 2: Time of Day: SF Status: ON / OFF Outdoor Air Temperature: _____ °F Indoor Air Temperature: _____ °F Time taken to reach setpoint:</p>

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	Test 3: Time of Day: SF Status: ON / OFF Outdoor Air Temperature: _____ °F Indoor Air Temperature: _____ °F Time taken to reach setpoint: _____
Issues	
Pass/Fail	

Test No.	0X
Test Type	Supply Air Temperature Reset
Sequence of Operation	<p><u>SUPPLY AIR TEMPERATURE SETPOINT – OPTIMIZED:</u></p> <p>THE CONTROLLER WILL MAINTAIN A CONSTANT SUPPLY AIR TEMPERATURE SETPOINT AS WELL AS MAINTAIN THE CAPABILITY OF UTILIZING A SUPPLY AIR SETPOINT OPTIMIZATION RESET BASED UPON ZONE COOLING DEMAND. WHEN THE SETPOINT RESET FUNCTION IS UTILIZED, THE CONTROLLER WILL DETERMINE WHEN TO START RESETTING THE SUPPLY AIR SETPOINT DOWNWARD. EVERY TERMINAL BOX SHALL BE MONITORED FOR DEVIATION OF CFM SETPOINT FROM ACTUAL CFM. IF A VAV TERMINAL BOX CANNOT ACHIEVE THE CFM SETPOINT THE TERMINAL CONTROLLER WILL FIRST SEND A REQUEST TO THE COOLING AIR HANDLER TO RESET THE DUCT STATIC SETPOINT UPWARD. IF A VAV TERMINAL BOX IS DRIVEN TO DESIGN CFM AND STILL UNABLE TO SATISFY THE ZONE TEMPERATURE WITHIN AN OPERATOR ADJUSTABLE TIME PERIOD THE TERMINAL CONTROLLER SHALL GENERATE A SECOND REQUEST TO RESET THE SUPPLY AIR TEMPERATURE SETPOINT DOWNWARD.</p> <p>THE SUPPLY AIR TEMPERATURE SETPOINT SHALL BE RESET BASED ON ZONE COOLING REQUIREMENTS AS FOLLOWS:</p> <ul style="list-style-type: none"> • THE INITIAL SUPPLY AIR TEMPERATURE SETPOINT SHALL BE 65°F (ADJ.). • AS COOLING DEMAND INCREASES, THE SETPOINT SHALL INCREMENTALLY RESET DOWN TO A MINIMUM OF 55°F (ADJ.). • AS COOLING DEMAND DECREASES, THE SETPOINT SHALL INCREMENTALLY RESET UP TO A MAXIMUM OF 70°F (ADJ.).
Test Description and Expectations	<p>Note: The test has been modified slightly from the sequence as the duct pressure setpoint is reset from VAV box position. This test will reset supply air temperature based off of the warmest zone temperature associated to the unit.</p>

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	Test:	
	Revision:	0

	<p>Test 1: During normal operation, simulate the warmest zone temperature to be at 78°F with the VAV room temperature setpoint not being satisfied. Expectation: The supply air temperature reset setpoint shall be set at 55°F.</p> <p>Test 2: During normal operation, simulate the warmest zone temperature to be at 74°F with the VAV room temperature setpoint not being satisfied. Expectation: The supply air temperature reset setpoint shall be set at 65°F.</p> <p>Test 3: During normal operation, simulate the warmest zone temperature to be at 70°F with the VAV room temperature setpoint not being satisfied. Expectation: The supply air temperature reset setpoint shall be set at 70°F.</p> <p>Test 4: Restore all overridden parameters. Expectation: The system resumes normal operation.</p>
Test Notes	<p>Test 1: Warmest VAV Zone Temperature: _____°F Supply Air Temperature Reset Setpoint: _____°F</p> <p>Test 2: Warmest VAV Zone Temperature: _____°F Supply Air Temperature Reset Setpoint: _____°F</p> <p>Test 3: Warmest VAV Zone Temperature: _____°F Supply Air Temperature Reset Setpoint: _____°F</p> <p>Test 4 Notes:</p>
Issues	
Pass/Fail	

Test No.	OX
Test Type	Purge Operation
Sequence of Operation	<u>PURGE CONTROL:</u> THE CONTROLLER WILL MONITOR TO DETERMINE IF THERE IS AN ADVANTAGE TO UTILIZE A PURGE FUNCTION PRIOR TO OCCUPANCY.

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	<p>OPERATOR SHALL HAVE THE ABILITY TO DISABLE THE PURGE CONTROL FUNCTION THROUGH A SOFTWARE POINT. UPON A PURGE COMMAND THE CONTROLLER SHALL FORCE THE COOLING AIR HANDLER CONTROLLER INTO A PURGE MODE BY STARTING AND CONTROLLING THE SUPPLY FAN TO MAINTAIN A FIXED DUCT STATIC SETPOINT AND FORCING THE OUTSIDE AIR DAMPERS TO A FULL OPEN POSITION. A SOFTWARE POINT BROADCAST SHALL FORCE BOTH THE INTERIOR AND EXTERIOR ZONE VAV TERMINAL BOXES REQUIRING COOLING TO THEIR MAXIMUM DESIGN CFM VALUES OR USER SELECTABLE% OF DESIGN CFM.</p> <p>PURGE CONTROL SHALL BE ENABLED WHENEVER:</p> <ul style="list-style-type: none"> • OUTSIDE AIR TEMPERATURE PLUS A BIOS OF 5°F (ADJ.) IS LESS THAN THE AVERAGE ZONE TEMPERATURE. • TIME IS WITHIN MAXIMUM PRE-START TIME (ADJ.) AND END TIME (ADJ.) PRIOR TO OCCUPANCY. • PURGE CONTROL SHALL TERMINATE WHEN ZONE AVERAGE IS LESS THAN 72°F (ADJ.).
Test Description and Expectations	<p>Test 1: Simulate the outside air temperature to be 5°F less than the average zone temperature and that the system is within 10 minutes prior to space occupancy. Expectation: The system shall go into purge operation and the supply fan shall turn on and modulate to achieve desired duct pressure setpoint and the outside air dampers shall fully open.</p> <p>Test 2: With the system in purge operation, simulate the average zone temperature to be 70°F. Expectation: The system will exit from purge operation and into either unoccupied mode or optimal start.</p> <p>Test 3: Restore all overridden parameters. Expectation: The system resumes normal operation.</p>
Test Notes	<p>Test 1: Outside Air Temperature: _____°F Average Zone Temperature: _____°F Supply Fan Status: ON / OFF Outside Air Damper Position: _____% Exhaust Air Damper Position: _____%</p> <p>Test 2: Outside Air Temperature: _____°F Average Zone Temperature: _____°F Supply Fan Status: ON / OFF</p>

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	Outside Air Damper Position: _____ % Exhaust Air Damper Position: _____ % Test 3:
Issues	
Pass/Fail	

Test No.	0X
Test Type	Warmup Control
Sequence of Operation	<p><u>WARMUP CONTROL:</u></p> <p>THE CONTROLLER WILL MONITOR TO DETERMINE IF THERE IS AN ADVANTAGE TO UTILIZE A WARMUP FUNCTION PRIOR TO OCCUPANCY. OPERATOR SHALL HAVE THE ABILITY TO DISABLE THE WARMUP CONTROL FUNCTION THROUGH A SOFTWARE POINT. UPON A WARMUP COMMAND THE CONTROLLER SHALL FORCE THE COOLING AIR HANDLER CONTROLLER INTO A WARMUP MODE BY STARTING AND CONTROLLING THE SUPPLY FAN TO MAINTAIN A FIXED DUCT ST A TIC SETPOINT AND FORCING THE OUTSIDE AIR DAMPERS TO A FULL CLOSED POSITION. A COMMAND WILL BE BROADCAST TO START THE BOILER, SETPOINT FOR THE BOILER CONTROL DURING WARMUP WILL BE FORCED TO THE MAXIMUM SETPOINT. A SOFTWARE POINT BROADCAST SHALL FORCE THE VAV TERMINAL BOXES REQUIRING WARMUP TO 60% (ADJ.) OF DESIGN CFM. THE VAV BOX SHALL OPERATE IN A CONTROLLED WARMUP FUNCTION. AFTER ACHIEVING WARMUP SETPOINT, THE VAV BOX SHALL CLOSE TO THE MINIMUM CFM SETPOINT TO AVOID OVERHEATING THE ZONE.</p> <p>WARMUP CONTROL SHALL BE ENABLED WHENEVER:</p> <ul style="list-style-type: none"> • OUTSIDE AIR TEMPERATURE IS LESS THAN 55°F (ADJ.). • AVERAGE ZONE TEMPERATURE IS LESS THAN 65°F (ADJ.). • TIME IS WITHIN MAXIMUM PRE-START TIME (ADJ.) AND END TIME (ADJ.) PRIOR TO OCCUPANCY. • WARMUP SHALL TERMINATE WHEN ZONE AVERAGE IS GREATER THAN 70°F (ADJ.).
Test Description and Expectations	<p>Test 1: Simulate the outside air temperature to be 50°F, the average zone temperature to be 60°F and that the system is within 10 minutes prior to space occupancy.</p> <p>Expectation: The system shall go into warmup operation and the supply fan shall turn on and modulate to achieve desired duct pressure setpoint and the outside air dampers shall fully close. The heating hot water</p>

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	<p>system shall be enabled to run and the VAV's shall modulate to provide 60% of design CFM.</p> <p>Test 2: With the system in warmup operation, simulate the average zone temperature to be 75°F. Expectation: The system will exit from warmup operation and into either unoccupied mode or optimal start.</p> <p>Test 3: Restore all overridden parameters. Expectation: The system resumes normal operation.</p>
Test Notes	<p>Test 1: Outside Air Temperature: _____°F Average Zone Temperature: _____°F Supply Fan Status: ON / OFF Outside Air Damper Position: _____% Exhaust Air Damper Position: _____%</p> <p>Test 2: Outside Air Temperature: _____°F Average Zone Temperature: _____°F Supply Fan Status: ON / OFF Outside Air Damper Position: _____% Exhaust Air Damper Position: _____%</p> <p>Test 3:</p>
Issues	
Pass/Fail	

Test No.	XX
Test Type	Relief Fan Control
Sequence of Operation	<p><u>RELIEF FAN CONTROL:</u> RELIEF FAN WILL BE ENABLED TO RUN ANYTIME THE COOLING AIR HANDLER IS COMMANDED TO RUN. SPACE STATIC PRESSURE WILL BE MONITORED BY THE CONTROLLER. RELIEF FAN WILL BE STAGED UP OR DOWN TO MAINTAIN A SPACE STATIC PRESSURE SETPOINT OF 0.03 IN H2O (ADJ.)</p> <p>ALARMS SHALL BE PROVIDED AS FOLLOWS,</p> <ul style="list-style-type: none"> • HIGH SPACE STATIC PRESSURE: IF THE SPACE PRESSURE IS GREATER THAN 0.06 IN H2O (ADJ.). • LOW SPACE STATIC PRESSURE: IF THE SPACE PRESSURE IS LESS THAN 0.015 IN H2O (ADJ.).

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	Building:	
	Test:	
	Revision:	0

Test Description and Expectations	<p>Test 1: Simulate the system to be in operation. Expectation: Verify that the relief fan is enabled to run and is staged up or down to maintain a building pressure of 0.03 in. W.C.</p> <p>Test 2: Restore all overridden parameters. Expectation: The system resumes normal operation</p>
Test Notes	<p>Test 1: Relief Fan Status: ON / OFF Relief Fan Speed: _____ % Building Static Pressure: _____ in W.C.</p> <p>Test 2:</p>
Issues	
Pass/Fail	

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END OF SECTION 230800

COMMISSIONING OF HVAC

230800 - 27

Heat Pumps

Date: 4/11/22

FUNCTIONAL PERFORMANCE TEST

1. Revision				
By signing the below, you acknowledge that you have reviewed this test script and reported any comments.				
Revision No.	Name	Company	Signature	Date
(0) First Draft	Ramon Ramos	Capital Engineering		9/2/21
	Jacob Barakzoy	Sunbelt Controls	Jacob Barakzoy	12/7/21
(1) Final Draft	Ramon Ramos	Capital Engineering	<i>Ramon Ramos</i>	4/10/22

2. Pre-Requisite Verification				
By signing the below, you acknowledge that the pre-requisite document has been submitted to the Commissioning Agent				
Item	Sub-Contractor	Contractor Rep	Commissioning Agent	Date
Installation Verification			<i>Ramon Ramos</i>	12/9/21
Start-up Report			<i>Ramon Ramos</i>	Jan-Mar 2022
TAB Report			<i>Ramon Ramos</i>	3/29/22
Controls Point-to-Point			<i>Ramon Ramos</i>	4/10/22
Title-24 Acceptance Forms				

3. Test Attendees		
The following parties have witnessed the execution of the test procedures		
Discipline	Company	Name
OWNER		
CxA	Capital Engineering Consultants, Inc.	Ramon Ramos
GC	Bobo Construction	Pat Alexander
MC		
CC	Sunbelt Controls	Jesse Bryant
Other		

4. Execution of Functional Tests
<p>Prior to execution of functional tests, the CxA has provided a copy of the primary equipment tests to the installing subcontractor (via the GC) who has reviewed the tests for feasibility, safety, warranty and equipment protection. The CxA oversees, witnesses, and documents the functional testing of all equipment and systems. The subcontractors execute the tests.</p>

5. Basis of Test

The following document(s) were used to develop this test:

HVAC DDC Design Submittal 07-07-2021

Inc. 01 Conformed Set 11/11/20

6. Control Points (Typical of 45)

Verify that the following points are reporting to the BMS. For measurement devices, verify reported values against independently measured values.

Point	#	Graphic	Point Verified	Trended	Notes
Discharge Temp	AI	✓	Verified		①
Filter DP	AI	✓	Verified		①
Zone Setpoint Adjust	AI	✓	Verified		①
Zone Temp	AI	✓	Verified	24-hrs	
Fan Status	BI	✓	Verified		①
Zone Override	BI	✓	Verified		①
Compressor Stage 1	BO	✓	Verified		①
Fan Start/Stop	BO	✓	Verified		①
Reversing Valve	BO	✓	Verified		①
Cooling Setpoint	SW	✓	Verified	24-hrs	
Heating Setpoint	SW	✓	Verified	24-hrs	
Outside Air Humidity	AI	✓	Verified		①
Outside Air Temp	AI	✓	Verified		①
Outside Air Enthalpy	SW	✓	Verified		①
Compressor Stage 2	BO	✓	Verified		①
Zone CO2	SW	✓	Verified		①

7. Schedule

Record each system setpoint. Record the value reported by the system and the independently verified value. Note any unexpected or failed results.

Days of Week	Time	Verified	Note
Occupied – MON TUE WED THUR FRI SAT SUN	Currently 6am-2pm	Verified	②
Unoccupied – MON TUE WED THUR FRI SAT SUN	Currently 2:01pm-5:59am	Verified	②

8. Setpoints

Record each system setpoint. Record the value reported by the system and the independently verified value. Note any unexpected or failed results.

Setpoint	Design	BMS	Verified	Note
Occupied Cooling Setpoint	75°F	75°F	Verified	
Occupied Heating Setpoint	70°F	70°F	Verified	
Unoccupied Cooling Setpoint	85°F	85°F	Verified	
Unoccupied Heating Setpoint	55°F	55°F	Verified	

9. Test Procedures

Perform each of the steps below and record the results. Note any unexpected or failed results.

#	Procedure and Expected Result	Pass	Note
Simulate Unit Operation by adjusting schedule to allow current day and time of test			③
1	Present day and time of this test shown under occupied hours.	Pass	
2	Supply Fan shall be enabled and status shown on BMS.	Pass	
3	Unit mode is determined based on setpoint (see above for setpoint)	Pass	
4	Discharge air temperature displayed on BMS matches local DA temp from probe	Pass	
5	Space CO2 is monitored and displayed at BMS.	Pass	
6	Outdoor air damper is open to minimum position to allow required OA per TAB report and Vent intake blower is operational.	Pass	
7	Vent exhaust blower is operational to relief excess air based on filter DP	Pass	
Simulate a zone adjustment in setpoint by locally dropping the setpoint on thermostat in space			
1	Unit responds to setpoint change and enters cooling mode. T-stat only 2 degree change	Pass	
2	Outside air temperature is greater than 60°F (adj.).	Pass	
3	Supply fan is running and status confirmed on BMS.	Pass	
4	The reversing valve is in cool mode.	Pass	
5	The compressor cycles to maintain adjusted setpoint 10 min. delay from stage 1-2	Pass	
6	Discharge air temperature reported on BMS matches local probe reading	Pass	
7	Discharge air is low enough that adjusted space temp setpoint will be met 54°F	Pass	
Simulate a zone adjustment in setpoint by locally increasing the setpoint on thermostat in space			
1	Unit responds to setpoint change and prepares to change to heat mode.	Pass	↓
2	Compressor continues to run until its minimum runtime is achieved.	Pass	
3	Reversing valve changes position to heat mode.	Pass	

9. Test Procedures			
Perform each of the steps below and record the results. Note any unexpected or failed results.			
#	Procedure and Expected Result	Pass	Note
4	Outside air temperature is less than 65°F (adj.).	Pass	③
5	Supply fan is running and status confirmed on BMS.	Pass	
6	Discharge air temperature reported on BMS matches local probe reading	Pass	
7	Discharge air is high enough that adjusted space temp setpoint will be met 112°F	Pass	
Simulate unit shutdown by adjusting schedule to allow current day and time to be unoccupied			
1	Present day and time of this test shown under unoccupied hours.	Pass	
2	Supply Fan shall be disabled and status shown on BMS.	Pass	
3	Outdoor air damper modulates closed and Vent intake blower is off.	Pass	
Simulate unit operation by adjusting the unoccupied setpoints to values that will trigger unit on			
1	Unit is still in unoccupied mode per schedule.	Pass	
2	Unit responds to new unoccupied setpoints and enters appropriate mode.	Pass	
3	Outdoor air temperature requirements met for heat/cool mode	Pass	
4	Supply Fan shall be enabled and status shown on BMS.	Pass	
5	Compressor and Reversing Valve respond according to mode	Pass	
6	Unoccupied setpoints met and unit resumes to shutdown.	Pass	
7	Compressor and Reversing Valve respond accordingly and shut off after runtime expires.	Pass	
8	Supply Fan shall be disabled and status shown on BMS.	Pass	
9	Outdoor air damper modulates closed and Vent intake blower is off.	Pass	
Simulate zone unoccupied override by manually pressing the override button on T-stat			
1	While unit is in unoccupied mode, occupant overrides schedule and places unit in occupied mode for an adjustable period of time. 30/60/90 mins.	Pass	
2	Unit responds to after-hours override command and controls to new setpoint.	Pass	
3	Supply Fan shall be enabled and status shown on BMS.	Pass	
4	Compressor and Reversing Valve respond according to mode	Pass	
5	Outdoor air damper is open to minimum position to allow required OA per TAB report and Vent intake blower is operational.	Pass	
6	As the override period expires, the unit automatically returns to scheduled command.	Pass	✓
End of Test - Release any overridden or adjusted values			

10. Zone Optimal Start			
Perform each of the steps below and record the results. Note any unexpected or failed results.			
#	Procedure and Expected Result	Pass	Note
Verify zone optimal start algorithm is programmed allowing units to start before scheduled time to achieve comfort conditions by the start of the scheduled occupied period.			
2	Trends show units start before occupied schedule	Pass	
2	Zone temp matches setpoint by start of scheduled occupied period.	Pass	

11. Outdoor Air Conditions			
Perform each of the steps below and record the results. Note any unexpected or failed results.			
#	Procedure and Expected Result	Pass	Note
Verify that the BMS is monitoring the OA temp and humidity to calculate OA enthalpy			
3	OA temperature is available and shown on BMS.	Pass	
2	OA enthalpy is calculated and shown on BMS.		④
Simulate a sensor failure by disconnecting the sensor from BMS signal.			
1	BMS signal to OA temp sensor is disconnected.	Pass	
2	Alarm generated on BMS.	Pass	
3	Default OA temp value of 65°F is used.	Pass	
4	Default OA humidity value of 50% is used.		④
5	BMS is recording high and low OA temp readings daily, month-to-date, year-to-date.		

12. Alarms				
Perform each of the steps below and record the results. Note any unexpected or failed results.				
#	Procedure and Expected Result	Pass	Note	
Simulate a High Zone Temp alarm by adjusting the offset amount.			③ & ⑤	
4	Zone temperature is greater than the cooling setpoint by the adjusted offset amount.	Pass		
2	High temp alarm verified on BMS.	Pass		
3	Change High Zone Temp offset amount back to approved alarm setpoint.	Pass		
Simulate a Low Zone Temp alarm by adjusting the offset amount.				
1	Zone temperature is less than the heating setpoint by the adjusted offset amount.	Pass		
2	High temp alarm verified on BMS.	Pass		
3	Change Low Zone Temp offset amount back to approved alarm setpoint.	Pass		
Simulate a filter change alarm by adjusting the limit on the differential pressure				
1	Filter Differential pressure exceeds adjusted user defined limit. Simulated 1.2" WC	Pass		
2	Alarm shown on BMS.	Pass		
3	Change DP limit back to approved alarm setpoint. Back to anything > 0.9" WC	Pass		
Simulate a High Discharge Air Temp alarm by adjusting the offset amount.				
1	Discharge air is greater than the adjusted amount.	Pass		
2	Alarm shown on BMS.	Pass		
3	Change High Discharge Air temp alarm setpoint back to 120°F.	Pass		
Simulate a Low Discharge Air Temp alarm by adjusting the offset amount.				
1	Discharge air is less than the adjusted amount.	Pass		
2	Alarm shown on BMS.	Pass		
3	Change Low Discharge Air temp alarm setpoint back to 40°F.	Pass		
Verify Fan Alarm status is displayed on BMS per below scenarios.				
1	Fan commanded on, but status is off.	Pass		
2	Fan commanded off, but status if on.	Pass		
3	Fan runtime exceeded uder definable limit (adj.).	Pass		↓
End of Test - Release any overridden or adjusted values				

13. Notes		
Record any negative, N/A, or other abnormal responses below. Indicate is the note is an issue (Y/N)		
#	Item	Issue
1	Trends for these points will be set up when Controls released to District	No
2	District to provide final schedules so Sunbelt can adjust	No
3	Programming SOO tested on units in Bldg. F and spot checked multiple units in Bldgs. A-D for verification	No
4	Waiting on Humidity Sensor to arrive and install	Yes
5	District to decide what levels each alarm gets	Yes
6		
7		

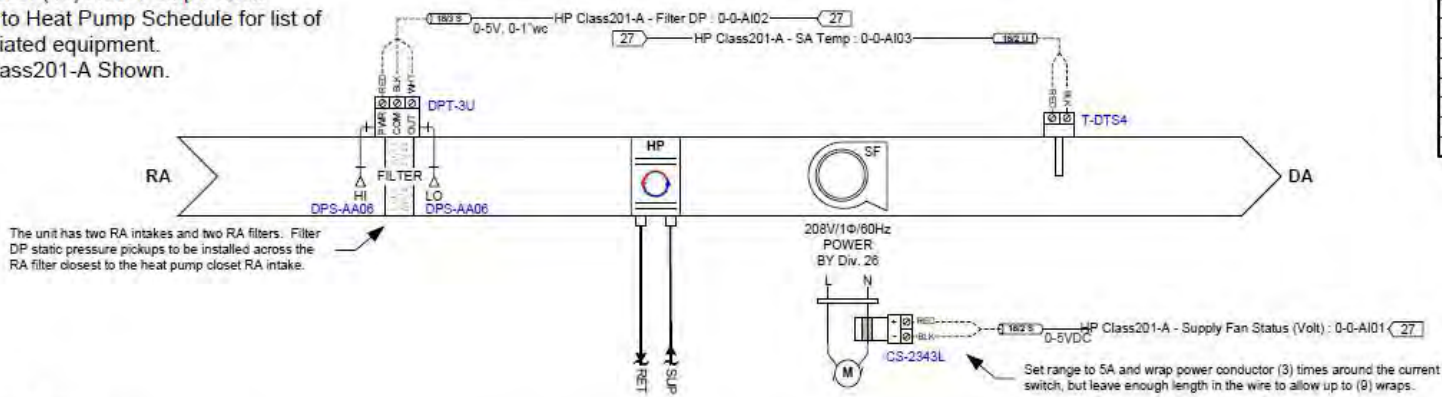
Drawings:

Heat Pump

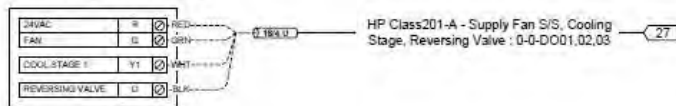
Typical of (45) Heat Pump Panel.

Refer to Heat Pump Schedule for list of associated equipment.

HP Class201-A Shown.



HP Terminal Board

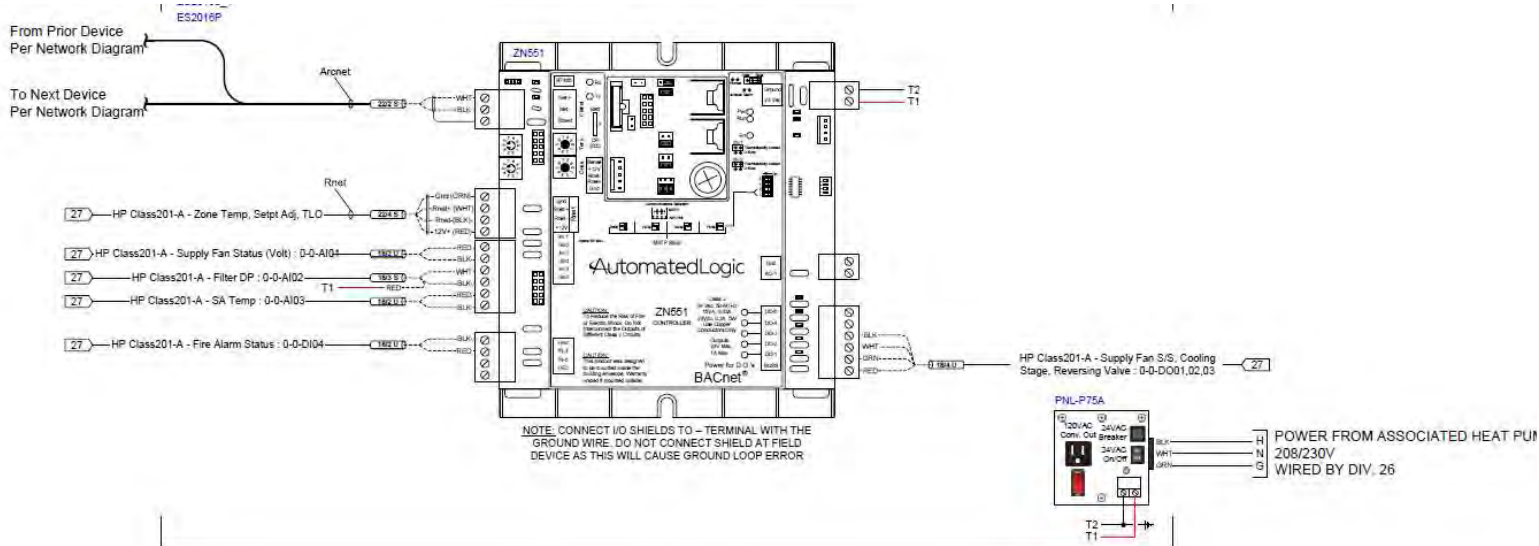
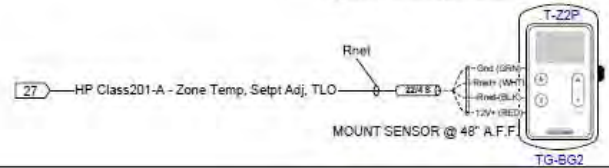


Fire Alarm Details

The contact is provided by others.

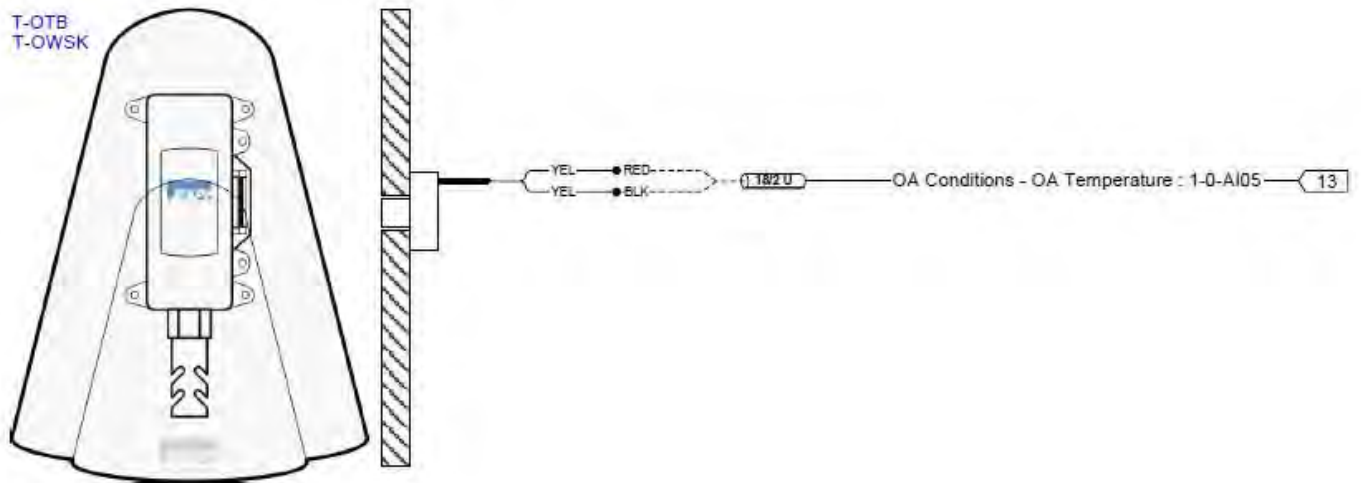


Zone Temperature Detail



OA Temperature Wiring Detail

Locate on North Side of Building



Sequence of Operation: OA Conditions

The controller shall monitor the outside air temperature and humidity and calculate the outside air enthalpy on a continual basis. These values shall be made available to the system at all times.

Alarm shall be generated as follows:

Sensor Failure: Sensor reading indicates shorted or disconnected sensor. In the event of a sensor failure, an alternate outside air conditions sensor shall be made available to the system without interruption in sensor readings.

If an OA Temp Sensor cannot be read, a default value of 65°F will be used.

If an OA Humidity Sensor cannot be read, a default value of 50 % will be used.

Outside Air Temperature History:

The controller shall monitor and record the high and low temperature readings for the outside air. These readings shall be recorded on a daily, month-to-date, and year-to-date basis.

Heat Pump Schedule

Tag	Serving Area		OA Airflow (CFM)	SA Airflow (CFM)	Dev Address (AAR,DEV)
HP Class201-A	Building A	Classroom 201	366	1500	AAR-1, 02
HP Class202-A		Classroom 202	364	1500	AAR-1, 03
HP Class204-A		Classroom 204	364	1500	AAR-1, 04
HP Class205-A		Classroom 205	363	1500	AAR-1, 05
HP Class206-A		Classroom 206	364	1500	AAR-1, 06
HP Class207-A		Classroom 207	364	1500	AAR-1, 07
HP Class208-A		Classroom 208	364	1500	AAR-1, 08
HP Class209-A		Classroom 209	364	1500	AAR-1, 09
HP Corridor-A		Interior Corridor 212	367	1500	AAR-1, 10
HP Speech 2.5T-A		Speech or Counseling 211	57	900	AAR-1, 11
HP Workrm 2.5T-A		Staff Work Room 203	62	900	AAR-1, 12
HP Class201-B		Building B	Classroom 201	366	1500
HP Class202-B	Classroom 202		364	1500	AAR-2, 03
HP Class204-B	Classroom 204		364	1500	AAR-2, 04
HP Class205-B	Classroom 205		363	1500	AAR-2, 05
HP Class206-B	Classroom 206		364	1500	AAR-2, 06
HP Class207-B	Classroom 207		364	1500	AAR-2, 07
HP Class208-B	Classroom 208		364	1500	AAR-2, 08
HP Class209-B	Classroom 209		364	1500	AAR-2, 09
HP Corridor-B	Interior Corridor 212		367	1500	AAR-2, 10
HP Speech 2.5T-B	Speech or Counseling 211		57	900	AAR-2, 11
HP Workrm 2.5T-B	Staff Work Room 203		62	900	AAR-2, 12
HP Class301-C	Building C		Classroom 301	366	1500
HP Class302-C		Classroom 302	364	1500	AAR-3, 03
HP Class304-C		Classroom 304	364	1500	AAR-3, 04
HP Class305-C		Classroom 305	364	1500	AAR-3, 05
HP Class306-C		Classroom 306	364	1500	AAR-3, 06
HP Class307-C		Classroom 307	364	1500	AAR-3, 07
HP Corridor 3T-C		Interior Corridor 310	309	1150	AAR-3, 08
HP Speech 2.5T-C		Speech or Counseling 309	57	900	AAR-3, 09
HP Workrm 2.5T-C		Staff Work Room 303	62	900	AAR-3, 10
HP Class301-D	Building C	Classroom 301	366	1500	AAR-4, 02
HP Class302-D		Classroom 302	364	1500	AAR-4, 03
HP Class304-D		Classroom 304	364	1500	AAR-4, 04
HP Class305-D		Classroom 305	364	1500	AAR-4, 05
HP Class306-D		Classroom 306	364	1500	AAR-4, 06
HP Class307-D		Classroom 307	364	1500	AAR-4, 07
HP Corridor 3T-D		Interior Corridor 310	309	1150	AAR-4, 08
HP Speech 2.5T-D		Speech or Counseling 309	57	900	AAR-4, 09
HP Workrm 2.5T-D		Staff Work Room 303	62	900	AAR-4, 10
HP Class101-F	Building F	Classroom 101	364	1500	AAR-5, 02
HP Class102-F		Classroom 102	364	1500	AAR-5, 03
HP Class105-F		Classroom 105	364	1500	AAR-5, 04
HP Class106-F		Classroom 106	364	1500	AAR-5, 05
HP Workrm-F		Teacher Workroom 109	62	900	AAR-5, 06

Heat Pump Sequence of Operations

Sequence of Operations: **Air-to-Air Electric Heat Pump**

Run Conditions - Scheduled:

The unit shall run according to a user definable time schedule in the following modes:

Occupied Mode: The unit shall maintain

- A 75°F (adj.) cooling setpoint.
- A 70°F (adj.) heating setpoint.

Unoccupied Mode (night setback): The unit shall maintain

- A 85°F (adj.) cooling setpoint.
- A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:

- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Zone Setpoint Adjust:

The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:

The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:

A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Fire Alarm:

Fire alarm system is responsible for unit shutdown. BMS will disable the units control program and alarm upon receiving fire alarm status.

Fan:

The fan shall run anytime the unit is commanded to run, unless shutdown on safeties.

Heating and Cooling - 1 Compressor Stage:

The controller shall measure the zone temperature and cycle the compressor to maintain its setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime. The compressor shall run subject to its own internal safeties and controls.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the fan is on.
- AND the reversing valve is in heat mode.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the fan is on.
- AND the reversing valve is in cool mode.

On mode change, the compressor shall be disabled and remain off until after the reversing valve has changed position..

Alarms shall be provided as follows:

- Compressor Runtime Exceeded: The compressor runtime exceeds a user definable limit (adj.).

Filter Differential Pressure Monitor:

The controller shall monitor the differential pressure across the filter.

Alarms shall be provided as follows:

- Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.).

Discharge Air Temperature:

The controller shall monitor the discharge air temperature.

Alarms shall be provided as follows:

- High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.).
- Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).

Fan Status:

The controller shall monitor the fan status.

Alarms shall be provided as follows:

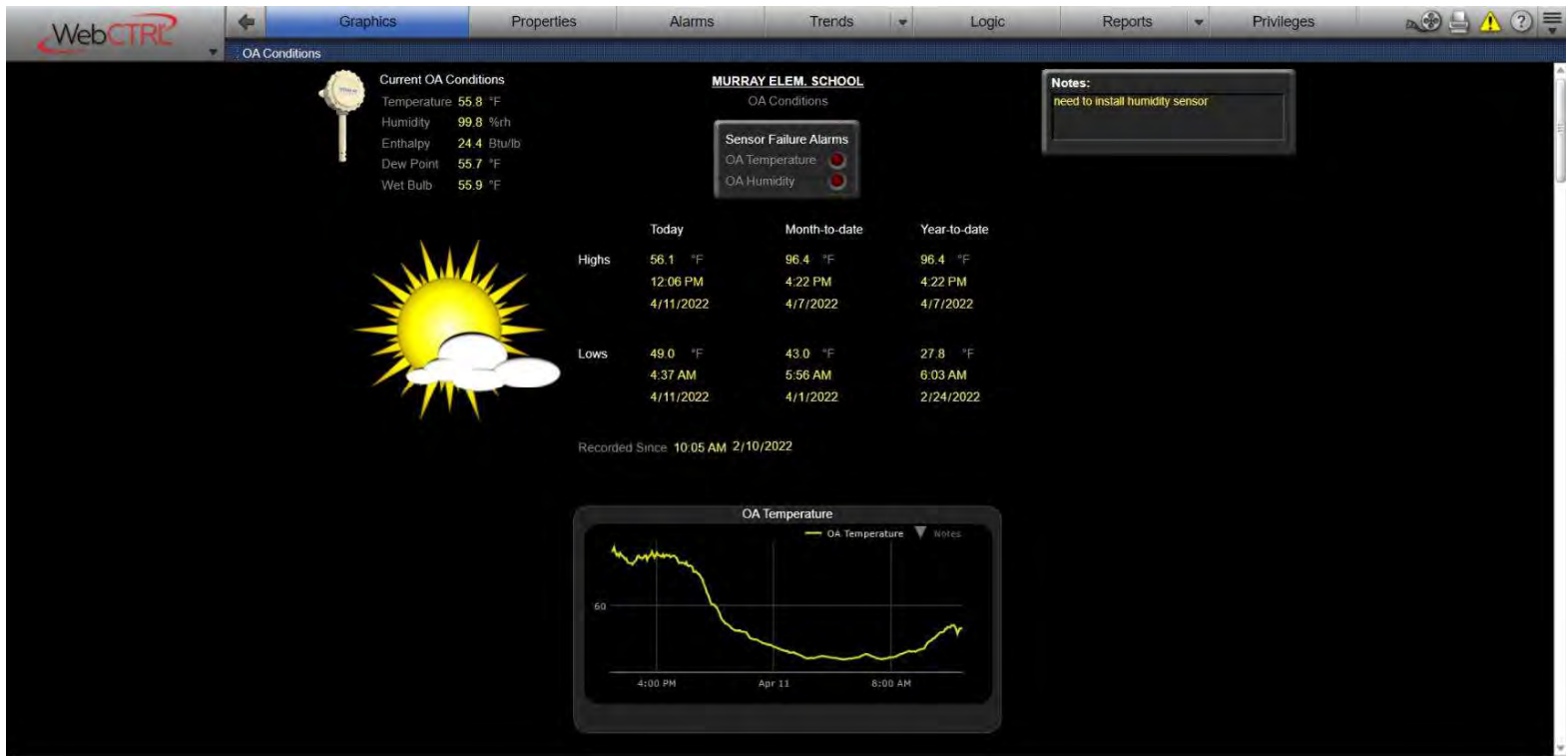
- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.
- Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

Control Graphics











Commissioning Monthly Report

Project Name:

Project Number:

CX KICKOFF MEETING:

A representative for each MEP trade was available during the meeting. The commissioning process was discussed as applicable to the Project. The commissioning scope is to comply with Title 24 – 2019 and CalGreen requirements. The commissioned systems by Capital are HVAC systems and related controls, lighting controls as applicable to Title-24 2019, domestic hot water system and irrigation controls. During the meeting, point of contact from general contractor was assigned for coordination of Cx activities.

SITE VISIT - NOTES:

Visited By:	Eduardo Ramirez	Date of Visit:	03/18/2022
Contact Info:	(916) 851-3593	Photos Taken:	Yes
Time Arrived:	8:00am	Time Departed:	12:00pm
		Weather Condition:	Sunny 70°F

The intent of this site visit was to:

- 1- Verify Installation of commissioned systems / equipment
- 2- Witness construction progress
- 3- Coordinate next steps of commissioning

SITE VISIT - OBSERVATIONS:

1. Water Source Heat Pump Skid Package placed on top of concrete pad. Mounting, electrical and hydronic installation pending.
2. Heat Pumps HP-1 through HP-13 mounted to floor. Ducting installed to all heat pumps. Hydronic connections to all heat pumps pending.
3. Exhaust fan EF-1 mounted. Ducting to exhaust fan installed.
4. Electric Water Heater WH-1 not on-site. Installation pending.
5. Overall, ducting installation looks good where visible. In Hard lid areas, ducting is covered and unable to field verify. Insulation is work in progress.
6. Ducting pending installation in rooms 102 and 103.

7. Air distribution devices is work in progress.
8. Lighting control panels mounted. Lighting control fixtures and controls are work in progress.
9. Opening for louvers does not match drawings. MEOR to confirm if current openings is acceptable.
10. Please see issues log for issues found during site visit.

NEXT STEPS:

1. Discuss with MEOR regarding louver openings and issues found during installation verification.
2. Functional Performance Test shall take place after Installation verification is complete and signed off, start-up reports reviewed (Including Controls Point-to-Point), TAB Report (approved by MEOR), Title-24 Acceptance forms reviewed, FPT scripts reviewed and accepted by the team.

DISCUSSIONS:

After discussing the issues with general contractor, Capital reached out and contacted mechanical engineer of record to review the installation verification issues found on-site. Main issue discussed was the louver openings. The construction documents showed multiple louver openings for return air. However, there was only one louver opening which does not match the construction documents. MEOR to review and confirm whether conditions found on-site are acceptable.

SITE VISIT PICTURES:

PICTURES

Figure 1: Water Source Heat Pump Skid



Figure 2: Heat Pump Typical Mounting Installation



Figure 3: Exhaust Fan



Figure 3: Ducting Open Office

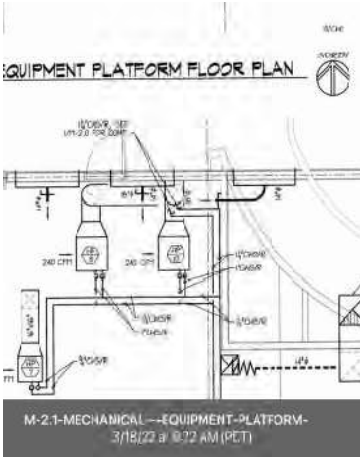


Figure 4: Ducting in Office 107

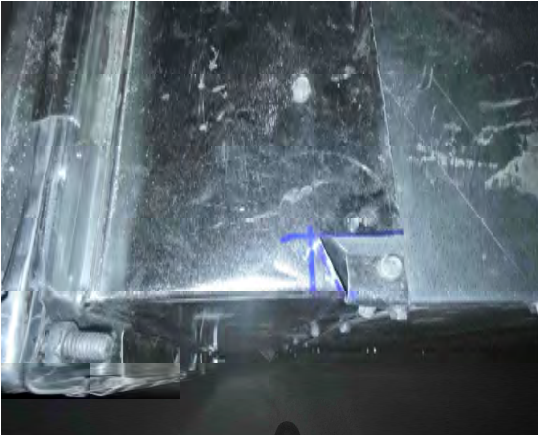
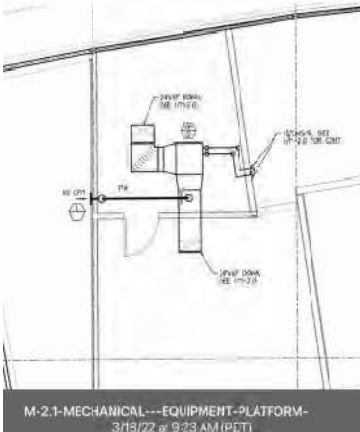


ID	Type	Name	Number	Element	Description	Location	Spec Section	Due Date	Remarks
----	------	------	--------	---------	-------------	----------	--------------	----------	---------

00001	Punch List	N/A		Heat Pump 10 Supply Duct Strap Loose	Duct Strap Loose. Adjustment Required.				
-------	------------	-----	--	--------------------------------------	--	--	--	--	--



00002	Punch List	N/A		HP-12 Supply Duct	Opening in supply duct. Repair required				
-------	------------	-----	--	-------------------	---	--	--	--	--



ID	Type	Name	Number	Element	Description	Location	Spec Section	Due Date	Remarks
----	------	------	--------	---------	-------------	----------	--------------	----------	---------

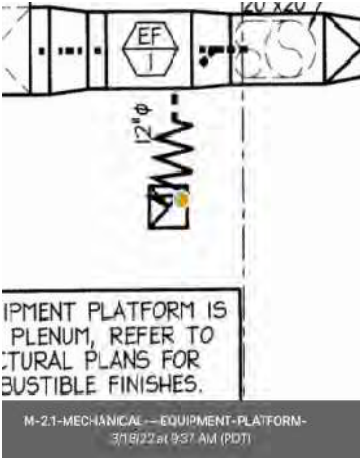
00003

Punch List

N/A

Flex Duct next to EF-1

Flex duct damaged. Insulation showing



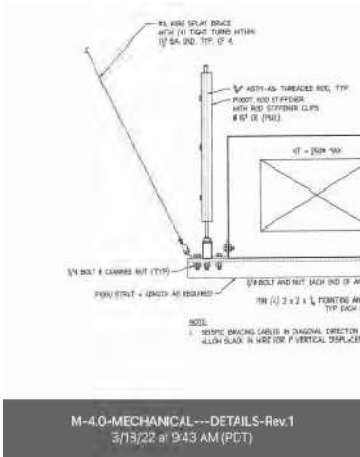
00004

Punch List

N/A

EF-1

Wire Splay Brace missing per mechanical detail 4 - M4.0



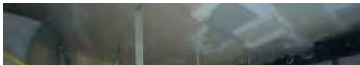
00005

Punch List

N/A

EF-1

Rod Stiffner Missing per mechanical detail 4 - M4.0



ID	Type	Name	Number	Element	Description	Location	Spec Section	Due Date	Remarks
M-20-MECHANICAL--FLOOR-PLAN-Rev.1 3/18/22 at 10:26 AM (PDT)									

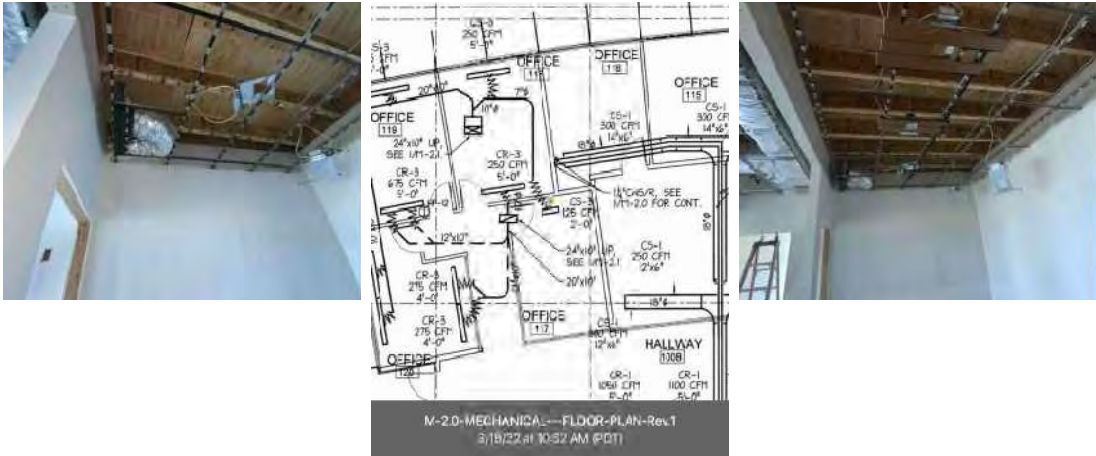
00010

Punch List

N/A

Office 117

Register installed to side of room instead of center as shown in drawings.



00011

Punch List

N/A

Break Room 134

Duct exposed to debris



00012

Punch List

N/A

Storage 144

Duct exposed to debris



ID	Type	Name	Number	Element	Description	Location	Spec Section	Due Date	Remarks
----	------	------	--------	---------	-------------	----------	--------------	----------	---------



142

M-2.0-MECHANICAL--FLOOR-PLAN-Rev1
3/13/22 at 11:01 AM (PDT)

00015

Punch List

N/A

Kitchen 133

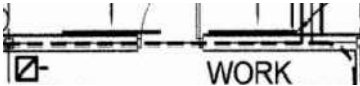
Duct exposed to debris



00016	Punch List	N/A		Duct exposed to debris	Duct exposed to debris				
-------	------------	-----	--	------------------------	------------------------	--	--	--	--



00017	Punch List	N/A		Work room 131	Duct exposed to debris				
-------	------------	-----	--	---------------	------------------------	--	--	--	--



ID	Type	Name	Number	Element	Description	Location	Spec Section	Due Date	Remarks
									

00018	Submittal	N/A		Damper	Per Title 24, Part 6 Section 120.2 (f), requires outdoor air supply equipment be installed with dampers that automatically close upon fan shutdown.				
-------	-----------	-----	--	--------	---	--	--	--	--

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Office: 916.851.3500

Seneca Healthcare District - Replacement CAH/SNF

Commissioning

Capital Engineering Consultants Inc.

Best

	DD	CD	Permitting	Fabrication	Installation	Closeout	SUB/Totals
Building Pressurization	\$ 200.00	\$ 8,100.00	\$ 400.00	\$ 12,200.00	\$ 52,900.00	\$ 6,500.00	\$ 80,300.00
HVAC & Refrigeration	\$ 6,900.00	\$ 6,900.00	\$ 1,100.00	\$ 9,800.00	\$ 61,700.00	\$ 10,200.00	\$ 96,600.00
Energy Systems	\$ 1,200.00	\$ 1,200.00	\$ 100.00	\$ 3,000.00	\$ 7,600.00	\$ 1,200.00	\$ 14,300.00
Indoor Environmental Quality	\$ 500.00	\$ 800.00	\$ 50.00	\$ 2,300.00	\$ 3,200.00	\$ 500.00	\$ 7,350.00
Electrical Systems and Emergency							
Power/Generation, Smoke Control, Fire							
Protection, Fire Suppression, Fire Alarm,	\$ 6,260.00	\$ 7,310.00	\$ 700.00	\$ 7,390.00	\$ 34,700.00	\$ 6,930.00	\$ 63,290.00
Lighting Systems							
Plumbing, Domestic Water, and non-	\$ 2,000.00	\$ 3,200.00	\$ 200.00	\$ 4,300.00	\$ 9,800.00	\$ 2,400.00	\$ 21,900.00
potable System							
Reimbursables	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	#####	#####	\$ 2,550.00	\$ 38,990.00	\$ 169,900.00	\$ 27,730.00	<u>\$ 283,740.00</u>

Seneca Healthcare District - Replacement CAH/SNF

Commissioning

Pyxis Partners

	DD	CD	Permitting	Fabrication	Installation	Closeout	SUB/Totals
Building Pressurization	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HVAC & Refrigeration	\$2,304.00	\$4,140.00	\$0.00	\$11,736.00	\$19,386.00	\$18,432.00	\$55,998.00
Energy Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Indoor Environmental Quality	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Electrical Systems and Emergency							
Power/Generation, Smoke Control, Fire							
Protection, Fire Suppression, Fire Alarm,							
Lighting Systems	\$1,055.00	\$1,235.00	\$0.00	\$8,675.00	\$1,965.00	\$16,500.00	\$29,430.00
Plumbing, Domestic Water, and non-							
potable System	\$1,152.00	\$1,350.00	\$0.00	\$6,588.00	\$1,620.00	\$7,920.00	\$18,630.00
Reimbursables							
TOTAL				\$5,650.00	\$6,900.00		\$12,550.00
							\$116,608.00

Seneca Healthcare District - Replacement CAH/SNF

Commissioning

Sindoni Consulting & Management Services, Inc. (d/b/a SCMS)

	DD	CD	Permitting	Fabrication	Installation	Closeout	SUB/Totals		
Building Pressurization			Not applicable				0		N/A - Not Included
HVAC & Refrigeration	\$ 16,200	\$ 20,522	\$ 9,282	\$ 9,824	\$ 28,048	\$ 9,676	\$ 93,552		
Energy Systems			Not applicable				0		N/A - Not Included
Indoor Environmental Quality			Not applicable				0		N/A - Not Included
Electrical Systems and Emergency Power/Generation, Smoke Control, Fire Protection, Fire Suppression, Fire Alarm, Lighting Systems	\$ 6,750	\$ 7,718	\$ 3,868	\$ 3,760	\$ 13,270	\$ 3,615	\$ 38,980		FP/FS/FA Commissioning not included. Documentation verification only
Plumbing, Domestic Water, and non-potable System	\$ 4,050	\$ 4,631	\$ 2,321	\$ 2,256	\$ 7,962	\$ 2,169	\$ 23,388		
Sub-Total							\$ 155,920		
Reimbursables							\$ 8,000		
TOTAL							\$ 163,920		



SENECA HEALTHCARE DISTRICT POLICY & PROCEDURE

DEPARTMENT: Environmental Services and Safety-Housekeeping POLICY TITLE: Needle Disposal Container/Sharps Collector POLICY NUMBER: ESS-009.002 COMPLIANCE REQUIREMENT: Title 22 California Code of Regulations Division 5, 70843	Page 1 of 2 Date of Origin: 5 July, 1991 Revision Date: 18 August, 2004 Periodic Review By: Date:
AUTHOR: Linda McCurdy REVISED BY: Jennifer Hall	Policy Rescinded by Policy #: Effective Date:

Policy: Seneca Healthcare District (SHD) Housekeeping Staff shall check the Needle Disposal Containers/ Sharps Collectors (containers) daily and replace as needed.

Authorization	Signature	Date
Department Head		
Medical Department Chair		
Compliance Officer		
Chief Nursing Officer		
Director, Human Resources		
Administration		
Medical Chief of Staff		
Governing Board		

POLICY NUMBER REFERENCE: ESS-009.002

PROCEDURE

1. Purpose

The purpose of this policy is to ensure containers are functioning properly and cleaned on a daily basis using a germicidal disinfectant to decrease the risk of infectious contaminants.

2. Responsibilities

The SHD Housekeeping staff is responsible for checking, cleaning, replacing, and proper transport of sharps containers following the below procedures.

3. Policy for Needle Disposal Container/ Sharps Collectors

a. Procedure

- i. Containers will be checked for fullness, cleanliness, and proper operation in all areas of the facility at least daily.
- ii. Containers are considered full when contents reach the full line on the manufacture's label on container.
- iii. If the labeling is not visible due to the container being secured in a cabinet, open cabinet to check fullness.
- iv. Always visually check before handling to ensure that all previous sharps have dropped into the container and there are no sharps protruding. Do not attempt to force sharps into a container with your hands.

b. Procedure to replace containers

- i. Containers will need to be replaced when full or if the container is not operating properly.
- ii. Always bring a like container to the location needing replacement and follow manufacture's instructions to properly assemble and install.
- iii. If container is secured in a bracket or cabinet, leave container secured while closing the top. Follow the manufacture's instructions.
- iv. Once top of container is secured, open bracket or cabinet with a key and gently grasp the front handle of collector and remove.
- v. Place the container in a Biohazard Waste Transport Container for transport to Medical Waste storage area.
- vi. Clean the inside and outside of bracket or cabinet with a germicidal disinfectant prior to installing new container.

4. Enforcement

Violation of this policy may result in disciplinary action, up to and including termination as outlined in the Sanctions Policy/Procedure, CMPL-005.



SENECA HEALTHCARE DISTRICT POLICY & PROCEDURE

DEPARTMENT: Environmental Services- Housekeeping POLICY TITLE: Proper use and Dilution of Disinfectants POLICY NUMBER: HKG-026.001 COMPLIANCE REQUIREMENT: CDC Guideline for Disinfection and Sterilization in Healthcare Facilities	Page 1 of 2 Date of Origin: Revision Date: Periodic Review By: Date:
AUTHOR: REVISED BY:	Policy Rescinded by Policy #: Effective Date:

Policy: Seneca Healthcare District (SHD) shall follow manufacturer's dilution instructions for mixing to ensure safe and effective use of disinfectants.

Authorization	Signature	Date
Department Head		
Medical Department Chair		
Compliance Officer		
Chief Nursing Officer		
Director, Human Resources		
Administration		
Medical Chief of Staff		
Governing Board		

POLICY NUMBER REFERENCE: HKG-026.001

PROCEDURE

1. Purpose

The purpose of this policy is to maintain a clean and sanitary environment clean from infection prevention contaminants.

2. Responsibilities

The SHD Staff is responsible for Proper use and Dilution of Disinfectants in the facility.

3. Policy for Proper use and Dilution of Disinfectants

a. Procedure

- i. SHD Staff will adhere to manufacturer's dilution instructions for mixing all dilute solutions of germicidal disinfectants for use in and around the facility.
- ii. Care will be taken not to over utilize concentrate when mixing solutions to prevent harm to themselves and others from over exposure to disinfectants.
- iii. A pitcher that is maintained in the housekeeping closet shall be used to mix the germicidal disinfectant solution that will be utilized to pour into the mop bucket and the germicidal soaked rag container. The pitcher is marked for proper dilution.
- iv. An additional pitcher has been marked appropriately and maintained in the housekeeping closet and shall be used for dilution of bleach for a 1:10 ratio.
- v. Basins are approximately 1 gallon capacity and may also be used for mixing all dilute solutions of germicidal disinfectants. Use the amount of disinfectant for 1 gallon solution and fill bucket with clean water.
- vi. Squirt bottles (not to be utilized for germicidal disinfectant by housekeeping in the hospital building) are graduated or have the capacity on the bottle. A measuring cup may be required to mix disinfectant properly.

4. Enforcement

Violation of this policy may result in disciplinary action, up to and including termination as outlined in the Sanctions Policy/Procedure, CMPL-005.

REFERENCE

<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/index.html>



SENECA HEALTHCARE DISTRICT POLICY & PROCEDURE

DEPARTMENT: Environmental Services- Housekeeping POLICY TITLE: Cleaning and Decontaminating Spills of Blood and Other Bodily Fluids POLICY NUMBER: HKG 037.001 COMPLIANCE REQUIREMENT: Title 22 California Code of Regulations Division 5, §70739	Page 1 of 2 Date of Origin: Revision Date: Periodic Review By: Date:
AUTHOR: Jennifer Hall, Housekeeping Supervisor REVISED BY:	Policy Rescinded by Policy #: Effective Date:

Policy: Seneca Healthcare District (SHD) patient care staff shall follow precautions and current CDC Guidelines and Infection Prevention recommendations when cleaning and decontaminating spills of blood and other bodily fluids.

Authorization	Signature	Date
Department Head		
Medical Department Chair		
Compliance Officer		
Chief Nursing Officer		
Director, Human Resources		
Administration		
Medical Chief of Staff		
Governing Board		

POLICY NUMBER REFERENCE: HKG-037.001

PROCEDURE

1. Purpose

The purpose of this policy is to prevent the spread of infectious contaminants.

2. Responsibilities

The SHD housekeeping staff and patient care departments are responsible for proper use of germicidal disinfectants and shall follow the below procedures when cleaning and decontaminating spills of blood and other bodily fluids.

3. Policy for Cleaning and Decontaminating Spills of Blood and Other Bodily Fluids

a. Procedure

- i. Spills that are located on carpet need to be cleaned per **HKG-12 Carpet Care Policy**.
- ii. Large visible amounts of blood or other body fluids should be flooded with a liquid germicidal disinfectant or a 1:10 bleach solution.
- iii. Remove large amounts of blood or other body fluids after flooding by picking them up with an absorbent material such as a chux, disposable cloths, or solidifier and disposing of them properly.
- iv. Decontaminate the area of the spill with liquid germicide or 1:10 bleach solution using a rag or a mop.
- v. Discard used rags or mops in the housekeeping soiled linen containers. Do not reuse rags or mops that were used to decontaminate the spill area.
- vi. Gloves must be worn for both the cleaning and decontamination procedure. Utilize additional personal protective equipment (PPE) if the need can be reasonably anticipated.

4. Enforcement

Violation of this policy may result in disciplinary action, up to and including termination as outlined in the Sanctions Policy/Procedure, CMPL-005.

REFERENCE

<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/>



SENECA HEALTHCARE DISTRICT POLICY & PROCEDURE

DEPARTMENT: Environmental Services-Housekeeping
POLICY TITLE: Terminal Cleaning of Units after Discharge
POLICY NUMBER: HKG-044.001

COMPLIANCE REQUIREMENT:

Title 22 California Code of Regulations Division 5, §70827

Page 1 of 2

Date of Origin:

Revision Date:

Periodic Review

By:

Date:

AUTHOR: Jennifer Hall, Housekeeping Supervisor
REVISED BY:

Policy Rescinded by

Policy #:

Effective Date:

Policy: Seneca Healthcare District (SHD) housekeeping and nursing staff shall work together to terminally clean patient or resident bed/room upon discharge.

Authorization	Signature	Date
Department Head		
Medical Department Chair		
Compliance Officer		
Chief Nursing Officer		
Director, Human Resources		
Administration		
Medical Chief of Staff		
Governing Board		

POLICY NUMBER REFERENCE: HKG-044.001

PROCEDURE

1. Purpose

The purpose of this policy is to ensure rooms are cleaned after Acute patients or Skilled Nursing Facility (SNF) residents are discharged and no longer occupy the bed/room.

2. Responsibilities

The SHD Nursing staff and housekeeping staff are responsible for communicating appropriate information in a timely manner to clean a bed/room after patient or resident has been discharged.

3. Policy for Cleaning of Units after Discharge

a. Procedure

- i. When a patient or resident is discharged, it is primarily the nursing staff's responsibility to strip the bed/room and notify Housekeeping that the room is ready for cleaning.
- ii. Housekeeping may complete the stripping of the bed and room after checking with nursing staff to ensure that all medication, personal items, and information needed has been obtained from infusion pumps, monitors, etc.
- iii. Housekeeping staff will follow the cleaning procedures and schedules that are in the cleaning log binder(s) and document appropriately.
- iv. If the room being terminally cleaned is an isolation room, refer to **HKG-043 Isolation Rooms** and follow proper precautions and procedures.
- v. Clean all portable patient equipment that had been used in the room such as commodes, infusion pumps, patient monitors, wheelchairs, etc.
- vi. Remove equipment once cleaned and store in proper locations.
- vii. Housekeeping staff will notify the appropriate department once the bed/room has been cleaned.

4. Enforcement

Violation of this policy may result in disciplinary action, up to and including termination as outlined in the Sanctions Policy/Procedure, CMPL-005.



SENECA HEALTHCARE DISTRICT

DEPARTMENT: Environmental Services – Housekeeping

From: Director of Environmental Services

PROCEDURE TITLE: Cleaning of Units after Discharge

HKG-PRO-007-001

PAGE 1 OF 1

Date of Origin: 9/12/1985

Date of Revision: 25

March, 2006

PROCEDURE:

1. Acute and S.N.F.
 - A. When a Patient is discharged it is primarily the Nursing Staff's responsibility to strip the bed and room, and notify Housekeeping that the room is ready for cleaning. Housekeeping may complete the stripping of the bed and room after checking with Nursing Staff to ensure that all information Needed has been obtained from Infusion Pumps, Monitors, etc.
 - B. Follow Patient/Resident Daily Room Cleaning Procedure.
 - C. Wash the Bed, Nightstand (Inside all drawers and outside), Over Bed Table (Inside and Out), Central Panel, Patient Call Bell and Cord, Television Control, Telephone, and interior and Exterior of Closet with Germicidal Disinfectant.
 - D. Wash walls around sink area, and under paper towel and soap dispenser. Wash walls around restroom doorway, and any other areas that appear to require cleaning. Wash walls to a reachable height around discharge bed, and other areas as needed.
 - E. Clean and remove all portable patient equipment that had been used, commodes, infusion pumps, patient monitors, wheelchairs, etc. Remove equipment once cleaned and store in the proper locations.
 - F. S.N.F. Resident Rooms will be cleaned daily and after discharge, in the same manner as the Acute Rooms. Being more thorough with wall washing around discharge bed, and cleaning drawer interior and cabinets around sink area.



SENECA HEALTHCARE DISTRICT PROCEDURE

**DEPARTMENT: Environmental Services – Housekeeping
and Infection Control**

PROCEDURE TITLE: Patient/Resident Room Cleaning

HK6-PRO-008-001

PAGE 1 OF 2

Date of Origin: 3/22/90

Revision Date: 3/15/06

PROCEDURE:

Daily Cleaning

1. Wipe down furniture, overbed tables, bedside stands, telephones, door handles, and all flat surfaces with germicidal disinfectant. Clean the top and side of heater and windowsill, and spot clean walls with germicidal disinfectant where needed.
2. Remove and replace patient bedside bags on the side of the overbed table or bed side rail. Leave extra bedside bags in the room.
3. Clean sink with cleanser; wipe the sink (including sink sides and under rim), faucet handles, and faucet, etc. with germicidal disinfectant.
4. Wipe down the following items with germicidal disinfectant. Paper towel dispenser, and directly below it, soap dispenser, mirror (Dry mirror to prevent streaking) and frame of Medicine Cabinet, Towel Bars and shelves over sink, and wall area around sink.
5. Empty patient room trash cans, and tie bag closed prior to leaving the room to prevent leakage. Leave several extra bags in the bottom of the trashcans. Clean trash cans inside and out with germicidal disinfectant as needed, but at least once per week.
6. Stock all room supplies, gloves, paper towels. Soap, trash bags, bedside bags.
7. Check needle deposit containers and replace as needed.
8. Check Personal Protection Cabinets and restock supplies as needed.

9. Clean Bathroom per Bathroom Cleaning Procedure.
10. Clean any portable patient equipment that has been discontinued by nursing and is no longer actively in use on a patient or resident. Remove from room to a clean storage area.
11. Mop floor with germicidal disinfectant.

Weekly and additional Cleaning

1. T.V. Cabinets, blinds, overbed lights, and interior windows should be cleaned on a weekly basis with germicidal disinfectant. Windows and television screens may be re-cleaned with glass cleaner to prevent streaks. Window coverings should be Vacuumed at least weekly. All cleaning can be completed more often if needed.
2. Room curtain should be changed whenever visibly soiled, but at least monthly.
3. Small parts in the room that cannot be reached by a rag should be cleaned with a Cotton Swab that has been dipped in germicidal disinfectant, such as suction ports, etc.



SENECA HEALTHCARE DISTRICT

DEPARTMENT: Environmental Services - Housekeeping
PROCEDURE TITLE: TERMINAL ROOM CLEANING

PAGE 1 OF 1

Date of Origin: 9/12/1985
Revision Date: 3/22/1990
Current Review Date:
1/30/06

HKG-PRO-010.001

PROCEDURE:

- 1. Follow Patient Room Daily Cleaning and Cleaning Units After Discharge Procedures.**
- 2. Move all furniture in the room and Mop the floor well with germicidal disinfectant solution. Be sure that all trash, contaminated articles and patient belongings have been removed from the room.**
- 3. Any personal belongings that have been left behind by the patient should be logged and cared for per Lost and Found Policy.**
- 4. In the S.N.F. Resident Rooms the Privacy Curtains shall be changed in the room being terminally cleaned.**
- 5. Ensure all cleaning included in Patient/Resident Room Cleaning, and Cleaning of Units after discharge is completed.**



SENECA HEALTHCARE DISTRICT POLICY & PROCEDURE

DEPARTMENT: Environmental Services- Housekeeping POLICY TITLE: Proper use and Dilution of Disinfectants POLICY NUMBER: HKG-026.001 COMPLIANCE REQUIREMENT: CDC Guideline for Disinfection and Sterilization in Healthcare Facilities	Page 1 of 2 Date of Origin: Revision Date: Periodic Review By: Date:
AUTHOR: REVISED BY:	Policy Rescinded by Policy #: Effective Date:

Policy: Seneca Healthcare District (SHD) shall follow manufacturer's dilution instructions for mixing to ensure safe and effective use of disinfectants.

Authorization	Signature	Date
Department Head		
Medical Department Chair		
Compliance Officer		
Chief Nursing Officer		
Director, Human Resources		
Administration		
Medical Chief of Staff		
Governing Board		

POLICY NUMBER REFERENCE: HKG-026.001

PROCEDURE

1. Purpose

The purpose of this policy is to maintain a clean and sanitary environment clean from infection prevention contaminants.

2. Responsibilities

The SHD Staff is responsible for Proper use and Dilution of Disinfectants in the facility.

3. Policy for Proper use and Dilution of Disinfectants

a. Procedure

- i. SHD Staff will adhere to manufacturer's dilution instructions for mixing all dilute solutions of germicidal disinfectants for use in and around the facility.
- ii. Care will be taken not to over utilize concentrate when mixing solutions to prevent harm to themselves and others from over exposure to disinfectants.
- iii. A pitcher that is maintained in the housekeeping closet shall be used to mix the germicidal disinfectant solution that will be utilized to pour into the mop bucket and the germicidal soaked rag container. The pitcher is marked for proper dilution.
- iv. An additional pitcher has been marked appropriately and maintained in the housekeeping closet and shall be used for dilution of bleach for a 1:10 ratio.
- v. Basins are approximately 1 gallon capacity and may also be used for mixing all dilute solutions of germicidal disinfectants. Use the amount of disinfectant for 1 gallon solution and fill bucket with clean water.
- vi. Squirt bottles (not to be utilized for germicidal disinfectant by housekeeping in the hospital building) are graduated or have the capacity on the bottle. A measuring cup may be required to mix disinfectant properly.

4. Enforcement

Violation of this policy may result in disciplinary action, up to and including termination as outlined in the Sanctions Policy/Procedure, CMPL-005.

REFERENCE

<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/index.html>



SENECA HEALTHCARE DISTRICT PROCEDURE

DEPARTMENT: Environmental Services

POLICY TITLE: Proper use and Dilution of Disinfectants

HKG-PRO-026-001

PAGE 1 OF 1

Date of Origin :6/14/86

Revision Date: 9/14/2009

PROCEDURE:

- 1. Environmental Services Staff will control the dilution of germicidal disinfectants for use in and around the facility.**
- 2. Environmental Services Staff will adhere to manufacturer's dilution instructions for mixing all dilute solutions of Germicidal Disinfectants for use.**
- 3. Care will be taken not to over utilize concentrate when mixing solutions to prevent harm to themselves and others from over exposure to disinfectants.**
- 4. A pitcher that is maintained in the housekeeping closet shall be used to mix the germicidal disinfectant solution that will be utilized to pour into the Mop Bucket and the Germicidal soaked Rag container. The pitcher is marked for proper dilution.**
- 5. Basins area approximately 1 gallon capacity. Use amount of disinfectant for 1 gallon solution and fill bucket with clean water.**
- 6. Squirt Bottles (Not to be utilized for germicidal disinfectant by Housekeeping in the hospital building) are graduated or have the capacity on the bottle. A measuring cup may be required to mix disinfectant properly.**



SENECA HEALTHCARE DISTRICT PROCEDURE

DEPARTMENT: Environmental Services

PROCEDURE TITLE: Care of Hand Soaps/OR Soap and Hand Care Products.

PAGE 1 OF 1

Date of Origin: 23
October, 2006

Revision Date:

HKG-PRO-028-001

PROCEDURE:

- 1. All Hand Soaps, OR Scrubs, Waterless Hand Cleaners, Hand Lotions, etc. supplied by Seneca Healthcare District for use within the hospital will be checked for outdating by the Environmental Services Department on a Quarterly basis. This inspection shall be logged on a log sheet maintained in the Preventive Maintenance logbook in the Director of Environmental Services Office.**
- 2. When receiving hand care supplies the Environmental Services Staff shall rotate the stock of supplies in the Environmental Services (Housekeeping) storage area by placing the current stock on the shelf in the front to ensure it is used first, and place new stock to the rear so it will be used later. Any outdated stock noted at this time will be discarded immediately. When any Hand Care Product is received the case or outer packaging should be checked to see if there is a printed outdate. If the outdate appears on the outer packaging and is not printed on each individual container of hand product, a laundry marker will be used to print the outdate noted on each individual container of hand product at the top of the bottle.**
- 3. For Hand Soaps, Lotions, Waterless Hand Cleaner, etc. (if applicable open the dispenser to locate and view expiration date) and check for a date on container. Certain Soaps and lotions may not have an expiration date, and are considered a stable product under normal conditions. If there is a question about outdates on any product contact the Director of Environmental Services or the Manufacturer of the product.**
- 4. Once the outdate has been located on any product, and the date of expiration will occur within the next 90 days, discard the product and replace with new stock.**
- 5. All hand care products should be protected from freezing and extreme heat.**



SENECA HEALTHCARE DISTRICT

PROCEDURE

DEPARTMENT: Environmental Services Housekeeping
PROCEDURE TITLE: Micro Fiber Mopping

PAGE 1 OF 3

Date of Origin: 3/4//08

Revision Date:

HKG-PRO-029-001

PURPOSE:

The purpose of the Micro Fiber Mopping System is to minimize or eliminate the possibility of cross contamination in any area, and work related injuries.







PROCEDURE:

1. Using the Clean Micro Fiber Mop Bucket mix a solution of water and disinfectant per manufacturer's instructions, placing the disinfectant in the bucket prior to adding the water. Mix 2 Quarts (1/2 Gallon) of Solution for 10 Mop Pads, 3 Quarts for 15 Mop Pads, and 4 Quarts (1 Gallon) for 20 Mop Pads.
2. Carefully and slowly lay the desired quantity of mop pads in the bucket, ensuring mop pads are laying flat with the side of the mop that attaches to the handle facing up.
3. If applicable, place the anti spill lid on the bucket per manufacturer's instructions and turn the entire bucket from side to side or completely upside down to ensure all mop pads are saturated with solution.
4. Place clean mop pad bucket on the deck of the Housekeeping Cart, remove lid for use of mop pads.
5. Utilize one clean mop pad for each room. Two or more mop pads may need to be used in corridors to ensure complete cleaning. Never place a dirty mop pad back into the clean mop pad bucket.
 - A. When mopping very small floors in the same general area one mop pad may be used for multiple floors, but you must always do clean areas first such as clean linen storage and food storage areas before using the mop pad in a dirty area such as a restroom. One exception that may be allowed in the Acute Corridor, use one mop pad to clean the floor of the clean linen storage closet then under the exchange cart, and lastly the Soiled Linen closet floor.

Micro Fiber Mopping Procedure

- 6.** Once you have finished using a mop pad place it in the dirty/soiled mop bucket on the cart deck, or remove it to the dirty/soiled mop pad bucket in the housekeeping closet.
- 7.** At the end of each workday empty the Dirty/Soiled Mop Pad Bucket on each cart by removing the plastic linen bag. Tie all soiled linen bags securely to prevent leakage and place bags in the Soiled Linen storage area.
- 8.** At Least every other day or before linen is picked up for laundering, remove the bag from the Dirty/Soiled Mop Pad Bucket in the Housekeeping Closet. Tie all soiled linen bags securely to prevent leakage and place bags in the Soiled Linen storage area.
- 9.** Never mix soiled cleaning rags with micro fiber mops for laundering.
- 10.** When clean mop pads are returned from the Laundry store by laying flat in containers provided.
- 11.** Clean solution saturated Micro Fiber Mop Pads may be used to clean the walls as well as the floor in the surgical suite. Never use a mop pad to clean the floor and then use on the wall. A clean pad will be used to clean the wall or a section of wall and then may be used to clean the floor.
- 12.** At the end of any work day or task when clean mop pads are no longer needed, and all clean mops pads have been used, empty the remaining disinfectant solution from the clean mop pad bucket and rinse and clean bucket for the next work day or task.
- 13.** Mop platform and handles should be wiped down with disinfectant at the end of the workday or task. Velcro on the mop platforms must be kept clean so they will hold mop pads. Clean Velcro of any lint or hair, etc.
- 14.** Dirty/Soiled Mop Pad Buckets should be wiped down with a disinfectant solution and a clean plastic bag placed inside for the next use.
- 15.** Always utilize the appropriate Micro Fiber Mop Pad for the job. See the "Micro Fiber Mop Identification Sheet" attached.

Micro Fiber Mop Identification Chart

- Blue Pad with Blue/White Loop Fringe
– Dry Mop 
- Yellow Pad with Blue Stripe – Scrubber
Pad 
- White Pad with Blue Stripe/Trim – Wax
Finish Pad 
- Blue Pad with Blue Trim and Scrubber
Pad
Wet Mop Head 
- Blue Pad with Red Trim – Wet Mop

- Green Pad with Green White Loop
Fringe – Dust Mop 



SENECA HEALTHCARE DISTRICT PROCEDURE

DEPARTMENT: All Patient Care Departments
PROCEDURE TITLE: Cleaning and Decontaminating
Spills of Blood and Other Body Fluids.

PAGE 1 OF 1

Date of Origin:
26 November, 1988

Revision Date:
14 March, 2008

HKG - PRO-037-001

PROCEDURE:

1. Large visible amounts of blood or other body fluids should be flooded with a liquid disinfectant or a 1:10 bleach solution.
2. Remove large amounts of blood or other body fluids after flooding by picking up with an absorbent material such as a chux or solidifier and disposing of properly.
3. Decontaminate the area of the spill with liquid germicide or 1: 10 bleach solution using a rag or a mop.
4. Discard used rags or mops in the Housekeeping soiled linen containers. Do not reuse rags or mops that were used to decontaminate the spill area.
5. Gloves must be worn for both the cleaning and decontamination procedure. Utilize additional personal protective equipment if the need can be reasonably anticipated.

SPT Report to the SHD Board

8/31/2023

SWIMLANES	SUBCATEGORIES	General Summary	Updates
NEPA		For anticipated USDA financing (see below), an environmental review is required to evaluate project compliance with NEPA (federal) requirements. Sequoia Environmental is the consultant that has been contracted to lead this process. USDA is identified as the lead agency for the NEPA review/approval.	NEPA compliance has completed, inclusive of determination by Lead Agency USDA of Finding of No Significant Impact (FONSI) issued 8/10.
EMS Helicopter Landing Site		Emergency Medical Services Helicopter Landing Site (HLS) in lieu of a full Heliport is being incorporated into the design for transport of patients as needed to nearby hospital partners. The size and infrastructure for the HLS will be such that a Heliport approval could potentially be pursued in the future if desired.	No update from 7/27 BOD meeting. We are working now with Boldt/HGA to ensure inset lights, fencing, and lighted windsock & beacon on rooftop is incorporated appropriately into the design.
Harvest Plan		Sierra Timber Services (STS) has been retained to prepare a Timber Harvesting Plan (THP) and associated Timberland Conversion permit (TCP). This is needed in order to clear trees as needed for the development, and will also be a component of the CEQA/NEPA analysis.	On 7/31 during what was planned as final marking of the trees in order to be ready for removal upon issuance of NEPA FONSI, a blue heron nest was observed in one of the onsite trees. Since that time, the team has been working to define the parameters and associated timing for proceeding with work while protecting the associated birds. At time of this report (8/24), our avian biologist estimates approximately 3 more weeks before the fledglings leave the nest, and although we are still exploring if it is reasonable based on avian biologist input to proceed, along with protective measures in place, to do tree removal elsewhere onsite, it is expected that we won't be able to do the work until the birds have fledged. This limits time prior to winter weather. We do however anticipate being able to get the timber removal complete before winter. See "Schedule" item below.

Wildwood Easement		<p>There is a potential need for easement across the SW corner of Wildwood in order to properly access the new site. Communications are ongoing with Wildwood for that and for an easement for emergency access only through the North-most drive of Wildwood.</p>	<p>No update from 7/27 BOD meeting re the existing easement. The easement approved by both SHD & PCCDC for potential work at Wildwood's SW corner for main access from Reynolds Rd to the planned new facility has been recorded. Design-Build Entity may have an alternate/more cost-effective solution but if that is the case we can later record a retraction of the easement.</p> <p>The previously-discussed potential secondary emergency access/egress at the North (Meadow Lane) is not anticipated to be needed at this time...site plans have been submitted to the County with alternate secondary access/egress behind the clinic to Brentwood.</p>
Financing	USDA Financing	A loan is being pursued from USDA to provide revenue-supported financing for the project.	All requested information has been provided to USDA. USDA review is ongoing, aiming for a 9/30 funding deadline.
	Other Funding	Anticipating a combination of state/federal funds, Philanthropy and public support.	<p>No update from 7/27 BOD meeting. SHD has applied for SB395 funding for reimbursement for the fee associated with development of the Criteria Documents (\$280k). We are awaiting feedback on the application. There will be future additional opportunities to apply for future funding under this legislature as well.</p> <p>Philanthropy discussions ongoing. Final architectural renderings have been completed and donor packets are being developed.</p>
Schedule		Delay in grading and subsequent sitework is resulting in an overall schedule delay.	Due to the aforementioned blue heron, we are needing to push grading and subsequent site work to Spring of 2024. Resulting overall construction schedule will be brought to the September BOD meeting.

Budget		Design-Build Entity Validation Phase cost model provided for 1/26/23 meeting. Project budget at \$72M.	<p>Construction costs have been validated at \$55.5M by the Design-Build Entity leading to an overall Project Cost (including soft costs) of \$72M. We are working to confirm that construction and project contingencies can contain this despite the schedule delay.</p> <p>Note that excluded from the above construction costs but included in the overall Project Cost is the construction of the Support Services building for which the team is looking at cost efficiencies to have that done by a metal building company.</p>
Design	Design Documentation	The Boldt Company with HGA Architects have been contracted as the project Design-Build Entity (DBE).	Both grading/drainage and overall site improvements package has been approved by Plumas County, and permit is in hand. CPUD has given associated approval on water & sewer, and we are working with them for review of fire control/access. Interiors design is proceeding with Construction Documents CD), and Core & Shell designs remain with HCAI for 1st review. Building design interiors will go to HCAI in Nov/Dec.
	Medical Equipment Planning	Contract has been executed with Ross & Baruzzini (R&B), changing company name to Introba, for Medical Equipment Planning & Procurement services. They will be involved in the project through procurement with a decision at a later point if they will also provide installation management (cost defined within their contract as a potential additional service).	Many vendor meetings have been occurring over the last month in order for clinical and operational leadership and staff to have the needed information with which to decide selection of architecturally-significant equipment (ASE)...aim is getting all the selected vendor site-specific drawings for the DBE. We are asking Introba to provide resulting RFP documentation/specifications and updated list/cut sheets for review/preparation for a scheduled 9/1 and 9/5 meeting series for CD phase. RFPs will then be issued from which SHD will be able to select the appropriate ASE vendors.
Construction	Boldt Contract GMP	Due to timing of bidding during the busy Summer months, bid coverage has been very light, leading to recommendation to the BOD to push GMP development to end of Construction Documents.	Planned for discussion within the "For Approval" section of the BOD meeting.

	Site Construction Contract	<p>There are ongoing discussions as to whether the site construction scope-of-work will need to be contracted direct to SHD due to inability to comply with Skilled & Trained workforce requirements under the Boldt contract.</p> <p>Following Boldt's previous/unsuccessful work to obtain a site subcontractor, finding no available subs that also meet the Skilled & Trained State Design-Build workforce requirements, a bid has now been obtained and vetted. Boldt has submitted a request for NTP on this work along with the associated Boldt oversight/general requirements/fees/insurance. Given the schedule delay referenced above, it is SHD Legal recommendation to limit exposure until closer to start of work and until total project construction costs are put into a GMP. However, given the difficulty of finding this sub, it is Boldt's recommendation to commit to this subcontractor contract. As such, Boldt is working on an revised request for NTP that contracts with the sub along with minimized Boldt costs through the winter that we will be bringing to BOD at September meeting.</p>
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August 31, 2023

Seneca Healthcare Board of Directors Meeting CEO Report

Monthly Updates:

New Hospital Build Effort:

This month, Seneca received our approved NEPA and FONSI from the USDA. This milestone clears the organization for all work on the greenfield location for the new hospital and accompanying grounds.

Shortly after our ground-breaking ceremony, the Timber Operator and Forester were walking the property in preparation for the beginning of the timber harvest phase of the project. The Forester found eggshells under a large pine near the center of the property. Upon further investigation, it was noted that a Great Blue Heron had built a nest in the tree and that at least one (1) chick appeared to be in the nest. Seneca Administration was notified of the finding and took appropriate protection action so as to not harass or disturb the nest. Seneca is now waiting until the chick/s fully fledge before beginning timber operations. As such, Seneca has lost our fall construction window for infrastructure ground work and grading. This phase will be put off until spring 2024, ultimately pushing the date of opening approximately six (6) months to later in 2026.

Dialog continues with the USDA as it pertains to our funding application. Meetings have continued to ensure the USDA can fully vet our financials and build costs. These meetings and iterations of documents continue as we work to secure USDA funding for the project.

The new facility rendering video has gone out on social media for the public. It has been well received and shared multiple times.

Legislative updates:

Several bills have been introduced into the legislator that will be tracked by Seneca and our advocacy associations. The most pressing are two (2) specifically impactful bills to watch carefully.

1. AB 869 Seismic– The bill was heard in the Senate Health Committee a total of four (4) times with multiple hearing cancellations by the author. It appears this bill may run out of time in the current legislative session to make it to the Governor's desk.
2. SB 525 – Amended in the Assembly - Sent back to Appropriations Committee – back to 1st reading in the Assembly and placed in the suspense file – Not sure if it will move through this legislative session – continue tracking

Cerner Conversion:

We are now close to 60 days post conversion to Cerner Community Works. We are still working out some bugs but overall the project went well and we are using the system in operations more efficiently every day.

August 31, 2023

Seneca Out and About:

Seneca staff are committed to community and as such, we work to engage in as many of our community events as possible. Some noted are:

- July 4th parade float won 1st place
- Farmers market
- Town Halls
- Adult Softball Tournament
- ARPD Grand Opening
- LACC Bandshell
- Courage Triathlon



(from left to right, Shawn McKenzie [BIKE] – Royce Raker [KAYAK] – Jay Badeker [RUN])

Physician & Mid-level Recruitment Update:

Site Visit Interview with Greg Wilkinson scheduled for September 1, 2023

TEAMS interview set for Dianna Beale-White, FNP. September 7, 2023

Several recruiter submissions are being vetted with the recruiter – interviews to follow

Dr. Russo has returned to Seneca for a five (5) month LOCUM position.

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CFO Report
Placeholder



AUGUST 2023

Seneca Healthcare District Board of Directors Meeting

CNO Report

COVID and Other Public Health Updates:

Plumas County COVID-19 By the Numbers:

- CDC now recommends that counties use COVID-19 hospital admission levels to guide prevention decisions. Currently the Plumas County COVID-19 hospital admission level = **LOW**. Still seeing a spike in COVID cases in our community.

COVID-19 vaccines are no longer required for healthcare workers:

1. Seneca strongly encourages and promotes COVID-19 vaccine acceptance for all employees.
2. Employees are encouraged to stay up to date with ALL vaccines and these are provided by Seneca at no cost to employees.
3. Information regarding COVID vaccines will be gathered from the CDC and updated as necessary.

Flu Season:

Infection Prevention is gearing up for flu season. We have received our first shipment of flu vaccine (for patient use) and are in the planning stages with PCPH for the annual flu vaccine drive-through.

All influenza (flu) vaccines are quadrivalent for the 2023-2024 flu season--the vaccines are designed to protect against the four main groups of flu Type A and B viruses that research indicates are most likely to spread and cause illness among people during the upcoming flu season.

Cerner Project:

Cerner implementation has been with a variety of issues, but daily progress is being made.

Nursing Recruitment & Retention:

One new RN hired and is completing orientation soon. He has moved back to Susanville area (hometown).

CNA program is nearly complete.

New Critical Access Hospital:

Medical Equipment Planning: Departments are participating in multiple “virtual vendor days” to compare/contrast new medical equipment needed for new CAH. This includes surgical booms, surgical lighting, beds, gurneys, sterile processing equipment, physiologic monitoring, ECG, and imaging—CT/US/C-arm, etc.

Additionally, we are reviewing the following: access/entry points; security system/closed circuit monitors; nurse call systems; data drops; lighting/fixtures; medical gases; plumbing/fixtures; furniture selections; finalizing interior paint colors/accent walls; and landscaping.

Regulatory Updates:

Upcoming survey: anticipating an unannounced standard survey with CDPH soon. State and federal surveyor teams are getting back on track with regulatory surveys. We have reviewed the results of the last survey conducted in 2017 to ensure that all areas of deficiency remain in compliance.

Specific areas of focus: annual performance evaluations; employee health records; required certification tracking; outdated supplies; policies and procedures; medication storage; crash carts; blood administration; surgical equipment and sterilization; medical staff credentialing; annual equipment biomedical inspections; and more!

Board of Pharmacy: we continue to work with the Board of Pharmacy and our local EMSA, Nor-Cal EMS, to decipher newly enforced regulations surrounding our drug room.

Respectfully submitted,

Judy Cline, MSN, RN, PHN

Chief Nursing Officer

TAB

I.a

No Compliance Report
Submitted



IT Department Report for August 2023 Seneca Healthcare District

Board of Directors Meeting

- Meetings with APEX to better understand the relationship and how to streamline Tick Resolution
 - We will move to APEX Ticket Solution for a single entry and ticket tracking for IT and End users.
- Cerner – MFA (Multi-Factor Authentication rolling out next month to allow for remote connections to Cerner from outside the building.
- Evident legacy discussions are Picked back up way; cloud and VM options are available.
- ProVation Endo upgrade is scheduled for the end of Aug, and Interface will start in September.
- Printer Management (Looking to move from inland to Clatronics)
 - Entire fleet coverage
 - Desktop Scanners included.
 - Papercut conversion and setup to better manage consumable cost
 - All printers will have walk-up security.
 - Faxing solution not included. (needs to be reevaluated with Cerner for a more appropriate solution)
 - Pricing in line with current contract



Human Resources – Board Report

August 24th, 2023

- I'm happy to report that I've returned from maternity leave and am excited to jump back into the world of HR at Seneca. My happy 4-month-old baby, Henry, is doing great! Thank you for allowing me to take a long leave of absence in order to spend time becoming a Mom. It's been a great break but I'm excited to get back into work again.
- Some of my goals coming back into work are:
 - Recruitment
 - Employee morale and retention
 - Organization and compliance
 - Community engagement and involvement.

I look forward to keeping the Board updated regarding these goals as we move into fall 2023.

- Big, big thanks to my assistant, Corie, for keeping up on all of the HR tasks. She has done a wonderful job learning and growing within the job while I've been gone. I also want to thank all of the managers and C-suite team for their involvement and assumption of HR responsibilities while I was out. They did a great job!
- Feedback is continuing to be positive regarding our Newsletter! August's version is attached to this board report.

Open Positions for August 2023:

- Registered Nurse (Full Time, Part Time, Per Diem) (Acute & ER experience preferred)
- LVN (Full Time, Part Time, Per Diem)
- CNA (Full Time, Part Time, Per Diem)
- Respiratory Therapist (Per Diem)
- Clinic Coordinator/Administrative Assistant (Full Time)
- Clinical Laboratory Scientist (Full Time, Part Time, Per Diem)
- Housekeeper (Per Diem)
- Surgical Technician (Per Diem)
- Diet Aide/Kitchen Helper (Per Diem)
- Maintenance Worker (Full Time)
- Materials Mgmt. and Plant Ops Assistant (Full Time)
- Ultrasound Technician (Full Time)

Sincerely,

Jennie Mathews
Director of Human Resources

List of Staff: Additions & Deletions

July 1st – 31st, 2023

Activity/Event	Status	Job Title	Start/End Date
ADDITIONS	FT	LVN	07/17/2023
CONDITIONAL ADDITIONS			
DELETIONS	TEMP	CNA Trainee	07/07/2023
	FT	CNA	07/10/2023
	PD	CNA	07/14/2023
	FT	OR Tech	07/28/2023

Corie Kribs, HR Assistant

Seneca Healthcare District NEWSLETTER

We See You!

BY CHELSSA OUTLAND, PR OFFICER

The last couple of years have been busy for all of us. Sometimes we get so busy with the changes, improvements, and moving to the next goal, we forget to thank and congratulate our fellow employees for all their hard work, accomplishments, and much more.

There are so many hard-working, dedicated employees at Seneca that go above and beyond their job duties, making for great team members.

Here's to YOU:

- The staff that provides loving care for our long-term residents, and more.
- The IT staff that works tirelessly to keep all our technology running, and more.
- The surgery staff that weekly takes care of our patients and more.
- The laboratory and imaging staff that serves patients daily, and more.
- The emergency room, the walk-in clinic, and the family practice staff members that service patients of our community, and more.
- The staff members who keep our facility clean and well-maintained, and assist us by making physical sight improvements, and more.
- The staff who keep many bellies full and assists with providing extra goodies for meetings, and events, and more.
- The staff that collects payments, balances checkbooks, pays the bills, makes sure everyone gets paid, and more.
- The staff that helps maintain our records, schedules patients, answers phones, monitors programs, and more.
- The staff who serve patients throughout the hospital, the ed building, the clinic, and more.
- The staff that keeps us safe and feeling secure in our job environments, and more.
- The staff that consistently shows up for shifts, takes on extra duties, steps in to assist at a moment's notice - always eager to help other employees and patients, and more.

We see you. We appreciate You. We cannot thank you enough for all that you do for Seneca Healthcare District. We know, we couldn't do this - without YOU!

Each and every one of YOU, your personal dedication, your steadfast hard work and your continuous efforts, have directly and positively impacted this district. Our Administration Staff have not been blind to your efforts. All have noticed your continued diligence. The community has noticed, as well.

Thank you!



**DON'T SETTLE FOR THE
AVERAGE WHEN YOU ARE
CAPABLE OF BEING
AWESOME.**

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Notes & News

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The Staff Corner

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Departmental
Updates

PAGE 6

General Updates



NOTES & NEWS

Provider Updates

New family practice provider Heather Smith, PA is anticipated to start at Seneca on August 21st. Heather is joining us as a Physician Assistant, she will serve the community by providing a wide variety of primary care medical needs including routine checkups, medication refills, and immunizations for children and adults. She completed her education at the University of Southern California in 1986 and is a Board-Certified primary care and surgery PA.

Dr. Joseph Russo has returned to Seneca and we are excited to have him back again.

Dr. Thomas E. Greely, a family medicine doctor, has been in practice for more than 20 years. He has been affiliated with multiple hospitals in the Bay Area, including John Muir Health-Concord Medical Center and John Muir Health-Walnut Creek Medical Center. Dr. Greely is anticipated to join the Seneca team as a part-time family medicine provider soon.

Dr. David Walls has officially given his notice of retirement. An invitation is expected to be sent out soon inviting staff and colleagues to a small gathering to celebrate his many years of service at Seneca Healthcare District. Dr. Walls will no longer be running a family practice, however, we will still see him around as he will be staying on med staff as our LTC Director and overseeing our midlevel physicians.

AUGUST WORK ANNIVERSARIES

1 Year

August 15th - Bob Kurts (PA)
August 29th - Tessa Parsons (RN)

3 Years

August 17th - Laura Seely (LVN)

5 Years

August 17th - Jenny Maynard (Dietary)

6 Years

August 22nd - Janelle Hardig (Finance)
August 29th - Sarah Linn (Finance)

10 Years

August 23rd - Royce Raker (RN)

14 Years

August 26th - Audrey Alvarez (LVN)

15 Years

August 18th - Carla Porter (HIM)

16 Years

August 21st - Gorge Potter (Maintenance)

18 Years!

August 29th
Diane Dowden
(Respiratory)



September Holidays:

- September 4th - Labor Day
- September 10th - Grandparents day
- September 11th - Patriot Day
- September 17th - World Patient Safety Day
- September 23rd - Falls Prevention Awareness Day

The Staff Corner

Employee of the Month: Corie Kribs

Corie is a hard worker, she is dependable, reliable, and excellent at completing tasks she is given. She is working diligently to understand the HR job responsibilities and duties and doing a great job at learning. She has helped with the monthly newsletter, facilitated the PHESI program, is assisting with managing volunteers, and much more. She works well with other employees and is friendly to those she encounters. She has been an essential part of the Seneca Team and we are excited to announce her as employee of the month.

Nominated by: Judy Cline, CNO & Chelssa Outland, PR



AUGUST EMPLOYEE OF THE MONTH

Thank you!

**WELCOME TO
SENECA HEALTHCARE DISTRICT**



**Noah Kelley
LVN**



**Crystal Duenas
Materials Management &
Plant Operations Assistant**



**Andrew Rena-Dozier
RN**



Please join us in officially welcoming Brian to the team.

Brian has joined us as the Director of IT.

We are excited to have him!

Departmental Updates

SNF Bi-Weekly BBQ

\$8.00 a person every payday Friday on the SNF patio. Donations go to the SNF residents activities fund.

BBQ sign-up sheet is by the time clocks at the clinic and hospital. If the sign-up sheets are gone, please ask the kitchen staff to add you to the list **no later than 10:00 am Friday morning of the BBQ.**

You pay the day of the BBQ when you get your plate. There will be a donation jar on the table.

BBQ Dates: 8/14 & 8/18 (unless otherwise noted).



Positive Feedback We Want to Share

SENECA HOSPITAL Review

"I had the very unfortunate luck to participate in an ambulance ride to Seneca Sunday morning and an overnight stay for observation. My care, from start to finish, was excellent! The Hamilton Branch Fire Department were gentle and professional, with a sense of humor. The ER staff (Emily LaGroue!), the exray, EKG, and lab techs, the doc, the nurses Jim, Janelle, Nikki, Trevor and Renee, kitchen and housekeeping, as well as everyone else there we encountered were capable, friendly, helpful and compassionate. My personal opinion has very much changed and I would not hesitate to seek treatment there again."

this post received over 200 likes!



New Hospital Update

The new build team is working diligently to progress to the next steps. We are hoping to start the timber harvest soon. Once the timber harvest is complete, the next step will be the groundwork!

Thank you to everyone that came and helped with the meetings for interior finishes, the process went very well. We hope to send out information to the staff and the community soon that will have more updates and images of the proposed interior design. In the meantime check out some of our inspiration photos below.



Departmental Updates Continued...

Compliance or Privacy Reporting

If you have privacy or compliance concerns to report, please call:

Charlene Almocera

(833) 227-3743/Internal Ext. 1516

To report anonymously, please leave a message at:

Compliance Hotline

(833) 227-3743 / Internal Ext. 1525

We also have blank compliance forms for you to complete and drop into one of the Compliance Drop Boxes next to each Time Clock. Concerns or reports submitted are all investigated without fear of retaliation to the reporting employee. We prefer that you leave your name so that Compliance can respond to you timely with the status of your report as some issues may take longer to investigate and work through remediation.



2023 Wellness Screening

Sponsored by Seneca Hospital Auxiliary

WHEN:

Tuesday, September 12 @ 7:00 am - 9:30 am

Wednesday, September 13 @ 7:00 am - 9:30 am

Saturday, September 16 @ 7:00 am - 9:30 am

Tuesday, September 19 @ 7:00 am - 9:30 am

Wednesday, September 20 @ 7:00 am - 9:30 am

UPDATE



WHERE:

Please Note: This screening will be offsite

372 Main Street, Chester, CA

The building directly behind the Wellness Center

WHAT:

- Blood draws
- Low-cost imaging studies
- Blood pressure tests

• Available upon request



Senecahospital.org /community

1(833) careSHD

1(833)227-3743



HEALTHCARE DISTRICT



The Hospice Heart

Gabrielle Elise Jimenez - www.thehospiceheart.net

What is hospice? Let's start by describing its history. In 1967, Dame Cicely Saunders, M.D. opened St. Christopher's Hospice in London. This is generally recognized as the first hospice.

Dr Saunders approach was unusual for the time because she thought end-of-life care needed a multi-disciplinary approach that gave attention to social, spiritual psychological suffering. She also involved the families and caregivers by educating them and provided support during bereavement.

When Dr Saunders saw the pain her patients were experiencing, she also introduced the concept of "around the clock" pain medication which is used today which relieved their physical suffering.

Plumas and Lassen County doesn't have any traditional hospices, but we do offer volunteer hospices at no charge to the patient. There are 3 in our area, Honey Lake which serves the Susanville area, Plumas Community that focuses on the Quincy area, and Sierra Hospice that serves Chester, Lake Almanor, Hamilton Branch, Westwood and the Indian Valley.

The Hospice Volunteer provides support through emotional and practical support, and respite care. Hospice volunteers are an important part of the team and develop a strong relationship with the patients and their families that is long lasting.

We also offer Medical Equipment including hospital beds, wheel-chairs, bedside commodes and other equipment. These items are lent to both hospice patients and community members who have a need at no cost. All of these resources are available due to the generosity of our community members through donations.

We can also provide education on end-of-life care to the community or any organization in our area. We would love to have an opportunity to educate, please reach out to Judi Lee, Hospice Coordinator at 530.258.3412 to register or if you have any questions.

The Groundbreaking Ceremony was a Success!

Thank you to all the staff that helped with the groundbreaking ceremony. It was a great event and the feedback from the public was amazing.



Current Projects Update August 2023

- **New Build Campaign /Philanthropy**

- Donor Tree/Heavy Timber
 - Working with Collins and SPI on possible donations for our Heavy Timbers at the new build.
 - Request new quote/mockups from B&D Donor Recognition for the donor wall in the new hospital.
- Continuing tracking donations and what donors will be eligible for bricks and leaves.
- Donor Brief: Received interior images, Judy and I are working with HGA and Boldt to make some corrections/modifications to the images. Check out a draft of the donor brief on our website at
- New Build Video: Available on our website, as well as facebook, linkedin and more.

- **General Marketing**

- Radio Ads: New radio ads being completed to start rotation for September and Fall Activities Sponsorships
 - **SENECA HEALTH CARE DISTRICT SPORTS 9/1/23-9/1/24**
 - **:15 LOCAL**
 - THERE'S EXCITEMENT IN THE AIR AT SENECA HEALTH CARE DISTRICT IN CHESTER
 - AS THEY'RE EXCITING NEW HEALTH CARE FACILITIES ARE NOW MORE THAN A
 - DREAM. COMPASSIONATE AND QUALITY HEALTH CARE CONTINUE TO BE A HALLMARK OF WHO THEY ARE AS THEY CONTINUE TO OFFER A FULL ARRAY OF HEALTH CARE SERVICES IN CHESTER AND THE LAKE ALMANOR BASIN.
 - **:30 PREMIUM**
 - SENECA HEALTH CARE DISTRICT IN CHESTER CONTINUES TO EXPAND THEIR FAMILY PRACTICE TEAM OF HEALTH CARE PROFESSIONALS AT THEIR LAKE ALMANOR CLINIC. SENECA OFFERS A FULL COMPLIMENT OF HEALTH CARE SERVICES AS THEY LOOK FORWARD TO THEIR NEW HEALTH CARE FACILITIES TO BETTER SERVE CHESTER
 - AND THE LAKE ALMANOR BASIN. TO SCHEDULE YOUR APPOINTMENT CALL SENECA
 - AT 833 Care SHD THAT'S 1-833-227-37-43. COMPASSIONATE AND QUALITY HEALTH CARE CONTINUE TO BE A HALLMARK OF WHO THEY ARE. SENECA HEALTH CARE DISTRICT ON BRENTWOOD DRIVE IN CHESTER. ALSO A PROUD SPONSOR OF LOCAL YOUTH SPORTS!
 - **CURRENT AD: BACK TO SCHOOL RADIO AD**
 - SUMMER IS FLYING BY, WHICH MEANS THE SCHOOL YEAR IS GOING TO BE HERE BEFORE WE KNOW IT. HERE AT SENECA HEALTHCARE DISTRICT, WE KNOW HEADING BACK TO SCHOOL IS EXCITING AND SOMETIMES STRESSFUL. WHILE YOU'RE PROBABLY FOCUSED ON MAKING SURE YOU HAVE ALL OF YOUR SCHOOL SUPPLIES OR DORM ESSENTIALS, SENECA HEALTHCARE DISTRICT WANTS TO REMIND YOU THAT IT'S IMPORTANT TO REMEMBER YOUR HEALTHCARE NEEDS, TOO.

THAT MEANS MAKING SURE YOU'RE UP TO DATE ON VACCINATIONS, ALERTING YOUR SCHOOL ABOUT ANY MEDICAL CONDITIONS, AND GETTING IN FOR THOSE SPORTS PHYSICALS. SCHEDULE AN APPOINTMENT TODAY BY CALLING 18332273743 OR VISIT OUR WALK-IN CLINIC AT 199 REYNOLD ROAD IN CHESTER.

- LACC Newsletter - Continual updates are released and ads in the LACC, we are also advertising in the highlife magazine.
- Highlife magazine – new ad is being Started for November .
- MVL Magazine – New quarterly Ads added and Website Banner Ads



COMMUNITY
COMPASSION
TRADITION

HEALTHCARE

FOR COMMUNITY

24 HR EMERGENCY SERVICES
1(833)227-3743 • 130 Brentwood Dr • 199 Reynolds Rd, Chester

Hospital & Walk-in Clinic
1(833)-CareSHD (227-3743)
Ready to serve your healthcare needs!

Call to speak with our operator...
(833)227-3743



SENECAHOSPITAL.ORG



SENECA
HEALTHCARE DISTRICT



COMMUNITY
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SENECA
HEALTHCARE DISTRICT



Community
Compassion
Tradition

SENECA

HEALTHCARE DISTRICT

LONGTERM CARE FACILITY
1(833)227-3743 • 130 Brentwood Dr

Hospital & Walk-in Clinic
1(833)-CareSHD (227-3743)
Caring for your loved ones!



SENECA
HEALTHCARE DISTRICT

- Phonebook: listings are complete, working on the design for the back page ad.
- Ravenlight Productions: Location has been added to the video.
 - Additional quotes for projects have been received and will be reviewed.

➤ Website Updates

- New Page for RFPS add to website for publishing/legal requirements. – updated regularly with new build information
- Adding New Build Pages- a page for updates and a page for FAQs/common questions.
- Provider Recruitment Page -The recruitment page is in progress and once the PD and further information is gathered it will go live.
- Bill Pay- Updated made to let the public know that they online payment portal for rev spring will be coming soon!

• **Provider Recruitment**

- Working on back-end website updates, and position description updates as well as scheduling social media posts.
 - Working with a new candidate to plan an onsite visit. – Greg Wilkinson coming September 1
 -

- **Community Wellness Screenings:** Information is attached. This is circulating around town and being shared with public through many different platforms.



2023 Wellness Screening

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Wednesday, September 13 @ 7:00 am - 9:30 am

Saturday, September 16 @ 7:00 am - 9:30 am

Tuesday, September 19 @ 7:00 am - 9:30 am
Wednesday, September 20 @ 7:00 am - 9:30 am

WHERE: Please Note: This screening will be offsite
372 Main Street, Chester, CA
The building directly behind the Wellness Center

WHAT: **Blood Draws \$60** (No appointment necessary)
Requires 8-10 hour fasting (Please drink water only)

- CBC-Complete Blood Count without differential
- CMP-Comprehensive Metabolic Panel
- LIPIDS-Total Cholesterol, Triglycerides, HDL-cholesterol, Direct LDL-cholesterol (Cardiac Risk)
- TSH-Thyroid Stimulating Hormone

Total 25(OH) Vitamin D (May be added for an additional \$30.00)
Men - Total PSA testing (May be added for an additional \$20.00)

Low-Cost Imaging Studies - \$110.00

Osteoporosis Screening by Limited DEXA Scan: Imaging Studies will be limited and scheduled during the Wellness Screening.

CASH OR CHECK ONLY - CREDIT CARDS WILL NOT BE ACCEPTED

MORE INFO: Wellness Testing and Exams Reports will be sent to the primary care provider indicated on your lab request form. You may request a copy from Medical Records (833)227-3743. Please make an appointment with your primary care physician if you have questions regarding your results, if you do not have a primary care physician and would like to follow up with our clinic, please call (833)227-3743.

For more information call 1(833) 227-3743



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