

SYM.	USE	MFR/MODEL	CFM	SOUND LEVEL	SP	VOLTS	Ø	POWER	WGT#	NOTES
EF A	BATHROOM EXHAUST	*BROANL100	109	1.0 SONES	0.25	120	1	87 WATTS	22.80#	WITH BROAN ROOF CAP #634. PROVIDE 6" DIA. EXHAUST DUCT UP TO ROOF. INTERLOCK WITH LIGHT SWITCH.
EF B	BATHROOM EXHAUST	*BROANL200	210	2.0 SONES	0.25	120	1	127 WATTS	25#	WITH BROAN ROOF CAP #634. PROVIDE 8" DIA. EXHAUST DUCT UP TO ROOF. INTERLOCK WITH LIGHT SWITCH.
EF C	BATHROOM EXHAUST	*BROANL300	308	2.8 SONES	0.25	120	1	212 WATTS		WITH BROAN ROOF CAP #634. PROVIDE 8" DIA. EXHAUST DUCT UP TO ROOF. INTERLOCK WITH LIGHT SWITCH
EF D	BATHROOM EXHAUST	*BROAN 676	100	4.0 SONES	0.25	120	1	156 WATTS		WITH BROAN ROOF CAP #636. PROVIDE 4" DIA. EXHAUST DUCT UP TO ROOF. INTERLOCK WITH LIGHT SWITCH
		ED EQ. (A)								

## \*OR APPROVED EQUAL.

## CEILING MOUNTED EXHAUST FAN SCHEDULE

PERFORATED FACE (	GRILLE SC	HEDULE (SUPPL	.Y)
	NECK SIZE	CFM ( RANGE)	NOTES
	6"Ø	0-150	SEE DETAIL FOR MAKE AND MODEL
16x16-4W	8"Ø	150-230	SEE DETAIL FOR MAKE AND MODEL
	10"Ø	230-350	SEE DETAIL FOR MAKE AND MODEL
	12"Ø	350-460	SEE DETAIL FOR MAKE AND MODEL
T-BAR SUPPLY	14"Ø	460-640	SEE DETAIL FOR MAKE AND MODEL

# 1" = 1'-0" PFG SCHED (SUPPLY)

Fixed Curve Blade, 4-way throw

# PERFORATED FACE GRILLE SCHEDULE (RETURN)

	NECK SIZE	CF (RAN
	6"Ø	0-
000000000000000000000000000000000000000	10"Ø	230
00000000000000000000000000000000000000	12"Ø	350
0000000 50000000 00000000 00000000 000000	14"Ø	460
T-BAR RETURN	16"Ø	277
Perforated Face		

6"Ø	0-230	SEE MECH CLG PLAN FOR SIZE
10"Ø	230-460	SEE MECH CLG PLAN FOR SIZE
12"Ø	350-460	SEE MECH CLG PLAN FOR SIZE
14"Ø	460-710	SEE MECH CLG PLAN FOR SIZE
16"Ø	277-1664	SEE MECH CLG PLAN FOR SIZE

NOTES

Shoemaker 105P with 24 ga. 45 deg.

TESTS TO BE COMPLETED ON NEWLY INSTALLED OR REPLACEMENT OF MECHANICAL SYSTEMS BEFORE PROJECT COMPLETION PER THE CALIFORNIA ENERGY CODE SECTION 10-103. ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTITIED ACCEPTANCE TEST TECHNICIAN(ATT) THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES CORRECTED UNTIL THE INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA. COMPLETED NRCA FORMS SHALL BE SUBMITTED TO THE PROJECT

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS. 1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN
3. 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS

IN A MANNER APPROVED BY DSA

IN A MANNER APPROVED BY DSA. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK,

PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS: A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL. THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

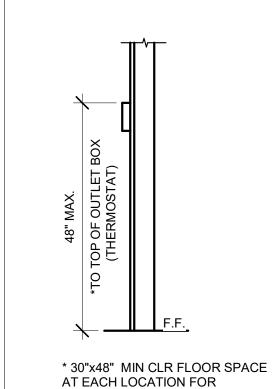
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. MP MD PP E OPTION 2: SHALL COMPLY WITH HCAI PREAPPROVAL (OPM #) #\_\_\_\_\_\_.

EQUIPMENT ANCHORAGE

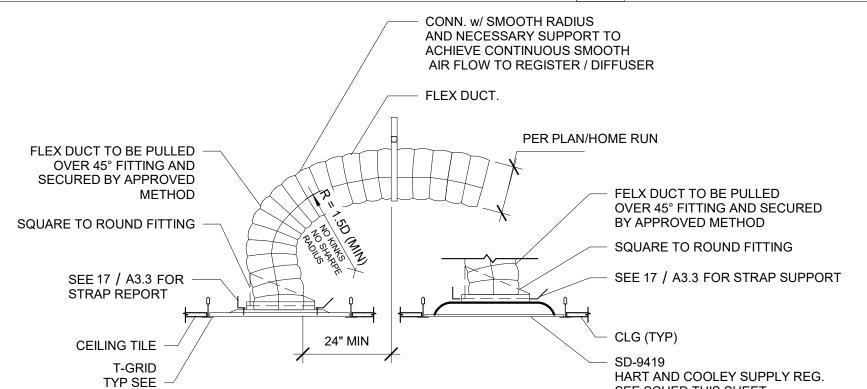


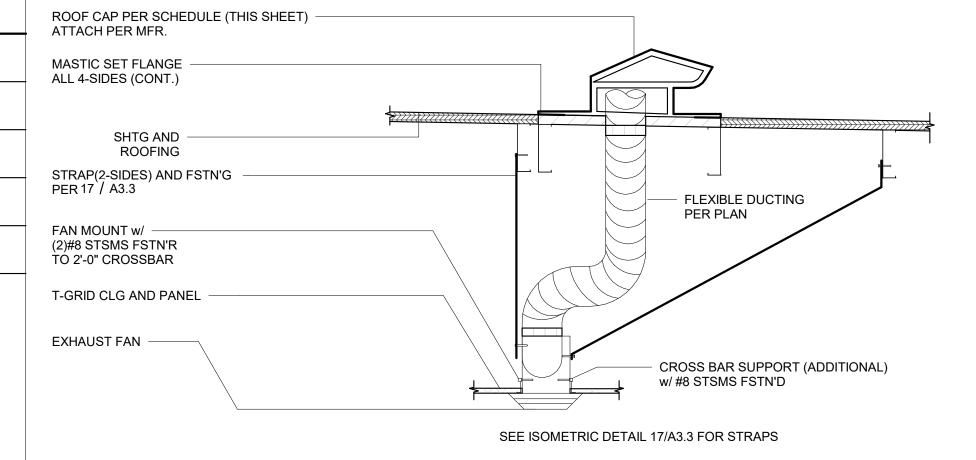
PERPENDICULAR APPROACH

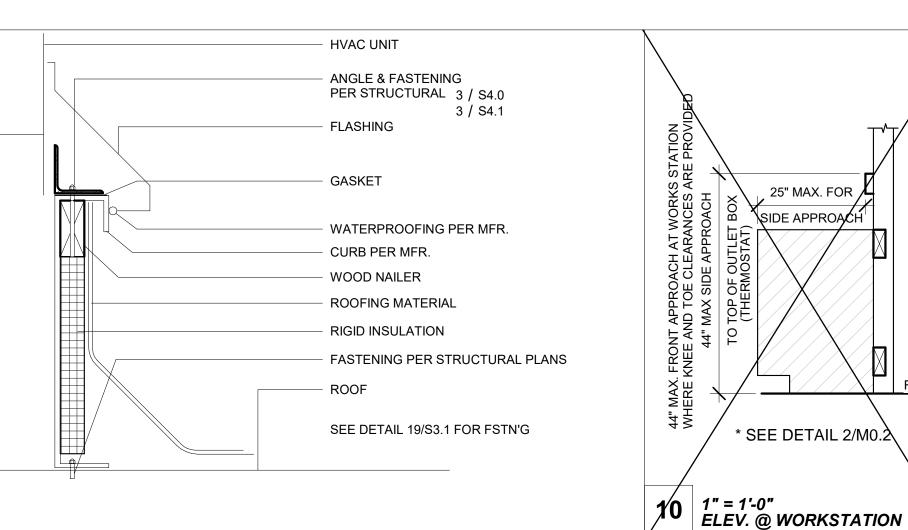
MOUNTING ELEV.

SEE SCHED THIS SHEET

1" = 1'-0"







## 10.6 EER and 11 EER

SINGLE PACKAGE VERTICAL HEAT PUMP SCHEDULE

	STANDARD	OPTION #I
TAG	WM-1	WM-1
NOMINAL TONNAGE	3.0 TONS	4.0 TONS
MANUFACTURER	**BARD	**BARD
MODEL#	W36HB-A	W48HC-A
CFM	1150	1500
STATIC PRESSURE	0.15	0.2
MIN OSA	365	548
DRIVE	DIRECT	DIRECT
MCA	20.4	58
MOCP	30	60
VOLTAGE	208/230-1	208/230-1
WIRE SIZE (PWR/GRND)	#6/#10	#6/#10
DESIGN RETURN AIR (DB/WB)	80/67	80/67
SENSIBLE COOLING @ 95° F (PART/FULL)	24.00/28.00	25.900/36.00
TOTAL COOLING @ 95° F (PART/FULL)	32.00/36.00	34.000/45.500
HEATING CAP. BTUH @ 47° F (PART/FULL)	29.200/32.200	29.200/41.500
HEATING CAP. BTUH @ 17° F	20.000	26.000
OPERATING WEIGHT	380#	550#
EER	11.10	11.00
COP @ 47° F	3.30	3.00
COP @ 17° F	-	2.00

SINGLE PACKAGE	ROOF TOP HEAT	PUMP SCHEDULE
	STANDARD	OPTION #I
TAG	RM-1	RM-1
NOMINAL TONNAGE	3.0 TONS	4 TONS
MANUFACTURER	**CARRIER	**CARRIER
MODEL#	50VTC48	50VTC48
CFM	1200	1500
STATIC PRESSURE	0.15	0.4
MIN OSA	365	548
DRIVE	BELT	BELT
MCA	59	64
MOCP	60	74
VOLTAGE	208/230-1	208/230-1
WIRE SIZE (PWR/GRND)	#6/#10	#4/#8
DESIGN RETURN AIR (DB/WB)	80/67	80/67
SENSIBLE COOLING @ 95° F	30.500	35.260
TOTAL COOLING @ 95° F	35.600	49.600
HEATING CAP. BTUH @ 47° F	35.500	45.5000
HEATING CAP. BTUH @ 17° F	18.400	28.600
OPERATING WEIGHT	572#	560#
SEER	14.00	14.00
HSPF	8.1	8.0
COP @ 47° F	3.4	3.4
COP @ 17° F	2.3	2.4

ATTACHMENT 3: Mechanical Equipment List

This attachment summarizes all the HVAC equipment and controls required for each size modular building. Indicate NA for all non-applicable boxes

	LIST OF N	MECHANICAL EQUIPMENT	
Any substitutions of equipm	ent made to the approved	PC must be equal or better than the	e equipment listed below.
Modular size and equipment type			Responsible for programing/commissioning (builder or HVAC contractor
HVAC Equipment			NA.
Make and Model			
Equipment ID on Plans			
HVAC Equipment Efficiency			NA
Cooling			
Heating			
Phase			
BTUH			NA NA
Heating			
Cooling			
Indoor/Blower Fan			NA NA
BHP/HP			
CFM @ at ? inch WC			
Strip Heating			NA NA
Maximum allowed or Not			
Allowed if not modeled			
Thermostat (Sensor)			(Responsible Person)
Make and Model			Required Acceptance Tes
Setback – § 110.2(c)			NRCA-MCH-03-A
Heat Pumps – § 110.2(b)			
Shut-off and Reset			(Responsible Person)
Make and Model			Required Acceptance Test
Occupancy Sensor or 4 hr			NRCA-MCH-03-A
override – § 120.2(e)			
Economizer			(Responsible Person)
Equipment			Required Acceptance Test
Make and Model – § 140.4(e)			NRCA-MCH-02-A and 05-A
Economizer			(Responsible Person)
Controls			Required Acceptance Test
Make and Model – § 140.4(e)			NRCA-MCH-02-A and 05-A
Economizer			(Responsible Person)
Fault Detection Software			Required Acceptance Test
Make and Model - § 120.2(i)  Outside Air			NRCA-MCH-12-A or 13-A (Responsible Person)
In CFM from T24 - § 120.1(c)3			Required Acceptance Test NRCA-MCH-02-A
Ventilation Kit			
If economizer is not used specify			(Responsible Person) Required Acceptance Test
Make and Model.			NRCA-MCH-02-A
Demand Control Ventilation			(Responsible Person)
			Required Acceptance Test
Co2 Sensor with ppm display			NRCA-MCH-06-A
Make and Model - §120.1(d)4			
Minimum DCV Outside Air in CFM			(Responsible Person)
.15 X conditioned floor area –			Required Acceptance Test
§ 120.1(d)4E			NRCA-MCH-02-A
Demand Shed Thermostat or			(Responsible Person)
Controls			Required Acceptance Test
Make Model			NRCA-MCH-11-A
If DDC to the zone § 120.2(h)		1 1	

	HVAC S	SCHEDULE		
		# OF I	HVAC	
BUI	LDING SIZE	3 1/2 TON HVAC	4 TON HVAC	
	24' x 40'	1		
	36' x 40'		1	
	48' x 40'	2		
	60' x 40'		2	
	72' x 40'	3		
	84' x 40'		3	
	96' x 40'	4		
	108' x 40'		4	
	120' x 40'	5		

MERV 13 AND 2-INCH DEPTH PER ENERGY CODE 120.1(C)1. FILTERS REQ'D FOR ALL UNITS

SET BACK THERMOSTAT SHALL BE PROVIDED

MINIMUM OUTSIDE AIR 15 CFM PER OCCUPANT AND THE UNIT SHALL UTILIZE DEMAND CONTROL VENTILATION MODEL NUMBERS FOR HEAT PUMP UNITS WITH OPTIONAL 5.0 AUXILIARY HEAT STRIPS, WHEN THE HEAT STRIP IS NOT USED, THE MCA AND MOCP MUST BE VERIFIED AND HEAT STRIPS LARGER THAN THE SIZES SHOWN MAY NOT BE USED.

THERMOSTAT SHALL BE PROGRAMED WITH EXPECTED OCCUPIED TIMES.AIR HANDLER FAN WILL BE PROGRAMED TO RUN DURING ALL OCCUPIED TIMES.PRE-OCCUPANCY PURGE SHALL BE PROGRAMED ONE HOUR PRIOR TO THE MODULAR BUILDING BEING NORMALLY OCCUPIED.

FOR ROOF MOUNTED HVAC UNITS A GASKET SHALL BE PLACED BETWEEN THE CURB AND THE HVAC UNIT.MASTIC SEALANT SHALL BE USED TO SEAL ALL SEAMS BETWEEN THE HVAC UNIT AND THE CURB. THE SUPPLY AND RETURN DUCTS SHALL BE ATTACHED TO THE CURB AND MASTIC SHALL BE USED TO SEAL THE DUCTS TO THE CURB. THE SUPPLY AND RETURN DUCTS SHALL BE THE SAME SIZE AND ALIGN WITH THE HVAC UNIT.

FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE PER ENERGY CODE 120.4.

DUCT INSTALLATION AND PLENUMS SHALL MEET THE REQUIREMENTS OF ENERGY CODE SECTION 120.4 AND THE MANUFACTURERS INSTALLATION INSTRUCTIONS. HORIZONTAL FLEX DUCT SHALL BE SUPPORTED AT A MAXIMUM 4 FT INTERVALS, WITH HANGING STRAPS A MINIMUM 1 1/2 IN. WIDE. DUCTS MUST BE PULLED TIGHT WITH A MAXIMUM SAG OF 1/2" PER FOOT OF HORIZONTAL RUN. DUCT SHALL NOT BE KINKED OR CRUSHED.

BEND/RADIUS EQUAL TO THE DUCT DIAMETER OR GREATER.

SECTION 915 CARBON MONOXIDE DETECTION

915.2.3 Group E occupancies. Carbon monoxide detection shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed byschool personnel.

915.3 Detection equipment. Carbon monoxide detection required by Sections 915.1 through 915.2.3 shall be provided by carbon monoxide alarms complying with Section 915.4 or carbon monoxide detection systems complying with Section

CFC 915.1 - Classrooms which contain a fuel-burning appliance or a fuel-burning fireplace or are supplied by a forced-air furnace shall be provided with a carbon monoxide detexction system. Provide a carbon monoxide detection system

UTLILITIES THAT SPAN BETWEEN UNITS OR ACROSS SEISMIC SEPARATION JOINTS MUST BE DESIGNED WITH A FLEXIBLE CONNECTION THAT CAN ACCOMMODATE DIFFERENTIAL MOVEMENTS

DESIGN ♦ CONSULTING ♦ PROJECT MG

11590 W BERNARDO COURT, SUITE 100

SAN DIEGO, CA 92127

PROJECT SPECIFIC STATE AGENCY APPROVAL

**IDENTIFICATION STAMP** 

DIV. OF THE STATE ARCHITECT

REVIEWED FOR

SS I FLS I HESTACS I

APP. 04-122805 INC:

DATE: 09/28/2023

PROFESSIONAL STAMP

THE PLANS, IDEAS & DESIGNS SHOWN ON THESE DRAWINGS ARE THE PROPERTY OF R&S TAVARES ASSOCIATES, INC. DEVISED SOLELY FOR THIS CONTRACT. THESE PLANS SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE FOR WHICH THEY WERE NOT INTENDED WITHOUT THE EXPRESS WRITTEN CONSENT OF R&S TAVARES ASSOCIATES, INC. ©

CLIENT



ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT Code: 2022 CBC

A separate project application for construction is required

PROJECT TITLE PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 

120' x 40'

MISCELLANEOUS **NOTES & DETAILS** 

PROJECT NUMBER

22088

rMc/SC CHECKED BY RH/RT

DATE

SHEET NO.

M0.1

PFG SCHED (RETURN)

# HVAC @ WALL SECTION

## **SEQUENCE OF OPERATIONS**

# **BARD W48HC-A**

## **Sequence of Operation**

Circuit R-Y1 makes at thermostat pulling in compressor contactor, starting the compressor and outdoor motor. (See *NOTE* under **Condenser Fan Operation** concerning models equipped with low ambient control.) The G (indoor motor) circuit is automatically completed by the thermostat on any call for cooling operation or can be energized by manual fan switch on subbase for constant air circulation. On a call for 2nd stage heating, circuit R-W2 makes at the thermostat pulling in heat contactor for the strip heat and blower operation. On a call for third stage heat, R-W3 makes bringing on second heat contactor, if so equipped. Heating

A 24V solenoid coil on reversing valve controls heating cycle operation. Two thermostat options, one allowing "Auto" changeover from cycle to cycle and the other constantly energizing solenoid coil during heating season—thus eliminating pressure equalization noise except during defrost, are to be used.

and R-Y1 on each heating "on" cycle, energizing reversing valve solenoid and pulling in compressor contactor, starting compressor and outdoor motor. R-G also make starting indoor blower motor. Heat pump heating cycle now in operation.

On "Auto" option, a circuit is completed from R-B/W1

The second option has no "Auto" changeover position, but instead energizes the reversing valve solenoid constantly whenever the system switch on subbase is placed in "Heat" position, the "B" terminal being constantly energized from R. A thermostat demand for heat completes R-Y1 circuit, pulling in compressor contactor starting compressor and outdoor motor. R-G also make starting indoor blower motor.

On a call for 2nd stage heating, circuit R-W2 makes at the thermostat pulling in the heat contactor for the strip heat and blower operation. On a call for third stage heat, R-B/W1 breaks, dropping out heat pump, and R-W3 makes, bringing on second heat contactor, if

so equipped.

## Balanced Climate<sup>™</sup> Mode

Balanced Climate™ is a great comfort feature that can easily be applied under any normal circumstances. If the Bard air conditioning system is being set up in a typical environment where 72°F is the lowest cooling setpoint, remove the Y1/Y2 jumper and install a 2-stage cooling thermostat. This will increase the humidity removal up to 35% and provide a much more comfortable environment. This mode will also increase the supply temperature when in heating mode. When Balanced Climate mode is activated, it is employed in both heating and cooling modes.

**NOTE:** Units with mechanical dehumidification require an additional connection to be made when enabling Balanced Climate. Refer to dehumidification supplemental instructions for this step.

If the application is likely to require air conditioning operation below 60°F outdoor conditions, a low ambient control (LAC) kit must be installed. The LAC kit is equipped with an outdoor temperature switch that disables Balanced Climate mode when the outdoor temperature drops below 50°F. This prevents potential evaporator coil freeze up issues. The LAC kit also comes with an evaporator freeze protection thermostat that cuts out the compressor if the evaporator begins to freeze up.

If the unit is being installed with any ventilation package, a Bard LAC kit must be installed. Failure to utilize an LAC with any air conditioner can cause coil freeze up.

Balanced Climate can readily be applied to duct-free (supply and return air grille) applications. It may also be applied to ducted applications with **limited static** of 0.20" ESP (total including both supply and return statics). Consult Bard Application Engineering for details prior to implementation.

CAUTION: Balanced Climate is not a replacement for a dehumidification (hot gas reheat) unit for extreme applications, but rather an enhancement feature for limited climates and applications.

# **BARD C60HC1 & C42HC1**

## **Sequence of Operation**

**Cooling Stage 1** – Circuit R-Y makes at thermostat pulling in compressor contactor, starting the compressor and outdoor motor. The G (indoor motor) circuit is automatically completed on any call for cooling operation or can be energized by manual fan switch on subbase for constant air circulation.

TOE SPACE CLEARANCE

(OBSTRUCTED

HIGH FORWARD

\_REACH DEPTH)

DIM 'C'

CLEARANCE)

DIM. 'D'

(TOE CLEARANCE)

/ (KNEE / MAX

KNEE

SPACE

11" MIN.

17" MIN.

TOE<sub>\</sub>

SPACE

Cooling Stage 2 – Circuit R-Y1 makes at the thermostat, energizing the 2nd stage solenoid in the compressor. Default position is not energized. Compressor will run at low capacity until this solenoid is energized.

**Heating Stage 1** – A 24V solenoid coil on reversing valve controls heating cycle operation. Two thermostat options, one allowing "Auto" changeover from cycle to cycle and the other constantly energizing solenoid coil during heating season and thus eliminating pressure equalization noise except during defrost, are to be used. On "Auto" option, a circuit is completed from R-B and R-Y on each heating "on" cycle, energizing reversing valve solenoid and pulling in compressor contactor starting compressor and outdoor motor. R-G also make, starting indoor blower motor. Heat pump heating cycle now in operation. The second option has no "Auto" changeover position, but instead energizes the reversing valve solenoid constantly whenever the system switch on subbase is placed in "Heat" position, the "B" terminal being constantly energized from R. A thermostat demand for Stage 1 heat completes R-Y circuit, pulling in compressor contactor and starting compressor and outdoor motor. R-G also make, starting indoor blower motor.

**Heating Stage 2** – Circuit R-Y2 makes at the thermostat, energizing the 2nd stage solenoid in the compressor.

## **Pressure Service Ports**

High and low pressure service ports are installed on all units so that the system operating pressures can be observed. Pressure tables 6A and 6B cover all models. It is imperative to match the correct pressure table to the unit by model number.

This unit employs high-flow Coremax valves instead of the typical Shrader type valves.

WARNING! Do NOT use a Schrader valve core removal tool with these valves. Use of such a tool could result in eye injuries or refrigerant burns!

To change a Coremax valve without first removing the refrigerant, a special tool is required which can be obtained at www.fastestinc.com/en/SCCA07H. See the replacement parts manual for replacement core part numbers.

## **CARRIER 50VTC48L**

25" MAX

FIGURE 308.2.2. OBSTRUCTED HIGH

| DIM. 'A' | ØIM. 'B' | DIM. 'C' | DIM. 'D

9"

10"

13"

**\** 24" | 15" | 18" | 24"

21" 12"

23" 14"

22"

ADDITIONAL DEPTH

KNEE CLEARANCE.

MUST PROVIDE FULL

11"

13"

14"

15"

16"

16" 19" 25"

12" 18"

17" 23"

19"

22"

FORWARD REACH

# **OPERATION**

Sequence of Operation—When free cooling is not available, the compressor will be controlled by the thermostat. When free cooling is available, the outdoor-air damper is modulated by the Economizer control to provide a 50° to 55°F (10° to 12.8°C) supply-air temperature into the zone. As the supply-air temperature fluctuates above 55° (12.8°C) or below 50°F (10°C), the dampers will be modulated (open or close) to bring the supply-air temperature back within the set points. For Economizer operation, there must be a thermostat call for the fan (G). This will move the damper to its minimum position during the occupied mode.

**NOTE**: The DCV Max potentiometer must be closed (CCW)

when not using CO<sub>2</sub> sensor. Above 50°F (10°C) supply-air temperature, the dampers will modulate from 100% open to the minimum open position. From 50°F to 45°F (10° to 7.2°C) supply-air temperature, the dampers will maintain at the minimum open position. Below 45°F (7.2°C), the dampers will be completely shut. As the supply-air temperature rises, the dampers will come back open to the minimum open position once the supply-air temperature rises to 48°F (8.9°C). If power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized. If fieldinstalled accessory CO<sub>2</sub> sensors are connected to the Economizer control, a demand controlled ventilation strategy will begin to operate. As the CO<sub>2</sub> level in the zone increases above the CO<sub>2</sub> set point, the minimum position of the damper will be increased proportionally. As the CO<sub>2</sub> level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed. Damper position will follow the higher demand condition from DCV mode or free cooling mode. Damper movement from full closed to full open (or vice versa) will take between 1 1/2 and 2 1/2 minutes. If free cooling can be used as determined from the appropriate changeover command (dry bulb, enthalpy curve, or differential enthalpy), a call for cooling (Y1 closes at the thermostat) will cause the control to modulate the dampers open to maintain the supply air temperature set point at  $50^{\circ}$  to  $55^{\circ}$ F ( $10^{\circ}$  to  $12.8^{\circ}$ C). As the supply air temperature drops below the set point range of  $50^{\circ}$  to  $55^{\circ}$ F ( $10^{\circ}$ to 12.8°C), the control will modulate the outdoor-air dampers closed to maintain the proper supply-air temperature.

THERMOSTAT SHALL BE PROGRAMED WITH EXPECTED OCCUPIED TIMES.AIR HANDLER FAN WILL BE PROGRAMED TO RUN DURING ALL OCCUPIED TIMES.PRE-OCCUPANCY PURGE SHALL BE PROGRAMED ONE HOUR PRIOR TO THE MODULAR BUILDING BEING NORMALLY OCCUPIED.

FOR ROOF MOUNTED HVAC UNITS A GASKET SHALL BE PLACED BETWEEN THE CURB AND THE HVAC UNIT.MASTIC SEALANT SHALL BE USED TO SEAL ALL SEAMS BETWEEN THE HVAC UNIT AND THE CURB. THE SUPPLY AND RETURN DUCTS SHALL BE ATTACHED TO THE CURB AND MASTIC SHALL BE USED TO SEAL THE DUCTS TO THE CURB. THE SUPPLY AND RETURN DUCTS SHALL BE THE SAME SIZE AND ALIGN WITH THE HVAC UNIT.

FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE PER ENERGY

DUCT INSTALLATION AND PLENUMS SHALL MEET THE REQUIREMENTS OF ENERGY CODE SECTION 120.4 AND THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

HORIZONTAL FLEX DUCT SHALL BE SUPPORTED AT A MAXIMUM 4 FT INTERVALS, WITH HANGING STRAPS A MINIMUM 1 1/2 IN. WIDE. DUCTS MUST BE PULLED TIGHT WITH A MAXIMUM SAG OF 1/2" PER FOOT OF HORIZONTAL RUN.

DUCT SHALL NOT BE KINKED OR CRUSHED. BEND/RADIUS EQUAL TO THE DUCT DIAMETER OR GREATER.

UPON SITE PLACEMENT OR SITE CONSTRUCTION, THE OPERATION AND MAINTENANCE DOCUMENTATION FOR ALL MECHANICAL AND LIGHTING SYSTEMS AND CONTROLS SHALL

BE PROVIDED BY THE MODULAR BUILDING MANUFACTURER, OR THE GENERAL CONTRACTOR FOR THE PERMANENT MODULAR RELOCATABLE BUILDING AND DELIVERED TO THE OWNER.

AT THE TIME OF ROUGH INSTALLATION, DURING IN THE FACTORY OR ON THE CONSTRUCTION SITE, DURING SHIPMENT (IF APPLICABLE) AND UNTIL FINAL STARTUP OF THE HEATING COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED

DISTRIBUTION COMPONENT OPENINGS SHALL BE PROCTED TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM

### *1/4" = 1'-0"* **MECHANICAL NOTES**

# TABLE 140.4-E AIR ECONOMIZER HIGH LIMIT SHUT OFF CONTROL REQUIREMENTS

Required High Limit (Economizer Off When):

_	Ciimate		
Device Type <sup>a</sup>	Zones	Equation <sup>b</sup>	Description
	1, 3, 5, 11-16	T <sub>OA</sub> > 75°F	Outdoor air temperature exceeds 75°F
Fixed Dry Bulb	2, 4, 10	T <sub>OA</sub> > 73°F	Outdoor air temperature exceeds 73°F
Fixed Dry Buib	6, 8, 9	T <sub>OA</sub> > 71°F	Outdoor air temperature exceeds 71°F
	7	T <sub>OA</sub> > 69°F	Outdoor air temperature exceeds 69°F
	1, 3, 5, 11-16	T <sub>OA</sub> > T <sub>RA</sub> °F	Outdoor air temperature exceeds return air temperature
Differential Dry	2, 4, 10	T <sub>OA</sub> > T <sub>RA</sub> -2°F	Outdoor air temperature exceed return air temperature minus 2°F
Bulb	6, 8, 9	T <sub>OA</sub> > T <sub>RA</sub> -4°F	Outdoor air temperature exceed return air temperature minus 4°F
	7	T <sub>OA</sub> > T <sub>RA</sub> -6°F	Outdoor air temperature exceed return air temperature minus 6°F
Fixed Enthalpy <sup>C</sup> + Fixed Drybulb	All	h <sub>OA</sub> > 28 Btu/lb <sup>C</sup> or T <sub>OA</sub> > 75°F	Outdoor air enthalpy exceeds 28 Btu/lb of dry air <sup>C</sup> or Outdoor air temperature exceeds 75°F

Point, Fixed Enthalpy, Electronic Enthalpy, and Differential Enthalpy Controls, may not be used in any Climate Zone for compliance with Section 140.4(e)1 unless approval for use is provided by the Energy Commission

Devices with selectable (rather than adjustable) setpoints shall be capable of being set to within 2°F and 2 Btu/lb At altitudes substantially different than sea level, the Fixed Enthalpy limit value shall be set to the enthalpy value t 75°F and 50% relative humidity. As an example, at approximately 6,000 foot elevation, the fixed enthalpy limit is oproximately 30.7 Btu/lb.

### ATTACHMENT 3: Mechanical Equipment List

This attachment summarizes all the HVAC equipment and controls required for each size modular building.

Indicate NA for all non-applicable boxes LIST OF MECHANICAL EQUIPMENT

Modular size and equipment type	4.0 TON WM HVAC	5.0 TON WM HVAC	3 TON WM HVAC	Responsible for programing/commissioning (builder or HVAC contractor)	
<b>HVAC Equipment</b> Make and Model	BARD W46HC-A	BARD W60H1	BARD W36 HB	NA	1\
BTUH Heating Cooling	41,500 45,500	51,000 55,500	38,500 40,000	NA	
Indoor/Blower Fan BHP/HP CFM @ at ? inch WC	1/3-825-2 2.5 24"-2900	1/3-825-2 4.1 24"-3700	1/3-825-2 2.5 24"-2900	NA	
<b>Strip Heating</b> Maximum allowed or Not Allowed if not modeled	PER TITLE 24	PER TITLE 24	PER TITLE 24	NA	
Minimum allowed SEER, EER, HSPF and/or COP, and Phase	14, 11, 3.40, 3	14, 11, 3.30 ,3	14, 11, 3.40, 3	NA	1 \ /
Thermostat Make and Model	BARD #8403-061	BARD #8403-061	BARD #8403-061	(Responsible Person) Required Acceptance Test	$] \setminus /$
Setback – § 110.2(c) Heat Pumps – § 110.2(b)	C48H1	C60H1	C42H1	NRCA-MCH-03-A	1 \ /
Shut-off and Reset Make and Model Occupancy Sensor or 4 hr override – § 120.2(e)	STANDARD BUILT-IN	STANDARD BUILT-IN	STANDARD BUILT-IN	(Responsible Person) Required Acceptance Test NRCA-MCH-03-A	
Economizer Equipment Make and Model – § 140.4(e)	ECON-NC5	ECON-NC5	ECON-NC5	(Responsible Person) Required Acceptance Test NRCA-MCH-02-A and 05-A	
Economizer Controls Make and Model – § 140.4(e)	ECON-WD5	ECON-WD5	ECON-WD5	(Responsible Person) Required Acceptance Test NRCA-MCH-02-A and 05-A	
Economizer Fault Detection Software Make and Model - § 120.2(i)	ECON-DB5	ECON-DB5	ECON-DB5	(Responsible Person) Required Acceptance Test NRCA-MCH-12-A or 13-A	
Outside Air In CFM - § 120.1(c)3	PER TITLE 24	PER TITLE 24	PER TITLE 24	(Responsible Person) Required Acceptance Test NRCA-MCH-02-A	
<b>Ventilation Kit</b> If economizer is not installed specify Make and Model.	N/A	N/A	N/A	(Responsible Person) Required Acceptance Test NRCA-MCH-02-A	
Demand Control Ventilation Co2 Sensor with ppm display Make and Model - §120.1(d)4	PER BARD SPECIFICAIONS	PER BARD SPECIFICAIONS	3 ECILICAIONS	(Responsible Person) Required Acceptance Test NRCA-MCH-06-A	
Minimum Designed Outside Air in CFM - § 120.1(c)3	PER TITLE 24	PER TITLE 24	PER TITLE 24	(Responsible Person) Required Acceptance Test NRCA-MCH-02-A	
Demand Shed Thermostat Make Model If DDC to the zone § 120.2(h)				(Responsible Person) Required Acceptance Test NRCA-MCH-11-A	

NOTE: SEE M0.1 AND CUT SHEETS FOR ADDITIONAL EQUIPMENT OPTIONS

ALL ECONOMIZERS MUST BE PROGRAMMED IN THE FIELD BY THE HVAC

		PC DESIGN REVIEW TItle 24, Part 6, DSA Application Calculation Date/Time of Ene Model Name and Option: 24'y Total Floor A HVAC System Type:	Energy Code #: 04-121369 regy Report: 2023-07-26 XX k40' PC (Wood Frame Walls) rea: 960 ft <sup>2</sup>	
Climate Zone 1	4 (Palmdale)			
Azimuth (Front Orientation)		Standard Design	Proposed Design	Margin
	TDV-E	366.40	297.14	
30°	TDV-T	366.40	297.14	
	SOURCE	36.24	30.65	
	TDV-E	358.72	295.30	
75°	TDV-T	358.72	295.30	
	SOURCE	35.63	30.56	
	TDV-E	363.47	296.43	
120°	TDV-T	363.47	296.43	
	SOURCE	36.01	30.64	
	TDV-E	366.46	297.42	
165°	TDV-T	366.46	297.42	
	SOURCE	36.22	30.64	
	TDV-E	366.40	297.14	
210°	TDV-T	366.40	297.14	
	SOURCE	36.24	30.65	
	TDV-E	358.72	295.30	
255°	TDV-T	358.72	295.30	
	SOURCE	35.63	30.56	
	TDV-E	363.47	296.44	
300°	TDV-T	363.47	296.44	
	SOURCE	36.01	30.64	
<u> </u>	TDV-E	366.46	297.42	
345°	TDV-T	366.46	297.42	
	SOURCE	36.22	30.64	

\* In the event that there are identical percentages, select one. \*\*This table is not currently generated by the energy software.

ast Compliance Margin Orientation

300°		35.63	30.56	5.07	14.2296%	
300°	TDV-E	363.47	296.44	67.03	18.4417%	
	TDV-T	363.47	296.44	67.03	18.4417%	
	SOURCE	36.01	30.64	5.37	14.9125%	
	TDV-E	366.46	297.42	69.04	18.8397%	
345°	TDV-T	366.46	297.42	69.04	18.8397%	
	SOURCE	36.22	30.64	5.58	15.4059%	
Climate Zone 15	(Rolm Sarings)					I
Azimuth	(Paim Springs)					
(Front Orientation)		Standard Design	Proposed Design	Margin	Margin %	Worst Ca
	TDV-E	378.51	303.65	74.86	19.7775%	
30°	TDV-T	378.51	303.65	74.86	19.7775%	
	SOURCE	33.26	26.66	6.60	19.8437%	
	TDV-E	369.92	301.77	68.15	18.4229%	**
75°	TDV-T	369.92	301.77	68.15	18.4229%	**
	SOURCE	32.57	26.55	6.02	18.4833%	**
	TDV-E	370.43	302.74	67.69	18.2734%	
120°	TDV-T	370.43	302.74	67.69	18.2734%	
	SOURCE	32.71	26.64	6.07	18.5570%	
	TDV-E	378.42	303.43	74.99	19.8166%	
165°	TDV-T	378.42	303.43	74.99	19.8166%	
	SOURCE	33.23	26.65	6.58	19.8014%	
	TDV-E	378.51	303.65	74.86	19.7775%	
210°	TDV-T	378.51	303.65	74.86	19.7775%	
	SOURCE	33.26	26.66	6.60	19.8437%	
	TDV-E	369.92	301.77	68.15	18.4229%	**
255°	TDV-T	369.92	301.77	68.15	18.4229%	**
	SOURCE	32.57	26.55	6.02	18.4833%	**
	TDV-E	370.43	302.74	67.69	18.2734%	
300°	TDV-T	370.43	302.74	67.69	18.2734%	
	SOURCE	32.71	26.64	6.07	18.5570%	
	TDV-E	378.42	303.43	74.99	19.8166%	
345°	TDV-T	378.42	303.43	74.99	19.8166%	
	SOURCE	33.23	26.65	6.58	19.8014%	
Climate Zone 16	(Blue Canyon)					
Climate Zone 16 Azimuth	(Blue Canyon)	Standard Barina	Daniel Danie		A40.00 00	
		Standard Design	Proposed Design	Margin	Margin %	
Azimuth (Front Orientation)	TDV-E	307.24	278.52	28.72	9.3477%	**
Azimuth	TDV-E TDV-T	307.24 307.24	278.52 278.52	28.72 28.72	9.3477% 9.3477%	**
Azimuth (Front Orientation)	TDV-E	307.24	278.52	28.72	9.3477%	**
Azimuth (Front Orientation)	TDV-E TDV-T	307.24 307.24	278.52 278.52	28.72 28.72	9.3477% 9.3477%	**
Azimuth (Front Orientation)	TDV-E TDV-T SOURCE	307.24 307.24 54.83	278.52 278.52 41.05	28.72 28.72 13.78	9.3477% 9.3477% 25.1322%	**
Azimuth (Front Orientation)	TDV-E TDV-T SOURCE TDV-E	307.24 307.24 54.83 341.77	278.52 278.52 41.05 272.69	28.72 28.72 13.78 69.08	9.3477% 9.34777 25.1322% 20.2124%	**
Azimuth (Front Orientation)	TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77	278.52 278.52 41.05 272.69 272.69	28.72 28.72 13.78 69.08 69.08	9.3477% 9.3477% 25.1322% 20.2124% 20.2124%	**
Azimuth (Front Orientation)  30°  75°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E	307.24 307.24 54.83 341.77 341.77 65.39 307.35	278.52 278.52 41.05 272.69 272.69 40.97 273.40	28.72 28.72 13.78 69.08 69.08 24.42 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460%	**
Azimuth (Front Orientation)	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460%	**
Azimuth (Front Orientation)  30°  75°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 25.2733%	**
Azimuth (Front Orientation)  30°  75°  120°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 25.2733% 11.5721%	**
Azimuth (Front Orientation)  30°  75°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88 309.02	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 25.2733% 11.5721%	**
Azimuth (Front Orientation)  30°  75°  120°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 307.35 54.88 309.02 309.02	278.52 278.52 41.05 272.69 272.69 40.97 273.40 41.01 273.26 273.26	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 25.2733% 11.5721% 25.2959%	**
Azimuth (Front Orientation)  30°  75°  120°  165°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 54.88 309.02 309.02 54.91	278.52 278.52 41.05 272.69 272.69 40.97 273.40 41.01 273.26 273.26 41.02	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 13.89 33.72	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 25.2733% 11.5721% 11.5721% 25.2959%	**
Azimuth (Front Orientation)  30°  75°  120°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 273.26	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 33.72	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.5721% 11.5721% 25.2959% 10.9751%	**
Azimuth (Front Orientation)  30°  75°  120°  165°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 41.02 273.52 273.52	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 13.89 33.72	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 25.2733% 11.5721% 25.2559% 10.9751% 25.1322%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 273.26	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 33.72	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.5721% 11.5721% 25.2959% 10.9751%	**
Azimuth (Front Orientation)  30°  75°  120°  165°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE	307.24 307.24 54.83 341.77 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 41.02 273.52 273.52	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 13.89 33.72	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 25.2733% 11.5721% 25.2559% 10.9751% 25.1322%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T	307.24 307.24 54.83 341.77 341.77 65.39 307.35 54.88 309.02 309.02 54.91 307.24 307.24 54.83	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 41.02 273.52 273.52 41.05 272.69	28.72 28.72 13.78 69.08 69.08 24.42 33.95 13.87 35.76 35.76 13.89 33.72 13.78	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 25.2733% 11.5721% 11.5721% 25.2959% 10.9751% 25.1322% 20.2124%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24 317.24 317.24 317.24 317.24 317.24 317.24 317.24 317.24 317.24 317.24	278.52 278.52 41.05 272.69 272.69 40.97 273.40 41.01 273.26 41.02 273.26 41.02 273.52 273.52 273.52	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 13.89 33.72 33.72 33.72 69.08 69.08	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 25.2733% 11.5721% 11.5721% 25.2959% 10.9751% 10.9751% 25.1322% 20.2124%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°	TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24 54.83 341.77 341.77	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 41.02 273.52 41.05 272.69 40.97 273.40	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 13.89 33.72 13.78 69.08 69.08 24.42 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 11.5721% 11.5721% 25.2959% 10.9751% 10.9751% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°  255°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24 54.83 341.77 65.39 307.35	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 41.02 273.52 41.05 272.69 272.69 272.69 272.69 273.40	28.72 28.72 13.78 69.08 69.08 24.42 33.95 13.87 35.76 35.76 13.89 33.72 13.78 69.08 69.08 69.08 24.42 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 15.21% 11.5721% 11.5721% 10.9751% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°  255°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 54.88 309.02 309.02 54.91 307.24 307.24 307.24 307.24 307.24 307.35 54.83	278.52 278.52 41.05 272.69 272.69 40.97 273.40 41.01 273.26 273.26 41.02 273.52 273.52 41.05 272.69 272.69 272.69 272.69 273.40 40.97 40	28.72 28.72 13.78 69.08 69.08 24.42 33.95 33.95 13.87 35.76 35.76 13.89 33.72 33.72 33.72 43.78 69.08 69.08 24.42 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 15.21% 10.9751% 10.9751% 20.2124% 20.2124% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 11.0460% 25.2733%	**
Azimuth (Front Orientation)  30°  75°  120°  165°  210°  255°	TDV-E TDV-T SOURCE TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-E TDV-T SOURCE TDV-T SOURCE TDV-T	307.24 307.24 54.83 341.77 65.39 307.35 307.35 54.88 309.02 309.02 54.91 307.24 307.24 54.83 341.77 65.39 307.35	278.52 278.52 41.05 272.69 272.69 40.97 273.40 273.40 41.01 273.26 273.26 273.26 41.02 273.52 41.05 272.69 272.69 272.69 272.69 273.40	28.72 28.72 13.78 69.08 69.08 24.42 33.95 13.87 35.76 35.76 13.89 33.72 13.78 69.08 69.08 69.08 24.42 33.95	9.3477% 9.3477% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460% 11.0460% 15.21% 11.5721% 11.5721% 10.9751% 25.1322% 20.2124% 20.2124% 37.3452% 11.0460%	**

Margin %

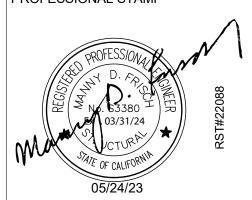
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR SS P FLS P HESTACS P

DATE: 09/28/2023

PROJECT SPECIFIC STATE AGENCY APPROVAL



PROFESSIONAL STAMP



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1221 Harley Knox Boulevard Perris, CA 92571

ORIGINAL PC STATE AGENCY APPROVAL

DIV. OF THE STATE ARCH APP: 04-121369 PC SS V FLS V ACS V CG V

Revision Schedule

Description

PROJECT TITLE

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC A separate project application for construction is required

PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 120' x 40'

MISCELLANEOUS **NOTES & DETAILS** 

PROJECT NUMBER 22088 DRAWN BY

Author CHECKED BY Checker

DATE

M0.2

PROJECT:

24X40 (PC 04-121369) - Wall AC Climate Zone 14 Palmdale, CA

Project Designer: R & S Tavares Associates

11590 W. Bernardo Court, Suite 100 San Diego, Ca. 92127

Report Prepared by: LAL B. SAHGAL LSA CONSULTING ENGINEERS 83, WINDSWEPT WAY MISSION VIEJO, CA 92692

Job Number:

(949) 830-4746

Date: 7/26/2023

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2022 Building Energy Efficiency Standards. This program developed by EnergySoft, LLC – www.energysoft.com.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 2 of 17)

Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance						Building Components Complying Pre	scriptively
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)		Performance	The following building components are ONLY eligible for prescriptive compand should be documented on the NRCC form listed if within the scope of permit application (i.e. compliance will not be shown on the NRCC-PRF	
	MultiFam	Not Included			Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see - Table J)		Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included			Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Not Included	Covered Process: Laboratory Exhaust (see		Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included	Table J)		Not Included	Building Components Complying with Mandatory Measures	
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)		Performance	Electrical power systems, commissioning, solar ready, elevator escalator requirements are mandatory and should be docume on the NRCC form listed if applicable (i.e. compliance will not shown on the NRCC-PRF-E.)	
	MultiFam	Not Included			Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)		Performance	Commissioning 120.8	NRCC-CXR-E is required
			battery (see Table F)	⋈	Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 6 of 17)

	COMPLIES <sup>2</sup>		
Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)
Space Heating	3.73	6.14	-2.41
Space Cooling	3.47	3.65	-0.18
Indoor Fans	14.94	8.15	6.79
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	5.99	5.99	0
Indoor Lighting	2.57	1.71	0.86
Flexibility			
EFFICIENCY COMPLIANCE TOTAL	30.7	25.64	5.06 (16.5%)
Photovoltaics			
Batteries			
TOTAL COMPLIANCE	30.7	25.64	5.06 (16.5%)

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Cover Page Table of Contents Form NRCC/LMCC-PRF-E Certificate of Compliance HVAC System Heating and Cooling Loads Summary

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 3 of 17)

C1. COMPLIANCE SUMMARY					
	COMPLIES <sup>3</sup>				
	Time Dependent	Source Energy Use			
	Efficiency¹ (kBtu/ft² - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)		
Standard Design	358.72	358.72	30.7		
Proposed Design	295.31	295.31	25.64		
Compliance Margins	63.41	63.41	5.06		
	Pass	Pass	Pass		
<ul> <li>Efficiency measures include improvements like a better building enve</li> <li>Compliance Totals include efficiency, photovoltaics and batteries</li> <li>Building complies when efficiency and total compliance margins are</li> </ul>		met load hour limits are not exceed	ed		

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:52:04 Schema Version: rev 20220601 Compliance ID: EnergyPro-4958-0723-0144

JULIETHO VELSIVILLEY AVAAVAA	
CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 5 of 17)

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>
Receptacle	67.93	67.93	
Process			
Other Ltg			
Process Motors			
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	426.65	363.24	63.41 (14.9%)

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:52:04 Schema Version: rev 20220601 Compliance ID: EnergyPro-4958-0723-0144

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 7 of 17)

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE) <sup>1</sup>
Receptacle	4.92	4.92	
Process			
Other Ltg			
Process Motors			
TOTAL ( TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	35.62	30.56	5.06 (14.2%)
Notes: This table is not used for Energy Code Compliance.	•	•	•

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:52:04

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMA	NRCC-PRF-E		
Nonresidential Performance Compliance Method			(Page 1 of 17)
Project Name: 24X40 (PC 04-121369) - Wall AC Date Prepared:			2023-07-25

А. С	A. General Information					
1	Project Name	X40 (PC 04-121369) - Wall AC				
2	Run Title	tle 24 Analysis				
3	Project Location	limate Zone 14				
4	City	almdale 5 Standards Version Compliance 2022				
6	Zip code	99999	7	Compliance Software (version)	EnergyPro 9.1	
8	Climate Zone	14	9	Building Orientation (deg)	75	
10	Building Type(s)	Nonresidential	11	Weather File	PALMDALE_STYP20.epw	
12	Project Scope	New complete scope	13	Number of Dwelling Units	0	
14	Total Conditioned Floor Area in Scope (ft²)	960	15	Total # of hotel/motel rooms	0	
16	Total Unconditioned Floor Area (ft²)	0	17	Fuel Type	Natural gas	
18	Nonresidential Conditioned Floor Area	960	19	Total # of Stories (Habitable Above Grade)	1	
20	Residential Conditioned Floor Area	0				

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

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Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 4 of 17)

	COMPLIES <sup>2</sup>			
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)	
Space Heating	25.61	42	-16.39	
Space Cooling	93.22	95.25	-2.03	
Indoor Fans	152.65	81.72	70.93	
Heat Rejection	0	0	0	
Pumps & Misc.	0	0	0	
Domestic Hot Water	54.63	54.6	0.03	
Indoor Lighting	32.61	21.74	10.87	
Flexibility				
EFFICIENCY COMPLIANCE TOTAL	358.72	295.31	63.41 (17.7%)	
Photovoltaics				
Batteries				
TOTAL COMPLIANCE	358.72	295.31	63.41 (17.7%)	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

nresidential Performance Compliance Method

**ENERGY USE TOTAL** 

Report Version: 2022.0.000 Schema Version: rev 20220601

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(Page 8 of 17)

0

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

C7. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.8	1.3	-0.5			
Space Cooling	2.3	2.3	0			
Indoor Fans	5.2	2.8	2.4			
Heat Rejection						
Pumps & Misc.						
Domestic Hot Water	2	2	0			
Indoor Lighting	1.2	0.8	0.4			
Flexibility						
EFFICIENCY TOTAL	11.5	9.2	2.3	0	0	0
Photovoltaics						
Batteries						
ENERGY USE SUBTOTAL	11.5	9.2	2.3	0	0	0
Receptacle	2.5	2.5	0			
Process						
Other Ltg						
Process Motors						

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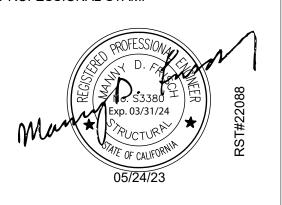
2.3

PROJECT SPECIFIC STATE AGENCY APPROVAL IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

APP. 04-122805 INC: REVIEWED FOR SS I FLS I ACS I DATE: 09/28/2023



PROFESSIONAL STAMP

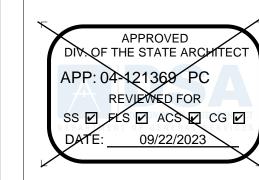


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ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT **CODE: 2019 CBC** 

A separate project application for construction

is required PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 120' x 40'

24'x40' T24 CZ 14

PROJECT NUMBER 22088 rMc/SC CHECKED BY RH/RT

DATE 06/15/2021

SHEET OF

☐ This project is pursuing CalGreen Tier 1

☐ This project is pursuing CalGreen Tier 2

C8. ENERGY USE INTENSITY (EUI)									
	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage					
GROSS EUI <sup>1</sup>	49.76	41.58	8.18	16.44					
NET EUI <sup>1</sup>	49.76	41.58	8.18	16.44					
Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.									

#### D1. EXCEPTIONAL CONDITIONS

• The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls

• The building does not include service water heating. Verify that service water heating is not required and is not included in the design. • Project is claiming Exception 2 to Section 140.10(a): No PV system is required where the required PV system size is less than 4 kWdc.

01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft <sup>2</sup> )	Total Fenestration Area (ft <sup>2</sup> )	Window to Wall Ratio (%)
North-Facing <sup>1</sup>	240	32	13.33
East-Facing <sup>2</sup>	400	0	0
South-Facing <sup>3</sup>	240	32	13.33
West-Facing <sup>4</sup>	400	0	0
Total	1280	64	5
Roof	960	14	1.46

North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW), <sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE), 3South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),

<sup>4</sup>West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144 Schema Version: rev 20220601

Nonresidential Perfor	mance	Compliance I	Viethod								(Page	12 of 17	
H3. NONRESIDENTIAL / (	COMMO	ON USF ARFA F	AN SYSTEMS SI	IMMARY									
01	02	03	04	05	06	07	08	09	10	11	12	13	
N		Design OA		Supp	ly Fan		Return / Relief Fan						
Name or Item Tag	Qty	CFM	CEM	Power	Power Units	Control	Fan Tyne	CEM	Power	Power Units	Control	Status	

BHP Constant Vol N/A N/A N/A

## H8. SYSTEM SPECIAL FEATURES

<sup>l</sup> Status: N - New, A - Altered, E - Existing

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n) <sup>1</sup>	Other Special Features and Controls
AC-1	Single Package VHP Air System	No	Zone(s) With CO2 Sensor Vent. Control Fixed DB
Notes: This table includes controls related to the NRCC-MCH-E.	performance path only. For projects using the pre	scriptive path, mandatory and prescriptive contro	ls requirements are documented on the

1 Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

1,100

#### H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name		Mechanical	Conditioned Area (sf)	DCV or Occupant Sensor		
2011011441110	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM	Contained the Cont	Controls, or Both
1-First Floor	Education - Classrooms (ages 9-18)	24	364.8	0	960	DCV

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601

Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144

NRCC-PRF-E

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 15 of 17) Nonresidential Performance Compliance Method

L.	DECLAR	ATIO	N C	OF RI	EQUI	REC	CI	ERTI	FIC	ATES	01	IN	STALL	.ATI	ON	

	Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained tor during construction and can be found online
Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)

## M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

<b>Building Component</b>	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction wi MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilatio (refer to ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.

## N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online There are no Certificates of Verification applicable to this project

Report Version: 2022.0.000 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Schema Version: rev 20220601

Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144 CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 10 of 17)

G4. NONRESIDEN	ITIAL AIR BARRIER											
		01					02					
		Building Sto	ry Name				Air Barrier					
		Com-Flo	or 1						No air barrier			
G5. OPAQUE SUF	RFACE ASSEMBLY S	UMMARY										
01	02	03	04	05	C	06	07	08	09	10		
Surface Name	I Area (tt²) I		Framing	Cavity	Continuo	us R-Value	Units	nits Value	Description of Assembly Layers	Status <sup>1</sup>		
Surface Name	Туре	Aica (it )	Type	R-Value	Value Interior	Exterior		Value		Status		
R-19 Wood Framed Wall7	Exterior Wall	1,280	Wood	19	N/A	N/A	U-factor	0.0605	Wood siding - 1/2 in. Vapor permeable felt - 1/8 in. Composite-1 Gypsum Board - 1/2 in. Softwood - 1.5 in.	N		
R-19 Metal Floor Crawlspa14	Exterior Floor	960	Metal	19	N/A	N/A	U-factor	0.0588	Vented Crawl Space Composite-2 Plywood - 1/2 in. Carpet - 3/4 in.	N		
Standing Seam R-38 Metal16	Roof	960	N/A	36	N/A	N/A	U-factor	0.06	Metal Standing Seam - 1/16 in. Composite-3	N		

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144

Nonresidential Performance	Nonresidential Performance Compliance Method (Page 13 of 17)										
H11. ZONAL SYSTEM AND TERM	MINAL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtuh)			Airflow (cfm)		Fan			
System ID	System Type	Qty	Heating	Cooling	Design	MIn.	Min. Ratio	Power	Power Units	Cycles	VSD
1-First Floor-Trm	Uncontrolled	1	N/A	N/A	1,100	N/A	0	N/A	N/A	N/A	
			•	*	*	•			•	•	

K1. INDOOR CONDITIONED LIG	GHTING GENERAL INFO				
01	02	03	04	05	06
		Installed Lighting Power	Lighting Control Credits	Additional (Cus	tom) Allowance
Occupancy Type <sup>1</sup>	Conditioned Floor Area <sup>2</sup> (ft <sup>2</sup> )	(Watts)	(Watts)	Area Category Footnotes (Watts)	Area Category Footnotes (Watts)
Classroom, Lecture, or Training Vocational	960	384	0	0	0
Building Totals:	960	384	0	0	0
<sup>1</sup> See Table 140.6-C		_	·	_	·

<sup>2</sup>See NRCC-LTI--E for unconditioned spaces <sup>3</sup>Lighting information for existing spaces modeled is not included in this table

<sup>1</sup> Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000

Schema Version: rev 20220601

Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144

NRCC-PRF-E

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 16 of 17)
Documentation Author's Declaration Statement	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	

1. I certify that this certificate of compliance documentation is accurate and complete	:-
Documentation Author Name: LAL B. SAHGAL	Documentation Author Signature:
Company: LSA CONSULTING ENGINEERS	Signature Date:
Address: 83, WINDSWEPT WAY	CEA/HERS Certification Identification (if applicable): M26885
City/State/Zip: MISSION VIEJO, CA 92692	Phone: (949) 830-4746
Responsible Person's Declaration statement	

- I certify the following under penalty of perjury, under the laws of the State of California: The information provided on this Certificate of Compliance is true and correct.
- 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
- 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- 5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.

occupancy, and I will take the necessary steps to accompl	·	ocumentation the bunder provides to the building owner at
Responsible Designer Name:	Responsible Designer Sign	ature:
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	
Phone:	Title:	Scope:
Responsible Designer Name:	Responsible Designer Sign	ature:
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	

Report Generated: 2023-07-25 10:52:04 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-4958-0723-0144 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMAN	NCE COMPLIANCE METHOD	NRCC-PRF-E	
Nonresidential Performance Compliance Method		(Page 17 of 17)	
Responsible Designer Name: Lal Sahgal	Responsible Designer Signature:		
Company: LSA Consulting Engineers			
Company: LSA Consulting Engineers Address: 83, Windswept Way	Date Signed:		

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144 Schema Version: rev 20220601

**CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD** NRCC-PRF-E (Page 11 of 17) Nonresidential Performance Compliance Method

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method <sup>1</sup>	Assembly Method	Area (ft <sup>2</sup> )	Overall U-factor	Overall SHGC	Overall VT	Statu
Sierra Pacific Windows	Vertical fenestration Operable window N/A	NFRC	Manufactured	64	0.35	0.24	0.5	N
Sola tube	Skylight Fixed window N/A	NFRC	Manufactured	14	0.39	0.37	0.65	N

1 Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.

<sup>2</sup> Status: N - New, A - Altered, E - Existing

01	02	03	04	05	06	07	08	09	10	11	12
				Hea	ting			Cooling	•		
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status
AC-1	Single Package VHP Air System	1	34.37	13.65	СОР	3.3	34.56	EER	11	Fixed DB	N

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220601

Report Generated: 2023-07-25 10:52:04 Compliance ID: EnergyPro-4958-0723-0144

NRCC-PRF-E CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD Nonresidential Performance Compliance Method (Page 14 of 17) K2. INDOOR CONDITIONED LIGHTING SCHEDULE uminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/f ${
m t}^2$  in offices)

01 **Complete Luminaire** Installed Watts (Conditioned) Description (i.e. 3-lamp Name or Item Tag fluorescent troffer, F32T8, Total Number of Luminaires Installed Watts one dimmable electronic 2x4 LED Panel According to

<sup>1</sup>If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details. K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per 140.6(a)2 and Table 140.6-A) Lighting Controlled **Primary Function Area (must** Power # of **Control Credit** Area Description meet requirements of Table Type of Lighting Control Adjustment Item Tag Luminaire Luminaires (Watts) 140.6-A and 170.2-L) Factor (PAF) (Watts) S-1-First Floor N/A N/A Training Vocational Lighting Control Credits (Conditioned) Total (Watts)

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL **Building Level Controls** 

See NRCC-LTI-E for mandatory controls

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

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Shut-Off Controls 130.1(c) & 160.5(b)40

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY 24X40 (PC 04-121369) - Wall AC 7/26/2023 System Name AC-1 Floor Area 960 **ENGINEERING CHECKS** SYSTEM LOAD **Number of Systems** COIL COOLING PEAK COIL HTG. PEAK CFM Sensible Latent CFM Sensible Heating System 2,054 28,927 9,600 230 11,78 Total Room Loads Output per System 33,000 Return Vented Lighting Total Output (Btuh) 1,446 **Return Air Ducts** Output (Btuh/sqft) Cooling System 365 9,547 -5,338 365 20,216 Output per System 36,000 1,535 Total Output (Btuh) 1,446 **Supply Air Ducts** Total Output (Tons) Total Output (Btuh/sqft)

Schema Version: rev 20220601

42,901 4,262 31,644 TOTAL SYSTEM LOAD Total Output (sqft/Ton) Air System 1,100 HVAC EQUIPMENT SELECTION CFM per System 1,100 Bard W36HB 29,467 4,973 13,777 Airflow (cfm) 1.15 HP Supplemental Coil 13,648 Airflow (cfm/sqft) Airflow (cfm/Ton) 27,425 33.2% Total Adjusted System Output 29,467 4,973 Outside Air (%) 0.38 (Adjusted for Peak Design conditions) Outside Air (cfm/sqft) Jul 3 PM Note: values above given at ARI conditions TIME OF SYSTEM PEAK
HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak) Jan 1 AN Outside Air 122 °F ROOM

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak) 84 / 66 °F 86 / 66 °F 58 / 57 °F Outside Air Supply Fan 60 / 57 °F 365 cfm Cooling Coil 1,100 cfm 75 / 65 °F

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 04-122805 INC:

REVIEWED FOR SS I FLS I ACS I DATE: 09/28/2023

PROJECT SPECIFIC STATE AGENCY APPROVAL





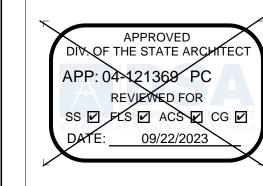
THE PLANS, IDEAS & DESIGNS SHOWN ON THESE DRAWINGS ARE THE PROPERTY OF R&S TAVARES ASSOCIATES, INC. DEVISED SOLELY FOR THIS CONTRACT. THESE PLANS SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE FOR WHICH THEY WERE NOT INTENDED WITHOUT THE EXPRESS WRITTEN CONSENT OF R&S TAVARES ASSOCIATES, INC. ©

CLIENT

1651 SOUTH JUANITA STREET

SAN JACINTO CA. 92581 VOICE (951) 943-1908 FAX (951)943-5768

ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule Description

PRE-CHECK (PC) DOCUMENT

**CODE: 2019 CBC** 

A separate project application for construction is required

PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 120' x 40'

24'x40' T24 CZ 14

PROJECT NUMBER 22088 DRAWN BY rMc/SC CHECKED BY RH/RT

DATE 06/15/2021 SHEET NO.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E **Nonresidential Performance Compliance Method** (Page 9 of 17) C8. ENERGY USE INTENSITY (EUI) Standard Design (kBtu/ft² / yr) Proposed Design (kBtu/ft² / yr) Margin Percentage Margin (kBtu/ft<sup>2</sup> / yr) GROSS EUI<sup>1</sup> 17.11 NET EUI<sup>1</sup> 51.89 43.01 8.88 17.11 <sup>1</sup> Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

#### D1. EXCEPTIONAL CONDITIONS

• The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls

• The building does not include service water heating. Verify that service water heating is not required and is not included in the design. • Project is claiming Exception 2 to Section 140.10(a): No PV system is required where the required PV system size is less than 4 kWdc.

	G1. ENVELOPE GENERAL INFORMATION (condi	tioned spaces only)		
Ī	01	02	03	04
	Opaque Surfaces & Orientation	Total Gross Surface Area (ft <sup>2</sup> )	Total Fenestration Area (ft <sup>2</sup> )	Window to Wall Ratio (%)
	North-Facing <sup>1</sup>	240	32	13.33
	East-Facing <sup>2</sup>	400	0	0
	South-Facing <sup>3</sup>	240	32	13.33
	West-Facing <sup>4</sup>	400	0	0
	Total	1280	64	5
	Roof	960	14	1.46

<sup>1</sup>North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW), <sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE), <sup>3</sup>South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),

 $^4$ West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

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	Nonresidential Performance Compliance Method (Page 12 of 17										12 of 17)			
١	H3. NONRESIDENTIAL / (	СОММО	ON USE AREA FA	AN SYSTEMS SU	JMMARY									
	01	H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY  01							13					
İ	Supply Fan							Return / Relief Fan					s 1	
	Name or Item Tag	e or Item Tag Qty	ne or item lag   Qty   CFM	CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status <sup>1</sup>
l	AC-1	1	364.8	1,100	0.5	ВНР	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	

## H8. SYSTEM SPECIAL FEATURES

<sup>1</sup> Status: N - New, A - Altered, E - Existing

01	02	03	04				
System Name	Equipment Type	Interlocks per 140.4(n) <sup>1</sup>	Other Special Features and Controls				
AC-1	Single Package VHP Air System	No	Zone(s) With CO2 Sensor Vent. Control Fixed DB				
Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented							

NRCC-MCH-E. 1 Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

## H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name		Mechanical	Conditioned Area (sf)	DCV or Occupant Sensor		
Zone Name	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM	Conditioned Area (SI)	Controls, or Both
1-First Floor	Education - Classrooms (ages 9-18)	24	364.8	0	960	DCV

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NRCC-PRF-E

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 15 of 17)

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Coloctions made by Documentation Author indicate which Cortific

· · · · · · · · · · · · · · · · · · ·	ections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained provided to the building inspector during construction and can be found online						
Building Component	Form/Title						
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings						
Envelope	NRCI-ENV-E - Envelope (for all buildings)						
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings						
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems						
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings						
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)						

## M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

	elections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided o the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).					
Building Component	Form/Title					
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration					
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.					
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap					
Mechanical	NRCA-MCH-05-A - Air Economizer Controls					
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.					

## N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

## There are no Certificates of Verification applicable to this project

Report Generated: 2023-07-25 10:57:22 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601 Compliance ID: EnergyPro-4958-0723-0145 CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E **Nonresidential Performance Compliance Method** (Page 10 of 17)

G4. NONRESIDEN	NTIAL AIR BARRIER	l											
	01						02						
		<b>Building Sto</b>	ry Name						Air Barrier				
		Com-Flo	or 1						No air barrier				
G5. OPAQUE SUF	RFACE ASSEMBLY S	UMMARY 03	04	05		06	07	08	09	10			
Surface Name	Construction	Area (ft²)	Framing	Cavity	Continuo	us R-Value	- Units	Value	Description of Assembly Layers	Status <sup>1</sup>			
	Type	762 ( )	Туре	R-Value	Interior	Exterior			,,,,,				
R-19 Wood									Wood siding - 1/2 in. Vapor permeable felt - 1/8 in.				

Area (ft²)	Framing Type	Cavity R-Value		us R-Value	Units	Value	Description of Assembly Layers	Status <sup>1</sup>
Area (it )	Type	R-Value						
			Interior	Exterior	263	value	Description of Assembly Layers	Status
1,280	Wood	19	N/A	N/A	U-factor	0.0605	Wood siding - 1/2 in. Vapor permeable felt - 1/8 in. Composite-1 Gypsum Board - 1/2 in. Softwood - 1.5 in.	N
960	Metal	19	N/A	N/A	U-factor	0.0588		N
960	N/A	36	N/A	N/A	U-factor	0.06		N
	pr 960	or 960 Metal	or 960 Metal 19	or 960 Metal 19 N/A	or 960 Metal 19 N/A N/A	or 960 Metal 19 N/A N/A U-factor	or 960 Metal 19 N/A N/A U-factor 0.0588	1,280   Wood   19

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Schema Version: rev 20220601

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NRCC-PRF-E

Nonresidential Performance	e Compliance Method									(Page 13	3 of 17)
H11. ZONAL SYSTEM AND TERM	MINAL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capa	city (kBtuh)		Airflow (cfm)	3		Fan		
System ID	System Type	Qty	Heating	Cooling	Design	MIn.	Min. Ratio	Power	Power Units	Cycles	VSD
1-First Floor-Trm	Uncontrolled	1	N/A	N/A	1 100	N/A	0	N/A	N/A	N/A	ÍП

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO
--

01	02	03	04	05	06		
		Installed Lighting Dower	Lighting Control Credits	Additional (Custom) Allowance			
Occupancy Type <sup>1</sup>	Conditioned Floor Area <sup>2</sup> (ft <sup>2</sup> )	Installed Lighting Power (Watts)		Area Category Footnotes (Watts)	Area Category Footnotes (Watts)		
Classroom, Lecture, or Training Vocational	960	384	0	0	0		
Building Totals:	960	384	0	0	0		

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Report Version: 2022.0.000

Report Generated: 2023-07-25 10:57:22 Compliance ID: EnergyPro-4958-0723-0145

NRCC-PRF-E

Nonresidential Performance Compliance Method	(Page 1	6 of 17
Documentation Author's Declaration Statement		
1. I certify that this Certificate of Compliance documentation is accurate an	d complete.	
Documentation Author Name: LAL B. SAHGAL	Documentation Author Signature:	
Company: LSA CONSULTING ENGINEERS	Signature Date:	
Address: 83, WINDSWEPT WAY	CEA/HERS Certification Identification (if applicable): M26885	
City/State/Zip: MISSION VIEJO, CA 92692	Phone: (949) 830-4746	
Responsible Person's Declaration statement		
I certify the following under penalty of perjury, under the laws of the State	of California:	
Compliance (responsible designer)  3. The energy features and performance specifications, materials, core Certificate of Compliance conform to the requirements of Title 24,  4. The building design features or system design features identified or compliance documents, worksheets, calculations, plans and specificate of Compliance the enforcement agency for all applicable inspections, and I will tall	to accept responsibility for the building design or system design identified on this Certificate inponents, and manufactured devices for the building design or system design identified on Part 1 and Part 6 of the California Code of Regulations. In this Certificate of Compliance are consistent with the information provided on other applications submitted to the enforcement agency for approval with this building permit applicate shall be made available with the building permit(s) issued for the building, and made available the necessary steps to accomplish this requirement.	this cable cion. able to
Responsible Designer Name:	Responsible Designer Signature:	
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	
Phone:	Title: Scope:	
Responsible Designer Name:	Responsible Designer Signature:	
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	
DI.	T <sub>C</sub>	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220601

Report Generated: 2023-07-25 10:57:22 Compliance ID: EnergyPro-4958-0723-0145

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIA	NRCC-PRF-E				
Nonresidential Performance Compliance Method		(Page 17 of 17)			
Responsible Designer Name: Lal Sahgal		Responsible Designer Signature:			
Company: LSA Consulting Engineers		1			
Address: 83, Windswept Way		Date Signed:			
City/State/Zip: Mission Viejo, Ca. 92692		License #: M26885			
Phone:		Title:		Scope:	
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	•	Version: 2022.0.000 a Version: rev 20220601		•	l: 2023-07-25 10:57:22 gyPro-4958-0723-0145

**CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD** NRCC-PRF-E Nonresidential Performance Compliance Method (Page 11 of 17)

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method <sup>1</sup>	Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	Overall VT	Status <sup>2</sup>
Sierra Pacific Windows	Vertical fenestration Operable window N/A	NFRC	Manufactured	64	0.35	0.24	0.5	N
Sola tube	Skylight Fixed window N/A	NFRC	Manufactured	14	0.39	0.37	0.65	N

<sup>1</sup> Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis. <sup>2</sup> Status: N - New, A - Altered, E - Existing

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)									
01	02	03	04	05	06	07	08	09	
				Hea	ting			Cooling	
		l							Г

Type (if Status<sup>1</sup> Heating Output Cooling Output Output (kBtu/h) Single Package 13.65 Fixed DB VHP Air System <sup>1</sup> Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220601

Report Generated: 2023-07-25 10:57:22 Compliance ID: EnergyPro-4958-0723-0145

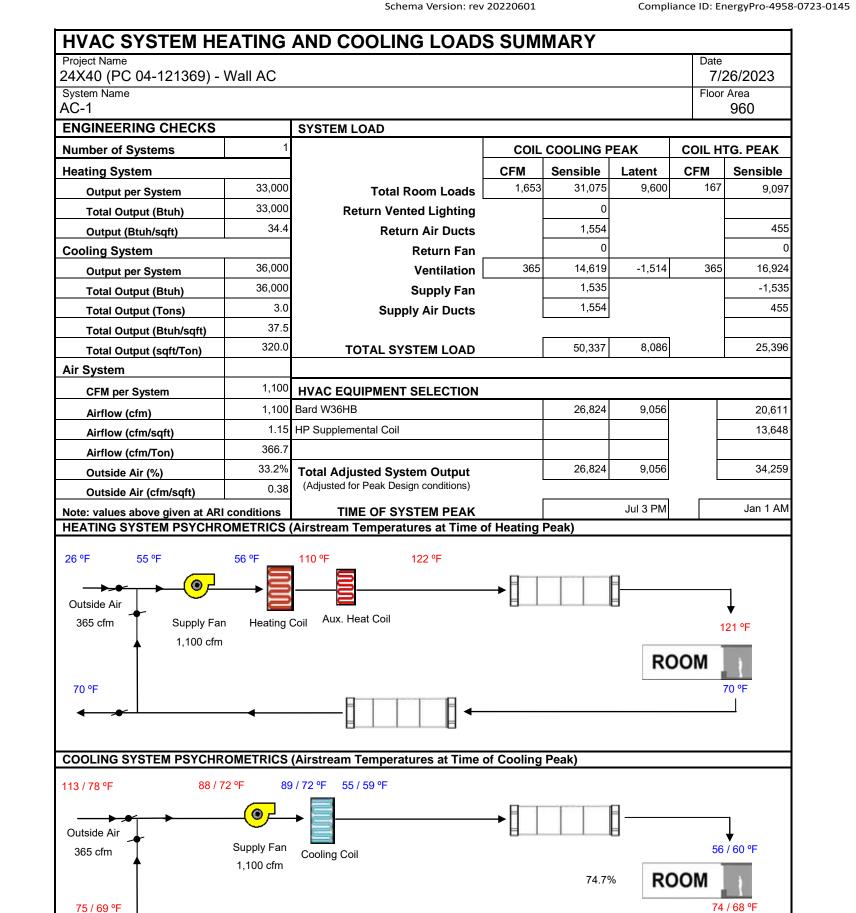
CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 14 of 17) K2. INDOOR CONDITIONED LIGHTING SCHEDULE

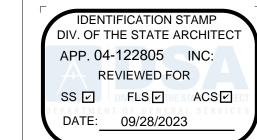
01	02	03	06				
	Complete Luminaire Description (i.e. 3-lamp	Installed Watts (Conditioned)					
Name or Item Tag	fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How is Wattage determined	Total Number of Luminaires	Installed Watts		
L-1	2x4 LED Panel	48	According to	8	384		

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per 140.6(a)2 and Table 140.6-A) Lighting Controlled **Primary Function Area (must** Power # of **Control Credit** Area Description meet requirements of Table Type of Lighting Contro Adjustment Item Tag Luminaire (Watts) 140.6-A and 170.2-L) Factor (PAF) (Watts) S-1-First Floor N/A N/A **Training Vocational** 

Lighting Control Credits (Conditioned) Total (Watts) K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL **Building Level Controls** Shut-Off Controls 130.1(c) & 160.5(b)40 See NRCC-LTI-E for mandatory controls

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-25 10:57:22



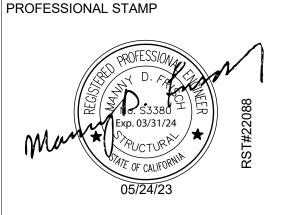


PROJECT SPECIFIC STATE AGENCY APPROVAL



DESIGN ♦ CONSULTING ♦ PROJECT MG

11590 W. BERNARDO COURT, SUITE 100 SAN DIEGO, CA 92127 PHONE: (858) 444-3344 WWW.RSTAVARES.COM



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1221 Harley Knox Boulevard Perris, CA 92571

ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule Description

PROJECT TITLE PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 120' x 40'

24'x40' T24 CZ 15 (WALL AC)

PROJECT NUMBER 22088 DRAWN BY rMc/CG CHECKED BY RH/RT

DATE 06/15/2021

SHEET OF

SHEET NO.

24X40 (PC 04-121369) - Wall AC Climate Zone 16 Blue Canyon, CA

Project Designer:

R & S Tavares Associates 11590 W. Bernardo Court, Suite 100 San Diego, Ca. 92127

Report Prepared by:

LAL B. SAHGAL LSA CONSULTING ENGINEERS 83, WINDSWEPT WAY MISSION VIEJO, CA 92692 (949) 830-4746

Job Number:

Date: 7/26/2023

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2022 Building Energy Efficiency Standards. This program developed by EnergySoft, LLC – www.energysoft.com.

CERTIFICATE OF COMPLIANCE	E - NONRESID	ENTIAL PERFORI	MANCE COMPLIANCE MET	HOD	•		NRCC-PRF-E	
Nonresidential Performance	Compliance I	Method					(Page 2 of 17)	
B. PROJECT SUMMARY								
Table B shows which building o	components a	re included in the	e performance calculation. <u>I</u>	f ina	licated as not inc	luded, the project must show compliance prescri	ptively if within the	
В	uilding Comp	onents Complyir	ng via Performance			Building Components Complying Pre	scriptively	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water		Performance	The following building components are ONLY eligible for pand should be documented on the NRCC form listed if w		
Lilvelope (see Table G)	MultiFam	Not Included	Heating (See Table I3)	$\boxtimes$	Not Included	permit application (i.e. compliance will not be shown		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)		Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required	
	MultiFam	Not Included			Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required	
Domestic Hot Water (See Table I)	Nonres	Not Included	Covered Process: Laboratory Exhaust (see		Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required	
Table I)	MultiFam	Not Included	Table J)	$\boxtimes$	Not Included	Building Components Complying with Mandatory Measu		
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)		Performance	Electrical power systems, commissioning, solar escalator requirements are mandatory and sho on the NRCC form listed if applicable (i.e. com shown on the NRCC-PRF-E.)	uld be documented pliance will not be	
	MultiFam	Not Included		$\boxtimes$	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required	
				П	Performance	Commissioning 120.8	NRCC-CXR-E is	

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Battery (see Table F)

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E	
Nonresidential Performance Compliance Method	(Page 6 of 17)	

24. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft²/yr)						
	COMPLIES <sup>2</sup>					
Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE) <sup>1</sup>			
Space Heating	16.26	11.75	4.51			
Space Cooling	1.3	1.31	-0.01			
Indoor Fans	16.75	8.32	8.43			
Heat Rejection	0	0	0			
Pumps & Misc.	0	0	0			
Domestic Hot Water	13.04	13.04	0			
Indoor Lighting	2.57	1.71	0.86			
Flexibility						
EFFICIENCY COMPLIANCE TOTAL	49.92	36.13	13.79 (27.6%)			
Photovoltaics						
Batteries						
TOTAL COMPLIANCE	49.92	36.13	13.79 (27.6%)			
<sup>1</sup> Notes: This number in parenthesis following the Compliance	ce Margin in column 4, represents the Percent	Better than Standard.				

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE	NRCC-PRF-E	
Nonresidential Performance Compliance Method		(Page 3 of 17)
C1. COMPLIANCE SUMMARY		
	COMPLIES <sup>3</sup>	
	Time Dependent Valuaton (TDV)	Source Energy Use

	Time Dependen	Time Dependent Valuaton (TDV)			
	Efficiency¹ (kBtu/ft² - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)		
tandard Design	307.23	307.23	49.92		
roposed Design	273.51	273.51	36.13		
ompliance Margins	33.72	33.72	13.79		
	Pass	Pass	Pass		

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Nonresidential Performance Compliance Method (Page 5 o						
C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS <sup>1</sup>						
Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>			
Receptacle	63.66	63.66				
Process						
Other Ltg						

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Process Motors

TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)

<sup>1</sup> Notes: This table is not used for Energy Code Compliance. CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Generated: 2023-07-26 13:02:48 Schema Version: rev 20220601 Compliance ID: EnergyPro-4958-0723-0170

337.17

370.89

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 7 of 17)

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE) <sup>1</sup>		
Receptacle	4.92	4.92			
Process					
Other Ltg					
Process Motors					
TOTAL ( TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	54.84	41.05	13.79 (25.1%)		
<sup>1</sup> Notes: This table is not used for Energy Code Compliance.					

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Nor	nresidential Performance Compl	liance Method					(Page 1 of 17)
Pro	ject Name:		24X40 (PC 04-121369) - Wall AC Date Prep		pared:	2023-07-26	
A. G	eneral Information						
1	Project Name	24X40 (PC 04-121369) - Wall AC					
2	Run Title	Title 24 Analysis					
3	Project Location	Climate Zone 16					
4	City	Blue Canyon	5	Standards Version		Compliance 2022	
6	Zip code	99999	7	Compliance Software	e (version)	EnergyPro 9.1	
8	Climate Zone	16	9	Building Orientation	(deg)	30	
10	Building Type(s)	Nonresidential	11	Weather File		BLUE-CANYON_STYP20.epw	
12	Project Scope	New complete scope	13	Number of Dwelling	Units	0	
14	Total Conditioned Floor Area in Scope (ft²)	960	15	Total # of hotel/mote	el rooms	0	
16	Total Unconditioned Floor	0	17	Fuel Type		Natural gas	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Nonresidential Conditioned

Residential Conditioned Floor

18 Floor Area

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Total # of Stories (Habitable Above Grade)

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 4 of 17)

	COMPLIES <sup>2</sup>		
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>
Space Heating	51.5	114.86	-63.36
Space Cooling	19.06	18.57	0.49
Indoor Fans	169.42	83.19	86.23
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	36.19	36.19	0
Indoor Lighting	31.06	20.7	10.36
Flexibility			
EFFICIENCY COMPLIANCE TOTAL	307.23	273.51	33.72 (11%)
Photovoltaics			
Batteries			
TOTAL COMPLIANCE	307.23	273.51	33.72 (11%)

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 8 of 17)

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.1	3	-2.9	16.4		
Space Cooling	0.8	0.7	0.1			
Indoor Fans	5.6	2.8	2.8			
Heat Rejection						
Pumps & Misc.						
Domestic Hot Water				13.6	13.6	0
Indoor Lighting	1.2	0.8	0.4			
Flexibility						
EFFICIENCY TOTAL	7.7	7.3	0.4	30	13.6	16.4
Photovoltaics						
Batteries						
ENERGY USE SUBTOTAL	7.7	7.3	0.4	30	13.6	16.4
Receptacle	2.5	2.5	0			
Process						
Other Ltg						
Process Motors						
ENERGY USE TOTAL	10.2	9.8	0.4	30	13.6	16.4

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IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR

PROJECT SPECIFIC STATE AGENCY APPROVAL

SS I FLS I ACS I DATE: 09/28/2023



PROFESSIONAL STAMP

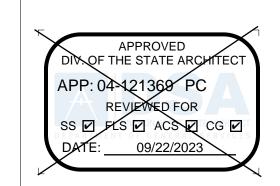


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SAN JACINTO CA. 92581 VOICE (951) 943-1908 FAX (951)943-5768

ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT **CODE: 2019 CBC** 

A separate project application for construction is required

PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 120' x 40'

24'x40' T24 CZ 16

PROJECT NUMBER 22088 DRAWN BY Author CHECKED BY Checker

DATE 06/15/2021

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SHEET NO.

SHEET OF

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NRCC-SAB-E is

required

Solar and Battery 110.10

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NRCC-PRF-E

33.72 (9.1%)

Nonresidential Performance Com	pliance Method		
C8. ENERGY USE INTENSITY (EUI)			

C8. ENERGY USE INTENSITY (EUI)					
	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage	
GROSS EUI <sup>1</sup>	67.5	49	18.5	27.41	
NET EUI <sup>1</sup>	67.5	49	18.5	27.41	
<sup>1</sup> Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.					

#### D1. EXCEPTIONAL CONDITIONS

• The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls • The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

• Project is claiming Exception 2 to Section 140.10(a): No PV system is required where the required PV system size is less than 4 kWdc.

01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft <sup>2</sup> )	Total Fenestration Area (ft <sup>2</sup> )	Window to Wall Ratio (%)
North-Facing <sup>1</sup>	400	0	0
East-Facing <sup>2</sup>	240	32	13.33
South-Facing <sup>3</sup>	400	0	0
West-Facing <sup>4</sup>	240	32	13.33
Total	1280	64	5
Roof	960	14	1.46

 $^{1}$ North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW), <sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE), <sup>3</sup>South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE), <sup>4</sup>West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMP	LIANCE METHOD	NRCC-PRF-
Nonresidential Performance Compliance Method		(Page 12 of 1

H3. NONRESIDENTIAL / 0	соммо	ON USE AREA FA	AN SYSTEMS SU	IMMARY								
01	02	03	04	05	06	07	08	09	10	11	12	13
Name or Item Tag	Qty	Design OA		Supp	ly Fan			Re	eturn / Relief Fa	an		C4-41
Name of Item Tag	Qty	CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status <sup>1</sup>
AC-1	1	364.8	1,100	0.5	ВНР	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

## H8. SYSTEM SPECIAL FEATURES

<sup>1</sup> Status: N - New, A - Altered, E - Existing

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n) <sup>1</sup>	Other Special Features and Controls
AC-1	Single Package VHP Air System	No	Zone(s) With CO2 Sensor Vent. Control Fixed DB
Notes: This table includes controls related to the NRCC-MCH-E.	performance path only. For projects using the pre	scriptive path, mandatory and prescriptive contro	ls requirements are documented on the

1 Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

#### H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

			*				
	01	02	03	04	05	06	07
ſ	Zone Name			Ventilation		Conditioned Area (sf)	DCV or Occupant Sensor
L		Ventilation Function	# of People	Supply OA CFM	Exhaust CFM	,	Controls, or Both
ſ	1-First Floor	Education - Classrooms (ages 9-18)	24	364.8	0	960	DCV

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Nonresidential Performance Compliance Method	(Page 15 of 17)

L. DECLARATION OF REQUIRED CERTIFI	CATES OF INSTALLATION

ns made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be re vided to the building inspector during construction and can be found online		
Building Component	Form/Title	
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings	
Envelope	NRCI-ENV-E - Envelope (for all buildings)	
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings	
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems	
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings	
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)	

## M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

	on Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).
Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.

## N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

There are no Certificates of Verification applicable to this project

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E **Nonresidential Performance Compliance Method** (Page 10 of 17)

G4. NONRESIDEN	NTIAL AIR BARRIER									
		01							02	
		Building Sto	ry Name						Air Barrier	
		Com-Flo	or 1						No air barrier	
G5. OPAQUE SUF	RFACE ASSEMBLY S	UMMARY								
01	02	03	04	05	0	6	07	08	09	10
Surface Name	Construction	Area (ft²)	Framing	Cavity	Continuo	us R-Value	Units	Value	Description of Assembly Layers	Status <sup>1</sup>
Juliace Name	Туре	Alea (It )	Туре	R-Value	Interior	Exterior		value	Description of Assembly Layers	Status
R-19 Wood Framed Wall7	Exterior Wall	1,280	Wood	19	N/A	N/A	U-factor	0.0605	Wood siding - 1/2 in. Vapor permeable felt - 1/8 in. Composite-1 Gypsum Board - 1/2 in. Softwood - 1.5 in.	N
R-19 Metal Floor Crawlspa14	Exterior Floor	960	Metal	19	N/A	N/A	U-factor	0.0588	Vented Crawl Space Composite-2 Plywood - 1/2 in. Carpet - 3/4 in.	N

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 13 of 17)

H11. ZONAL SYSTEM AND TER	MINAL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capa	city (kBtuh)		Airflow (cfm)			Fan		
System ID	System Type	Qty	Heating	Cooling	Design	MIn.	Min. Ratio	Power	Power Units	Cycles	VSD
1-First Floor-Trm	Uncontrolled	1	N/A	N/A	1,100	N/A	0	N/A	N/A	N/A	

#### K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

Standing Seam

R-38 Metal16

<sup>1</sup> Status: N - New, A - Altered, E - Existing

01	02	03	04	05	06
		Installed Lighting Power	Lighting Control Credits	Additional (Cus	tom) Allowance
Occupancy Type <sup>1</sup>	Conditioned Floor Area <sup>2</sup> (ft <sup>2</sup> )	(Watts)	(Watts)	Area Category Footnotes (Watts)	Area Category Footnotes (Watts)
Classroom, Lecture, or Training Vocational	960	384	0	0	0
Building Totals:	960	384	0	0	0
<sup>1</sup> See Table 140.6-C <sup>2</sup> See NRCC-LTIE for uncondition	ned spaces				
<sup>3</sup> Lighting information for existing	g spaces modeled is not included	in this table			

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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NRCC-PRF-E

Metal Standing Seam - 1/16 in.

Nonresidential Performance Compliance Method	(Page 16 of 17)
Documentation Author's Declaration Statement	
1. I certify that this Certificate of Compliance documentation is accurate and complete	e.
Documentation Author Name: LAL B. SAHGAL	Documentation Author Signature:
Company: LSA CONSULTING ENGINEERS	Signature Date:
Address: 83, WINDSWEPT WAY	CEA/HERS Certification Identification (if applicable): M26885

1. I certify that this Certificate of Compliance documentation is accurate and complete	).
Documentation Author Name: LAL B. SAHGAL	Documentation Author Signature:
Company: LSA CONSULTING ENGINEERS	Signature Date:
Address: 83, WINDSWEPT WAY	CEA/HERS Certification Identification (if applicable): M26885
City/State/Zip: MISSION VIEJO, CA 92692	Phone: (949) 830-4746

#### **Responsible Person's Declaration statement** I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of
- Compliance (responsible designer) 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this
- Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable
- compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to

the enforcement agency for all applicable inspections, and  I understand that a registered copy of this Certificate of Co occupancy, and I will take the necessary steps to accomplis	. I will take the necessary steps to accomplish this mpliance is required to be included with the doc	requirement.
Responsible Designer Name:	Responsible Designer Signat	ure:
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	
Phone:	Title:	Scope:
Responsible Designer Name:	Responsible Designer Signat	ure:
Company: R & S Tavares Associates		
Address: 11590 W. Bernardo Court, Suite 100	Date Signed:	
City/State/Zip: San Diego, Ca. 92127	License #:	
la.		I <sub>o</sub>

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMAN		NRCC-PRF-E	
Nonresidential Performance Compliance Method			(Page 17 of 17)
Responsible Designer Name: Lal Sahgal	Responsible Designer Signature:	1	
Company: LSA Consulting Engineers			
Address: 83, Windswept Way	Date Signed:		
City/State/Zip: Mission Viejo, Ca. 92692	License #: M26885		

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01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method <sup>1</sup>	Assembly Method	Area (ft <sup>2</sup> )	Overall U-factor	Overall SHGC	Overall VT	Status <sup>2</sup>
Sierra Pacific Windows	Vertical fenestration Operable window N/A	NFRC	Manufactured	64	0.35	0.24	0.5	N
Sola tube	Skylight Fixed window N/A	NFRC	Manufactured	14	0.39	0.37	0.65	N

1 Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis. Status: N - New, A - Altered, E - Existing

01	02	03	04	05	06	07	08	09	10	11	12
				Hea	ting			Cooling			
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>
AC-1	Single Package VHP Air System	1	34.37	13.65	СОР	3.3	34.56	EER	11	Fixed DB	N

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NRCC-PRF-E CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

(Page 14 of 17) Nonresidential Performance Compliance Method K2. INDOOR CONDITIONED LIGHTING SCHEDULE uminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/f ${
m t}^2$  in offices) 01

**Complete Luminaire** Installed Watts (Conditioned) Description (i.e. 3-lamp Name or Item Tag fluorescent troffer, F32T8, Installed Watts one dimmable electronic 2x4 LED Panel According to

K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS

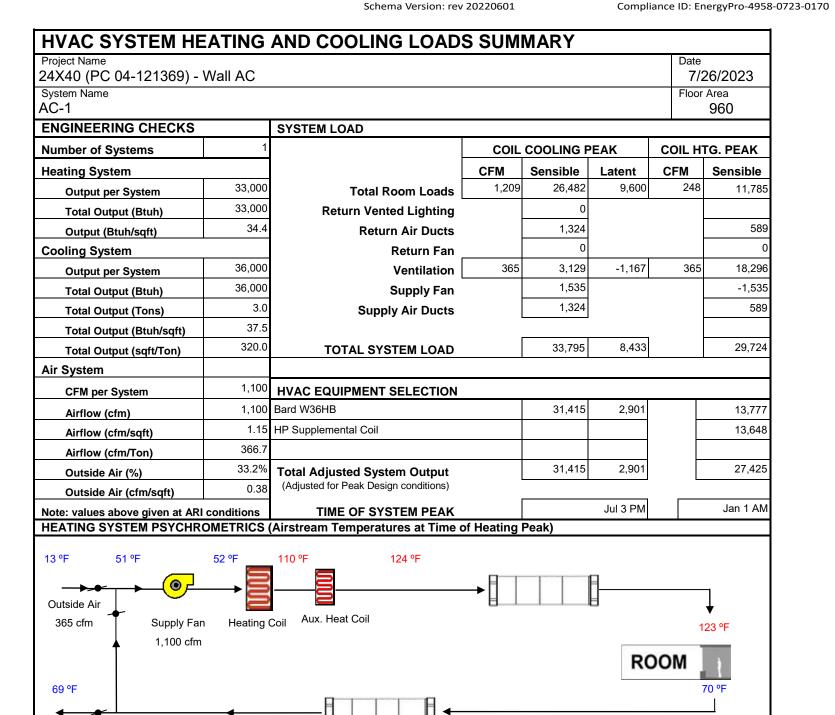
<sup>1</sup>If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.

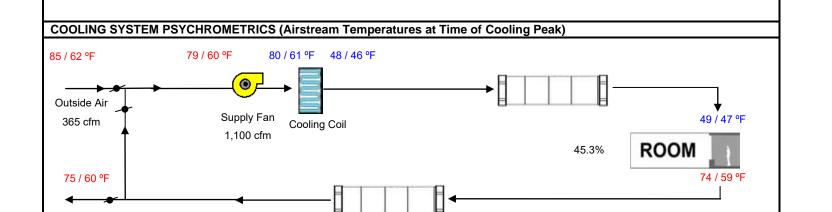
			04	05	06	07	08	09
Area Description	Primary Function Area (must meet requirements of Table 140.6-A and 170.2-L)	Type of Lighting Control	Power Adjustment Factor (PAF)	Luminaire Item Tag	Watts per Luminaire	# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-1-First Floor	Classroom, Lecture, or Training Vocational	N/A	N/A	L-1	48	8	384	0

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL **Building Level Controls** 

Shut-Off Controls 130.1(c) & 160.5(b)40 See NRCC-LTI-E for mandatory controls

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-07-26 13:02:48





IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR

SS V FLS V HESTACS V DATE: 09/28/2023

PROJECT SPECIFIC STATE AGENCY APPROVAL



PROFESSIONAL STAMP



THE PLANS, IDEAS & DESIGNS SHOWN ON THESE DRAWINGS ARE THE PROPERTY OF R&S TAVARES ASSOCIATES, INC. DEVISED SOLELY FOR THIS CONTRACT. THESE PLANS SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE FOR WHICH THEY WERE NOT INTENDED WITHOUT THE EXPRESS WRITTEN CONSENT OF R&S TAVARES ASSOCIATES, INC. ©



1651 SOUTH JUANITA STREET

SAN JACINTO CA. 92581 VOICE (951) 943-1908 FAX (951)943-5768

ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule Description

PRE-CHECK (PC) DOCUMENT

**CODE: 2019 CBC** A separate project application for construction is required

PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 

120' x 40'

24'x40' T24 CZ 16

PROJECT NUMBER 22088

DRAWN BY Author CHECKED BY Checker DATE

06/15/2021 SHEET NO.

TATE OF CALIFORNIA							STATE OF CAL			
	ater Heating Syste	m 			CALIFORNIA ENERGY			ic Water Heat	ng Syst	en
ERTIFICATE OF CO		pliance for nonresidential occupancies	with requirements in 110.2	1. 110.3. 120.3. and 140.5	and with requirements in 141.0 for a	MRCC-PLB-E	Project Nan	e: 24X40 (PC 04-1	21369) - W	all A
alterations, for d	omestic water heating sco	oes using the prescriptive path. For hig requirements 180.1 for additions and 2	h-rise residential and hote				,	,		
	24X40 (PC 04-121369) - Wall		Report Page:			(Page 1 of 6)				
roject Address:		Clim	ate Zone 14 Date Prepared:			9/7/2023				
GENERAL IN	FORMATION		,		,			ONAL REMARKS		
01	Project Location (city)	Palmdale	02	Climate Zone	14		This table i	includes remarks ma	de by the	oern
03 Occup	oancy Types Within Project	(select all that apply):					F. DOMES	TIC HOT WATER E	QUIPMEN	ΙΤ
Classroom								is used to demonstra		
PROJECT SCO	NDF.							strated and with 141 t Schedule: Water H		
		systems that are within the scope of th	e nermit annlication and a	are demonstrating compli	ance using the prescriptive paths outli	ned in 140 /		03		
0.2(d) and 141	.0(a)/ 180.1, or 141.0(b)21	N / 180.2 for additions or alterations. S	olar water heating system.						1	
dronic water h	eating systems are docume 01	ented on the NRCC-MCH compliance d	ocument. 02		03		System Name	A O Smith DEL-10	Except	ion to 170.2
	My project consists of (ch	eck all that apply):	System 7		System Components					
New system	(DHW system being install		Individual System (serving	**	☐ Equipment ☐ Distribution	□ Controls	07	08	09	4
System Alter	ation (equipment, distribu	tion or controls)			☐ Equipment ☐ Distribution	☐ Controls	Name or Item Tag	Equipment Type	Volum (gal)	
	-	r other non-central systems used to ser rooms and units in a multifamily resid		are considered individual s	systems.				(gai)	4
•		units are considered "Central Systems"		es			A O Smith DEL-10	Consumer Rated Electric Storage	10	
CONTRILANC	F DECLUTE							E: In systems >= 1M	MBtu/h w	th n
complianc		t into the compliance document is com	nliant with water heating	raquiraments If this table	save "DOES NOT COMBLY" or "COMB	LIEC with	average.	ting Equipment All	Coupano	oc
		the table indicated as not compliant fo		requirements. IJ this tuble	says DOES NOT COMPLET OF COMP.	LIES WILLI	vvater nea		T	
	01	02	03		04			Yes	No	$\perp$
Domestic H	ot Water Equipment Table F	Distribution Systems Table G	Controls Table H		Compliance Results		18 19			4
		Table G		<b> </b>			19			+
	Yes	Yes	Yes		COMPLIES		20			
	Yes	Yes			COMPLIES				+ -	Ŧ
	Yes  L CONDITIONS	Yes aments because of selections made or o	Yes	ughout the form.	COMPLIES		20			
	Yes  L CONDITIONS		Yes	ughout the form.	COMPLIES  Documentation Softwa	re: EnergyPro			+ -	
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Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

luid Temperature Range (°F

**Domestic Water Heating System** 

Project Name: 24X40 (PC 04-121369) - Wall AC

NRCI-PLB-E - Must be submitted for all buildings

There are no forms required for this project.

There are no forms required for this project.

STATE OF CALIFORNIA

CERTIFICATE OF COMPLIANCE

MDITANCE						NDCC DLD E	CERTIFICAT	TE OF COMPLIAN	ICE			NRCC-PLB-E
nter Heating	System				CA	ALIFORNIA ENERGY COMMISSION		tic Water I		stem		CALIFORNIA ENERGY COMMISSION
ergy Efficiency Star	idards - 2022 Nonresi	idential Compliance	Generated Date/1 Report Version: 2 Schema Version: 1	022.0.000		Documentation Software: EnergyPro pliance ID: EnergyPro-4958-0923-0242 eport Generated: 2023-09-07 12:06:05	CA Buildin	g Energy Efficien	cy Standards - 20	D22 Nonresiden	Generated Date/Time: tial Compliance Report Version: 2022.0.000 Schema Version: rev 20220101	Documentation Software: EnergyPro Compliance ID: EnergyPro-4958-0923-0242 Report Generated: 2023-09-07 12:06:05
5-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16	08				volume shall be controlled with respect to firing rate or flue gas oxygen of control linkage or jack shaft is prohibited.	
	per °F)	,			Minimum Insulation Required	1					Newly installed boilers with an input capacity {d:gte/] 5MMBtu/h and a s maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a	•
ature Range ( °F)	Range (Btu-in	Insulation Mean Rating Temp ( °F)	< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel	0,				The fan motor shall include controls that limit the fan motor dema design air volume.	
	Conductivity	TABLE 120.3-A / 16	0.4-A PIPE INSU	JLATION THICKNE	Nominal Pipe Diameter (in)		07				Boiler combustion air fans with motor >= 10 hp shall meet one of the foll  The fan motor shall be driven by a variable speed drive OR	owing
☐ be ins		suitable for outdoor service per 1 sleeve.	20.3(b) / 160.4(f)	). Pipe insulation bu	ried below grade must be ins		06				pressure  • Boilers where one stack serves two or more boilers with a total co	mbined input capacity per stack of 2.5 MMBtu/h.
	Pipes that are extended	ernally heated tted from damage, including that	due to sunlight. n	moisture, equipmer	It maintenance, and wind. Ins	ulation exposed to weather shall					<ul> <li>Combustion air positive shut-off shall be provided per 160.4(3).on all nev</li> <li>Boilers with input capacity &gt;= 2.5 MMBtu/h, in which the boiler is</li> </ul>	•
□   •	The first 8 ft of ho	em piping, including supply and re t and cold outlet piping, including			o, for a nonrecirculating storag	ge system	05			×	For recirculation systems serving individual dwelling units, design include Appendix RA4.4.9 per 170.2(d).	s manual on/off controls as specified in Reference
For sy	have pipe insulations stems serving nonn	on. esidential spaces, pipe insulation	for the following	applications is spec	cified to comply with Table 12	0.3-A (see below) per 120.3:	04				For recirculation systems serving multiple dwelling units, design includes additions.	automatic pump controls per 170.2(d) or 180.1(b)3 for
		tion (QII) as specified in the Refer	ence Residential	Appendix RA3.5.		insulation, shall not be required to	03			×	Controls for circulating pumps or electrical heat trace systems are capable \$110.3(c)2 unless systems serves healthcare facility.	e of automatically turning off the system per

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

ception to 140.5(c)/

5,120

No Not Applicable

Rated Input Max GPM/ Firs

Capacity Hour Rating

Water Heating | Capacity-weighted

Average Efficiency %

**Efficiency Unit** 

Requirement

Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6

struction documents require manufacturer certification that service water-heating systems are equipped with automatic

Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California

School buildings < 25,000 ft<sup>2</sup> and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating

**Designed Standby Loss** 

System >=

1MMBtu/h1

Minimum

Efficiency

Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3

systems serving an individual bathroom space may be an instantaneous electric water heater

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220103

Report Page: Date Prepared:

nperature controls capable of adjusting temperature settings per 110.3(a).

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also

☐ New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5

Rated

Efficiency

FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted

12

be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

ipment Schedule: Water Heating Efficiency and Standby Loss

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

CERTIFICATE OF COMPLIANCE		NRCC-P
Project Name: 24X40 (PC 04-121369) - Wall AC		Report Page: (Page 6
Project Address:	Climate Zone 14	Date Prepared: 9/7/:
DOCUMENTATION AUTHOR'S DECLARATION	STATEMENT	
I certify that this Certificate of Compliance of	documentation is accurate and comple	te.
Documentation Author Name: LAL B. SAHGAL		Documentation Author Signature: Lal Sangal
Company: LSA CONSULTING ENGINEERS		Signature Date:
Address: 83, WINDSWEPT WAY		CEA/ HERS Certification Identification (if applicable): M26885
City/State/Zip: MISSION VIEJO CA 92692		Phone: (949) 830-4746
The energy features and performance specification of Title 24, Part 1 and Part 6 of the California Cod  The building design features or system design features or system design features or system design features or system design features that a completed signed copy of this  I will ensure that a completed signed copy of this	s of the State of California: compliance is true and correct. Professions Code to accept responsibility for the build cons, materials, components, and manufactured device e of Regulations. tures identified on this Certificate of Compliance are of ment agency for approval with this building permit ap Certificate of Compliance shall be made available with	ing design or system design identified on this Certificate of Compliance (responsible designer) is for the building design or system design identified on this Certificate of Compliance conform to the requirem consistent with the information provided on other applicable compliance documents, worksheets, calculations, plication. In the building permit(s) issued for the building, and made available to the enforcement agency for all applicable the included with the documentation the builder provides to the building owner at occupancy.
Responsible Designer Name: Lal Sahgal		Responsible Designer Signature: Lal Sahgal
Company: LSA Consulting Engineers		Date Signed: 2023-09-07
Address: 83, Windswept Way		License: M26885
City/State/Zip: Mission Viejo Ca. 92692		Phone:

Mandatory Measures: The following notes (items) represent the Mandatory Measures for

Heat pumps with supplementary electric resistance heaters shall have controls:

- That prevent supplementary heater operation when the heating load can be met by the heat pump alone; and
- In which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.

Sec. 110.2 (b)

PROJECT SPECIFIC STATE AGENCY APPROVAL

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

REVIEWED FOR

SS V FLS V HESTACS V

DESIGN ♦ CONSULTING ♦ PROJECT MG

11590 W BERNARDO COURT, SUITE 100

SAN DIEGO, CA 92127

THE PLANS, IDEAS & DESIGNS SHOWN ON

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THEY WERE NOT INTENDED WITHOUT THE

1320 W. Oleander Ave. Perris CA 92571-7408

VOICE (951) 943-1908<sup>FA)</sup>Fax (951) 943-5768

ORIGINAL PC STATE AGENCY APPROVAL

DIV. OF THE STATE ARCHITEC

Revision Schedule

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC

A separate project application for construction is required

PC 2022 CBC: 24' x 40'

**EXPANDABLE TO** 

120' x 40'

**ENVELOPE AND** 

NOTES

22088

rMc/CG

RH/RT

PROJECT TITLE

APP: 04-121368 PC

Description

**EXPRESS WRITTEN CONSENT OF R&S** 

TAVARES ASSOCIATES, INC. ©

CLIENT

APP. 04-122805 INC:

DATE: 09/28/2023

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The minimum rate of outdoor air required per Section 120.1 (b) 2 shall be supplied to each space at all time the space is usually occupied.

Sec. 120.1 (c) 3

The Lesser of the minimum rate of outdoor air required by Sec. 120.1 (b) 2, or three complete air changes shall be supplied to the entire building during the one-hour period immediately before the building is normally occupied.

Sec. 120.1 (c) 2

Hotel/Motel Guest Room Thermostats shall have numeric temperature set points in degrees F; and set point stops accessible only to authorized personnel, to restrict overheating and over-cooling.

Sec. 120.2 (c)

All air distribution system ducts and plenums, including, but not limited to, building cavities, mechanical closets, air-handler boxes and support platforms used as ducts or plenums, shall be installed, sealed and insulated to meet the requirements of chapter 6 of the 2001 CMC. Supply-air and return-air ducts conveying heated or cooled air shall be insulated to a minimum installed level of R-8, unless ducts are in conditioned space.

The thermostatic controls for HVAC systems shall meet the following requirements as

- a) Each space conditioning zone shall be controlled by an individual thermostatic control that responds to temperature within the zone and meets the applicable requirements of Subsection (b).
- Each Thermostatic control required by Subsection (a) shall be capable of being set locally or remotely by adjustment or selection of sensors to control:
  - Comfort heating down to 55°F or lower.
  - 2) Comfort Cooling up to 85°F or higher
  - 3) Both heating and cooling, the thermostatic controls shall be capable of providing a temperature range or dead band of at least 5°F within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.

Sec. 120.2 (a) & (b)

Outdoor air supply and exhaust equipment shall be installed with dampers that automatically close upon fan shutdown.

Sec. 120.2 (f)

2) Demand Control Ventilation Devices (CO2 sensors) shall be installed in accordance with Sec.

Sec. 120.1 (c) 4 3) Each space-conditioning system shall be installed with controls that comply with Items 1 and 2

- Are capable of automatically shutting off the system during periods of non-use and shall have:
  - An automatic time switch control device complying with Sec. 119(c), with an accessible manual override that allows operation of the system for up to

- EXCEPTION: Mechanical systems serving retail stores and associated malls, restaurants, grocery stores, churches, and theaters equipped with 7-
- Automatically restart and temporarily operate the system as required to maintain: A setback heating thermostat set point, if the system provides mechanical heating; and
  - EXCEPTION: Area with the design winter outdoor temperature of greater
- A setup cooling thermostat set point, if the system provides mechanical

EXCEPTION: Area with the design summer outdoor temperature of less

5) Service water heating systems and equipment shall meet the applicable requirements of the

Documentation Software: EnergyPro 4) The piping for all space conditioning and service water heating systems shall be insulated in

accordance with TABLE 123-A.

Sec. 110.3 (b)

capable of automatically turning off the system.

7) Lavatories in public restrooms shall have controls that limit the water supply temperature to

Sec. 110.3 (c) 3

SHEET NO.

DRAWN BY

CHECKED BY

DATE

PROJECT NUMBER

Generated Date/Time: Generated Date/Time: Documentation Software: EnergyPro CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-4958-0923-0242 Schema Version: rev 20220101 Report Generated: 2023-09-07 12:06:05 Schema Version: rev 20220101

(Page 5 of 6) 9/7/2023

Compliance ID: EnergyPro-4958-0923-0242

Report Generated: 2023-09-07 12:06:05

CALIFORNIA ENERGY COMMISSIO

(Page 2 of 6

ximum Standby

Documentation Software: EnergyPro

Compliance ID: EnergyPro-4958-0923-0242

Report Generated: 2023-09-07 12:06:05

CALIFORNIA ENERGY COMMISSION

(Page 4 of 6

An occupancy sensor; or

A four-hour timer that can be manually operated.

day programmable timers.

EXCEPTION: Systems serving hotel/motel guest rooms, if they have a readily accessible manual shut-off switch.

Sec. 120.2 (e)

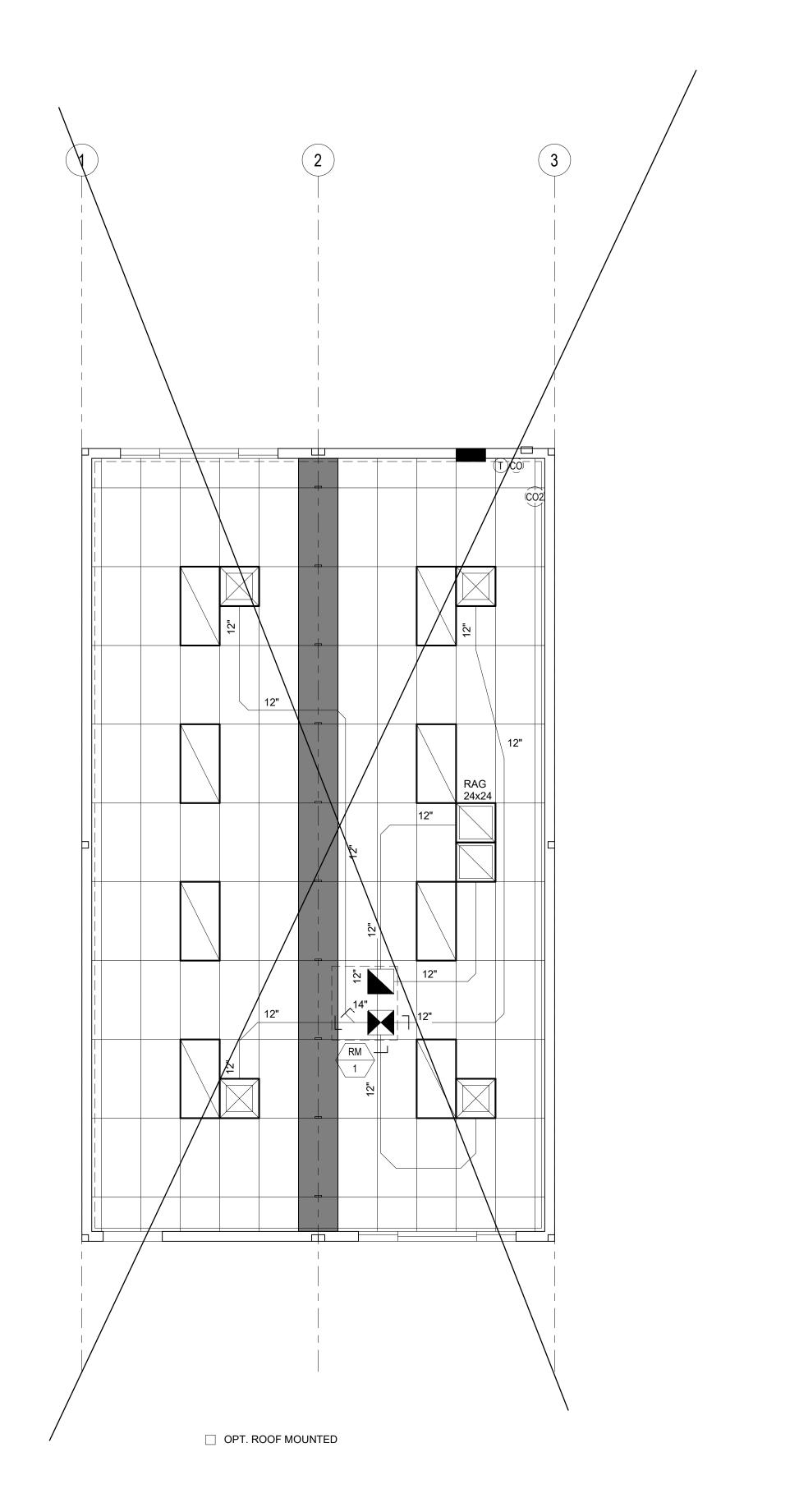
Sec. 120.3

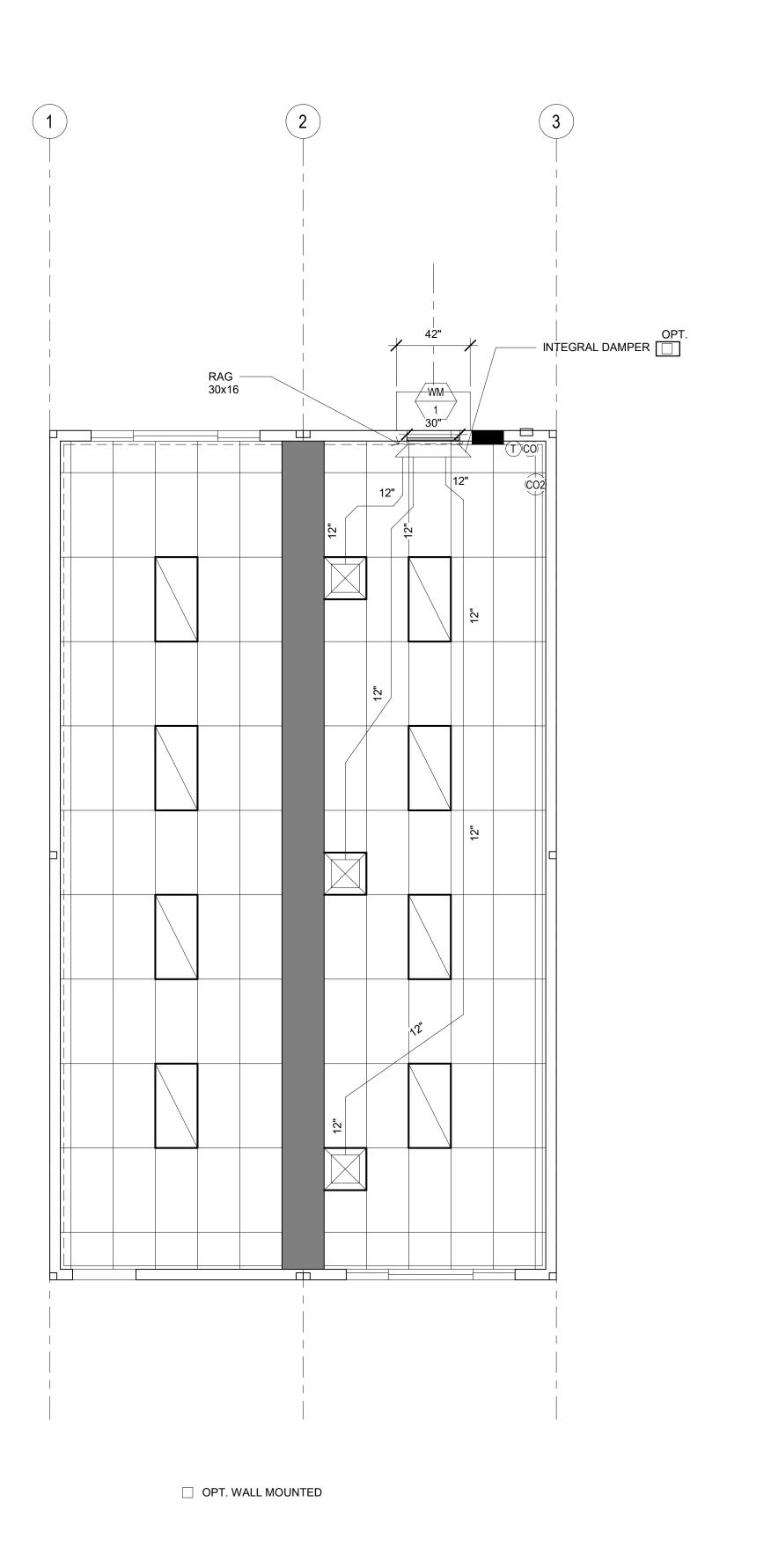
Appliance Efficiency Regulations as required by Sec. 110.1.

6) Service hot water systems with circulating pumps or with electrical heat trace systems shall be

Sec. 110.3 (c) 2

110°F.



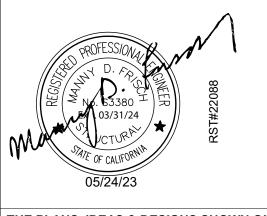


PROJECT SPECIFIC STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR SS 🗸 FLS 🗸 ACS 🗸 DATE: 09/28/2023



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ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT

A separate project application for construction is required PROJECT TITLE

PC 2022 CBC: 24' x 40' EXPANDABLE TO 120' x 40'

SHEET TITLE MECHANICAL **CEILING PLAN** 24x40

PROJECT NUMBER

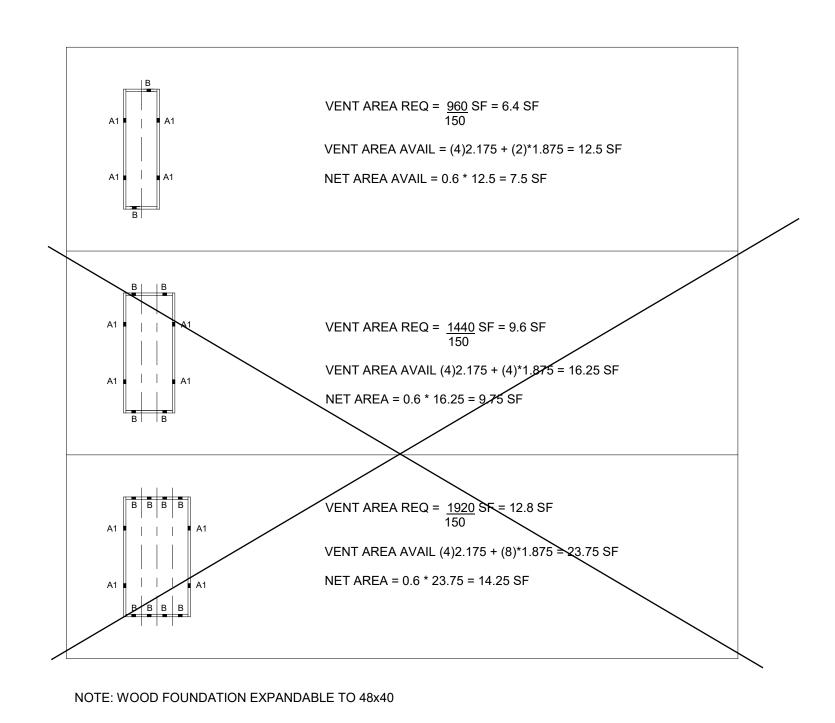
22088

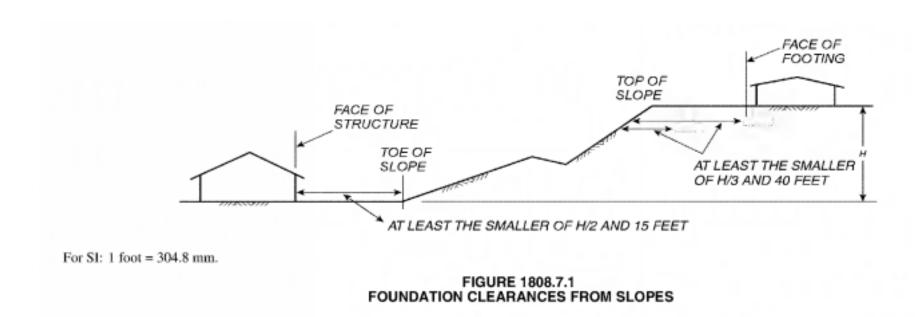
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M5.1

SHEET OF

1/4" = 1'-0" 24x40 RM-1 MECH PLANS





WOOD FOUNDATION CONSTRUCTION IS ALLOWED FOR BUILDINGS WITH 2160 AND UNDER.

SILL PLATES SHALL BE OF FOUNDATION GRADE REDWOOD OR PRESERVATIVE

PAVEMENT. MATERIALS ABOVE THE SILL PLATES ARE NOT CONTROLLED BY

VENTS THAT OCCUR INSIDE RAMP BOUNDARIES SHALL REQUIRE A VENT OF EQUAL SIZE AT RAMP SKIRTING.

CORROSION RESISTANT NAILS.

WOOD FOUNDATION HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 1,000 PSF IN ABSENSE OF A SOILS INVESTIGATION REPORT PROVIDED BY A LICENSED GEOTECHNICAL ENGINEER.

REFER TO ARCHITECT'S SITE PLAN FOR DRAINAGE.

1/4" = 1'-0" NOTES FOR 50+15

KEY PLAN VENTING SCHEDULE

VENT "A1" (SIDEWALL): 3'-6" x 7.5" = 2.188 SF VENTILATION AVAILABLE

VENT "B" (ENDWALL): 3'-0" x 7.5" = 1.875 SF VENTILATION AVAILABLE

SEE 2/F1.40 FOR REFERENCE

(2)	(2) 16d NAILS SILL TO BASE CONNECTION FOR 50+15 SEE 7 / F1.10						
	ENDWALL	SIDEWALL	SEPERATION				
24x40	7" O.C	12" O.C	12" O.C				
36x40	7" O.C	12" O.C	12" O.C				
				ĺ			

9 1/4" = 1'-0" KEY PLAN VENTING SCHEDULE FOR 50+15 PSF

3 1/4" = 1'-0" FOUNDATION SETBACKS

WOOD FOUN	NDATION PLAT	E SCHEDULE						
50 + 15 PSF								
PLATES	END WALL	SIDE WALL	MODLINE ENDS	MODLINE INTERIOR	ML "B" ENDS	ML "B" INTERIOR	SEPERATION ENDS	SEPERATION INTERIOR
BOOSTER	2x4	2x4	2x6	2x6	2x8	2x8	2x4	2x4
TOP	2x6	2x6	2x8	2x8	2x10	2x10	2x6	2x6
BASE	2x8	2x8	2x10	2x10	2x12	2x12	2x8	2x8
SILL	2x12	2x12	(6) 2x12, 24" LONG	(6) 2x12, 24" LONG	(8) 2x12, 24" LONG	(8) 2x12, 24" LONG	2x12	2x12

\* MODLINE "B" - MODLINE W/ EXT. WALLS BACK-TO-BACK SEE F1.14

TIE PLATE SCHEDULE SIDE WALL

4 1/4" = 1'-0" TIE PLATE SCHEDULE FOR 50+15

PRESURE TREATED MATERIAL AND IS ALLOWED TO REST DIRECTLY ON SOIL REQUIREMENT.

TO PREVENT SLIDING; A 1 INCH G.S. SCHEDULE 40 PIPE (1.315" ACTUAL O.D.) SHALL BE ATTACHED TO SILL PLATE AND ANCHORED INTO THE EARTH W/ 12" MIN EMBEDMENT (PROJECTED VERTICALLY) @ 10' - 0" MAX O.C. AND SHALL BE LOCATED A MAXIMIUM OF 2'-0" FROM CORNERS

STACKED FOUNDATION MEMBERS SHALL BE FASTENED TO ONE ANOTHER W/

PRE-CHECK (PC) DOCUMENT

Description

PROJECT SPECIFIC STATE AGENCY APPROVAL

DESIGN ♦ CONSULTING ♦ PROJECT MGT

11590 W BERNARDO COURT, SUITE 100 SAN DIEGO, CA 92127

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DIV. OF THE STATE ARCHITECT

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DATE: 09/28/2023

PROFESSIONAL STAMP

PC 2022 CBC:24' x 40' **EXPANDABLE TO** 120' x 40'

WOOD FOUNDATION **NOTES SCHED** FOR BLDG W/ 50+15

PROJECT NUMBER

22088

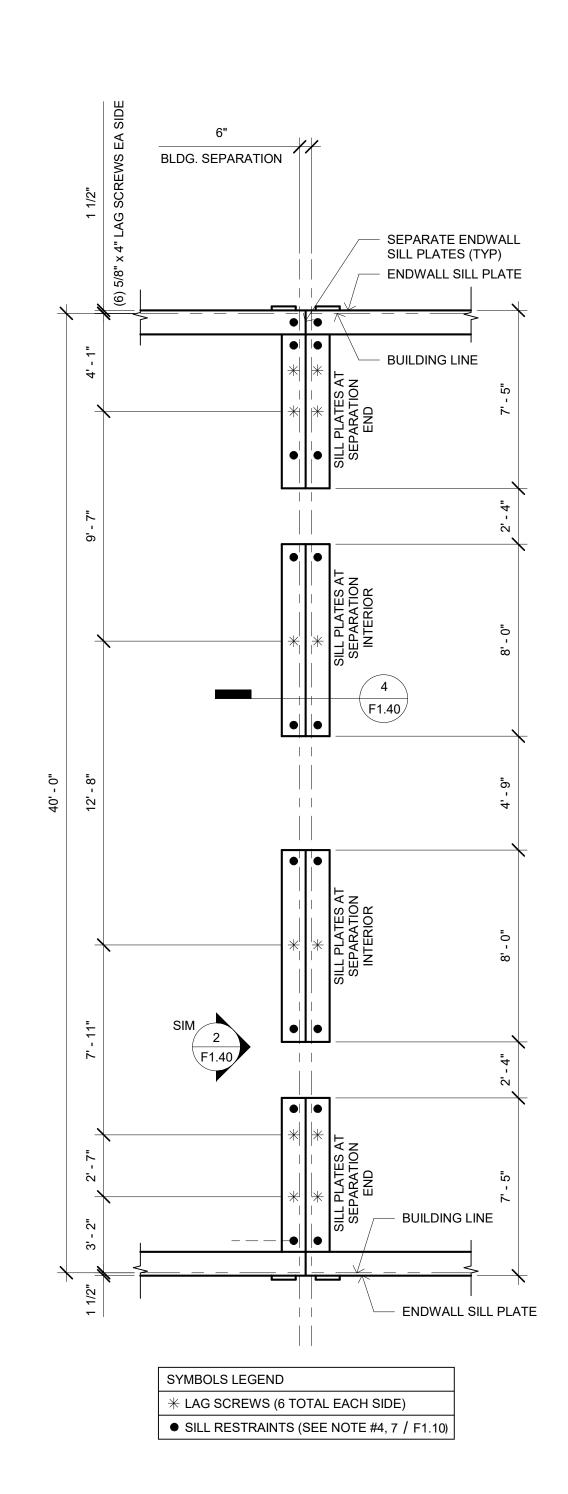
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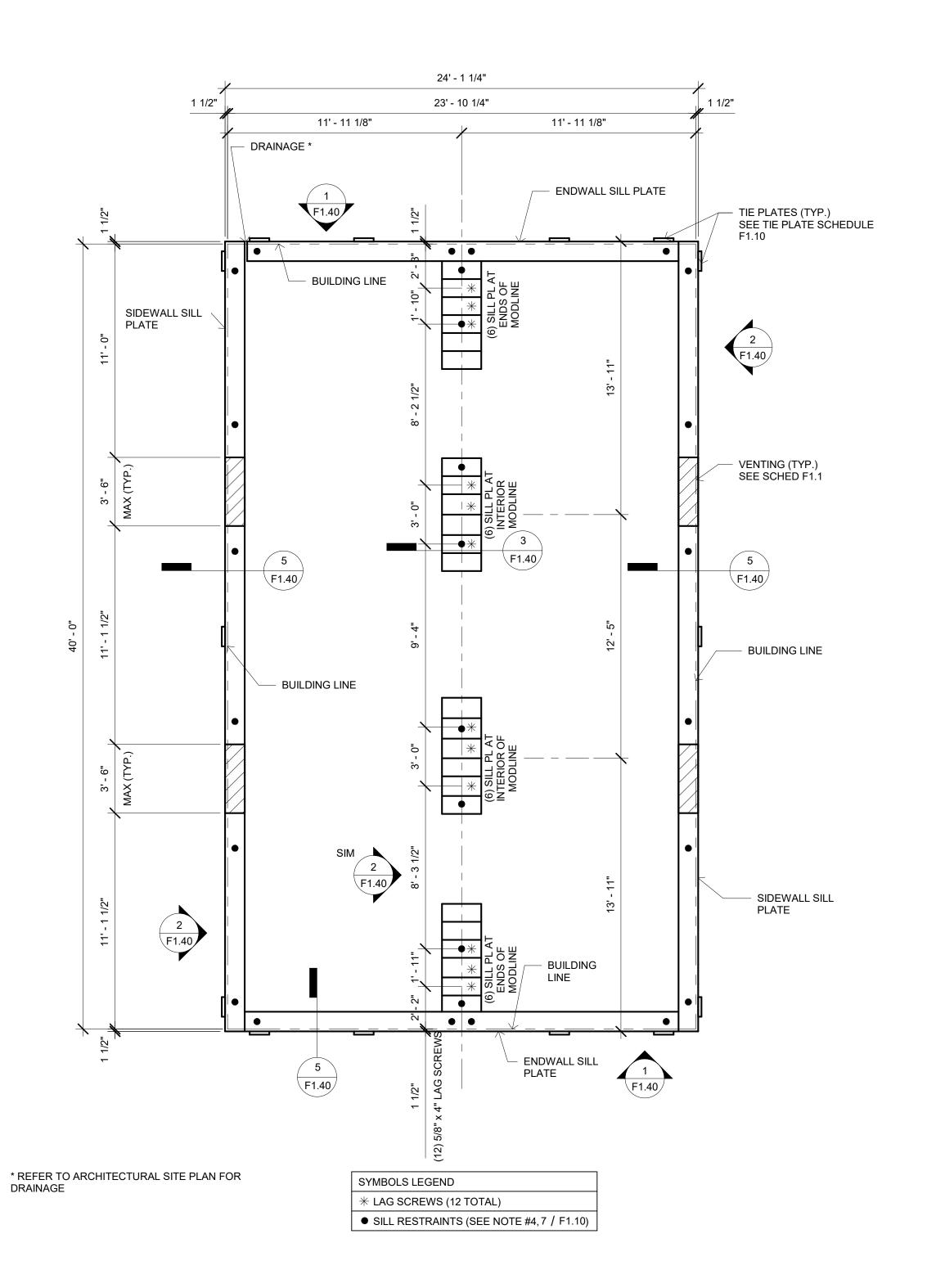
F1.10

*50+15 VENTING LAYOUT* 

8 1/4" = 1'-0"
WOOD FOUNDATION PLATE SCHEDULE FOR 50+15

6 1/4" = 1'-0" NAILING SCHEDULE FOR 50+15





PROJECT SPECIFIC STATE AGENCY APPROVAL

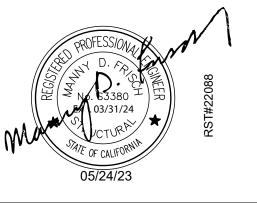
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 04-122805 INC:
REVIEWED FOR
SS D FLS D ACS D
DATE: 09/28/2023

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11590 W BERNARDO COURT, SUITE 100
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ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

# Description

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC

A separate project application for construction is required

PROJECT TITLE
PC 2022 CBC:24' x 40'
EXPANDABLE TO
120' x 40'

SHEET TITLE

WOOD FOUNDATION PLAN 24x40 BLDG W/ 50+15

PROJECT NUMBER

22088 WN BY

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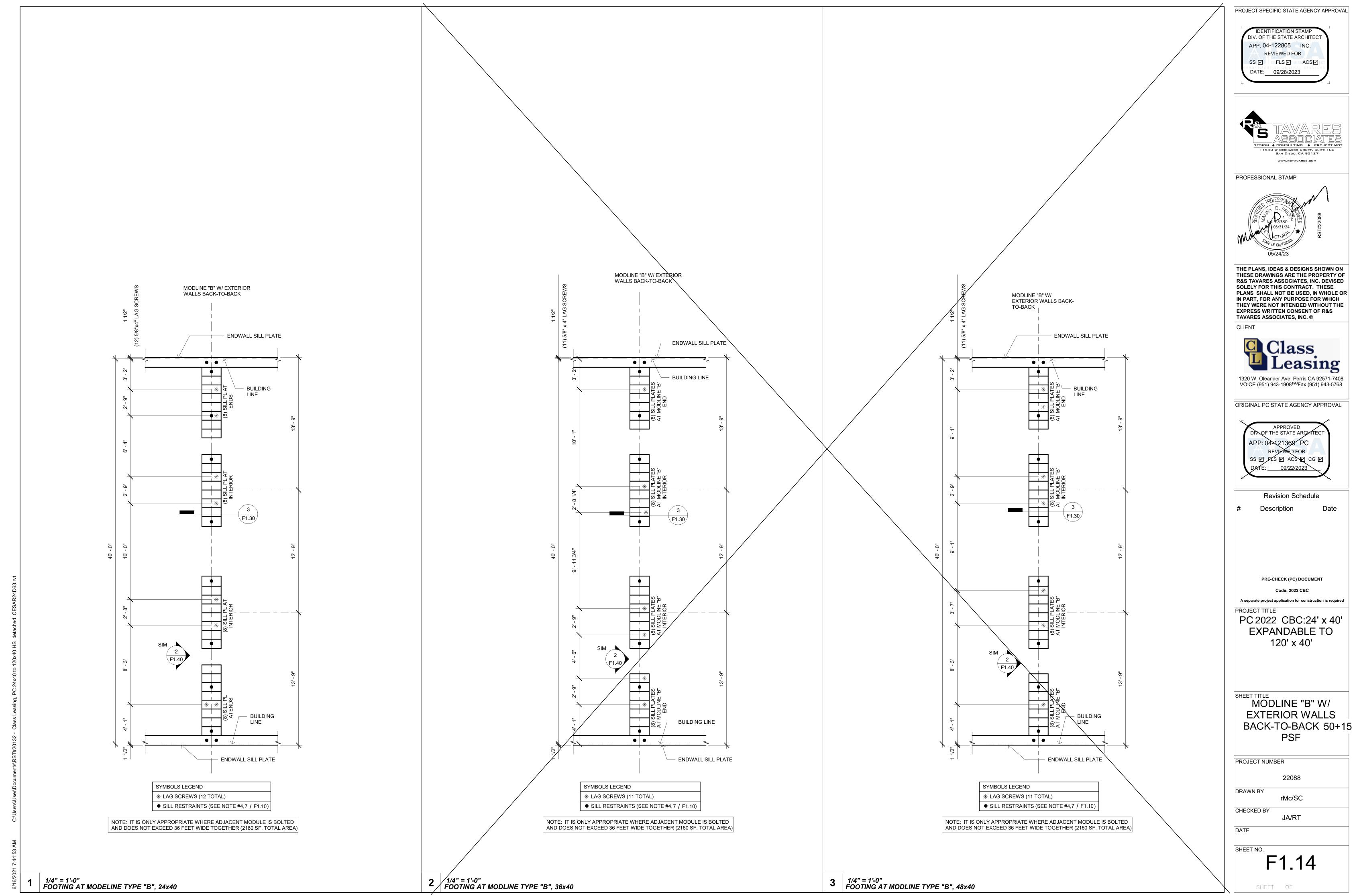
JA/RT

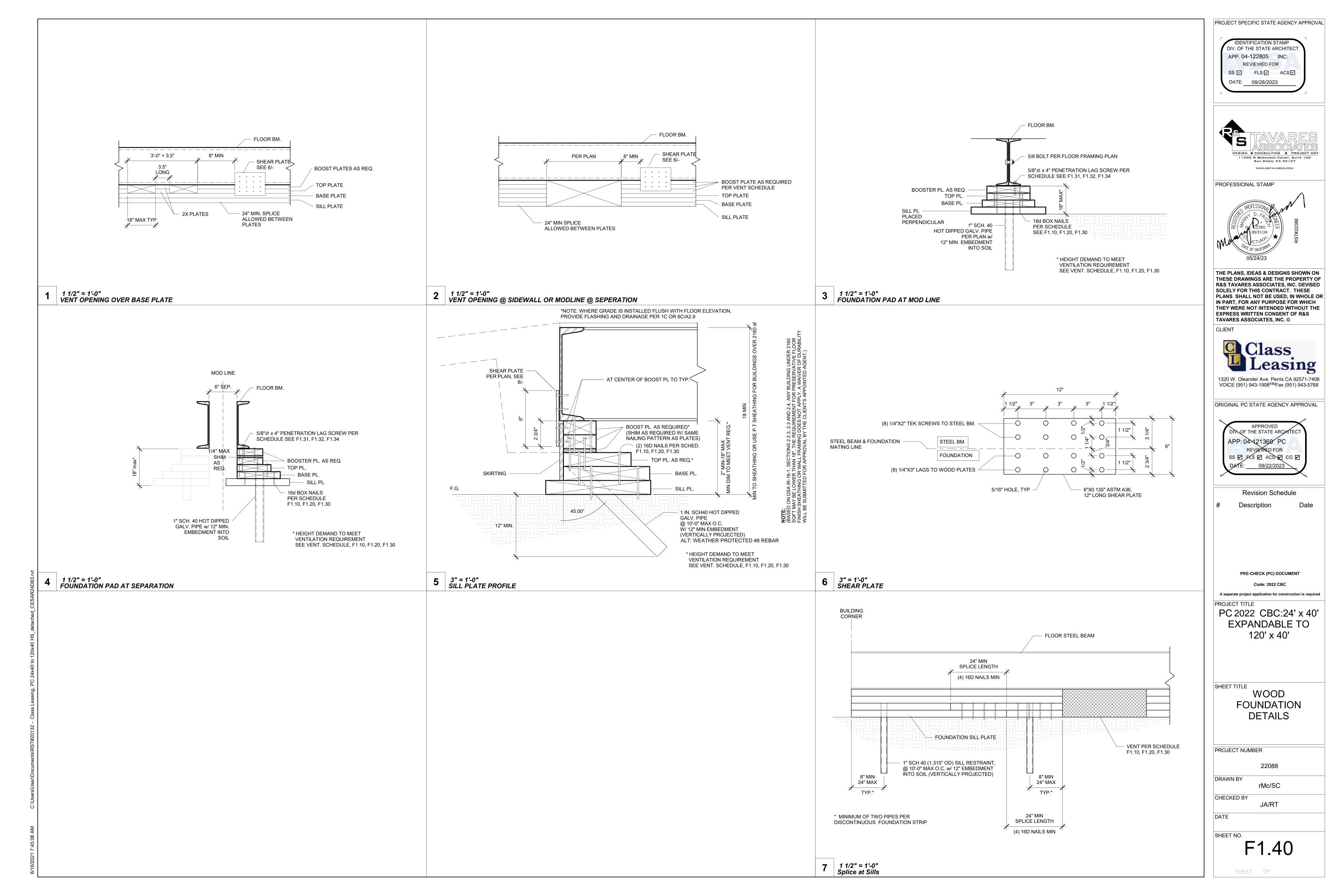
DATE

F1.11

SHEET OF

2 | 1/4" = 1'-0" 24x40 FOUNDATION PLAN





TUBE STEEL: ASTM A500 GRADE A ALL OTHER: ASTM A36

FABRICATION, ERECTION, AND SHOP PAINTING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES HOLES IN STRUCTURAL STEEL SHALL NOT BE PERMITTED, UNLESS SPECIFIED IN THE STRUCTURAL DRAWINGS

#### **CONCRETE**

CONFORMANCE WITH ASTM C150.

ALL CONCRETE WORK, UNLESS MODIFIED BY CONTRACT DOCUMENTS, SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 19A, CBC 2022 AND ACI 318-19.

TESTS AND INSPECTION SHALL BE PERFORMED BY A TESTING LABORATRY CONTRACTED BY THE DISTRICT.

MIX DESIGN SHALL BE SUBMITTED FOR QUALIFICATION AND PROVIDE A 28-DAY COMPRESSIVE STRENGTH F'C OF 3500 PSI, COMPOSED OF NORMAL WEIGHT TYPE I PORTALAND CEMENT IN

FORMWORK SHALL RESULT IN FINAL STRUCTURE THAT CONFORMS TO SHAPES, LINES, AND DIMENSIONS AS REQUIRED BY THE CONTRACT DOCUMENTS.

LOCATIONS OF VENTS AND OPENINGS FOR MECHANICAL AND ELECTRICAL USE SHALL BE VERIFIED BY ARCHITECT.

EMBEDMENT OF MATERIALS NOT HARMFULL TO CONCRETE AND WITHIN LIMITATIONS OF SECTION 20.6, ACI-318-19 SHALL BE PERMITTED. REFER TO OTHER DISCIPLINES FOR LOCATION OF CONDUIT, PIPES, FITTINGS, SLEEVES, ETC.

CONTINUOUS BATCH PLANT INSPECTION WAIVED PER CBC 1705A3.3. WHEN CONTINUOUS BATCH PLANT INSPECTION WAIVED, THE FOLLOWING PERIODIC INSPECTION SHALL BE REQUIRED:(INSPECTIONS PROVIDED BY DISTRICT)

QUALIFIED TECHNICIAN OF THE TESTING LABORATORY SHALL CHECK THE FIRST BATCH AT THE START OF

LICENSED WEIGHMASTER TO POSITIVELY IDENTIFY MATERIALS AS TO QUANTIFY AND CERTIFY TO EACH LOAD BY A BATCH TICKET.

BATCH TICKETS, INCLUDING MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD, SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY A TRUCK DRIVER WITH THE LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR WILL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, ITS LOAD, AND TIME OF RECEIPT, AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND WILL TRANSMIT A COPY OF THE DAILY RECORD TO THE ENFORCEMENT AGENCY.

ANCHOR BOLTS, AND REINFORCING STEEL SHALL BE SECURELY TIED BEFORE CONCRETE IS POURED.

## CONCRETE MIX

IN ADDITION TO THOSE REQUIREMENTS DICTATED BY THE PC DESIGN, THE CONCRETE MIX USED IN THE FOUNDATION ELEMENTS SHALL COMPLY WITH THE DURABILITY REQUIREMENTS OF AMERICAN CONCRETE INSTITUTE (ACI) 318 SECTION 19.3. THE PC DRAWINGS SHALL ACCOUNT FOR THE DEPENDENCY OF THESE DURABILITY REQUIREMEMNTS ON SITE-SPECIFIC CHARACTERISTICS.

A. WHEN THE PC DRAWINGS DO NOT REQUIRE A SITE-SPECIFIC GEOTECHNICAL REPORT THAT QUANTIFIES SULFATE CONTENT IN THE SOIL, THE PC DRAWINGS SHALL REQUIRE A CONCRETE MIX SHALL COMPLYING WITH ONE OF THE FOLLOWING PER ACI 318 TABLE 19.3.2.1. SEE THIS SHEET A.1 & A.2 FOR OPTIONS

B. MAXIMUM WATER/CEMENT RATION OF 0.45; MINIMUM COMPRESSIVE STRENGTH OF 4,500 POUNDS PER SQUARE INCH (PSI); TYPE V CEMENT PLUS POZZOLAN OR SLAG CEMENT COMPLYING WITH FOOTNOTE 7; AND PROHIBITION OF

C. MAXIMUM WATER/CEMENT RATIO OF 0.40; MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI; TYPE V CEMENT COMPLYING WITH FOOTNOTE 8; AND PROHIBITION OF ADMIXTURES CONTAING CALCIUM CHLORIDE.

D. WHEN THE PC DRAWINGS REQUIRE A SITE-SPECIFIC GEOTECHNICAL REPORT THAT QUANTIFIES SULFATE CONTENT IN THE SOIL, THE PC DRAWINGS SHALL CLEARLY STATE THE EXPOSURE CLASS FOR EACH CATAGORY (I.E., F, S, W, AND C) OR COMBINATION THEREOF THE PC DESIGN IS APPROVED FOR. THE MAXIMUM WATER/CEMENT RATIO, MINIMUM COMPRESSIVE STRENGTH, CEMENTITOUS MATERIAL REQUIREMENTS, AND ADMIXTURE LIMITATIONS SHALL BE STATED ON THE PC DRAWINGS FOR EACH APPROVED CASE.

E. BOTH APPROACHES GIVEN SECTIONS 5.5.1 AND 5.5.2 ABOVE CAN BE INCLUDED ON THE PC DRAWINGS AS ALTERNATE OPTIONS IN ACCORDANCE WITH SECTION 1.4 ABOVE

F. CONCRETE EXPOSE TO THAW AND FREEZE CYCLES SHALL BE AIR ENTRAINED PER ACI 318 SECTION 19.3.3.1

## STEEL REINFORCEMENT

DEFORMED BARS SHALL CONFORM TO ASTM A615.

ADMIXTURES CONTAINING CALCIUM CHLORIDE

fy= 60,000 PSI, FOR ALL BARS EXEPT FOR #3 BARS, fy= 40,000 PSI

PROVIDE A MINIMUM CONCRETE COVER FOR REINFORCEMENT EMBEDDED IN: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"

CONCRETE EXPOSED TO EARTH OR WEATHER FOR #5 BARS OR SMALLER = 1.5"

SPLICE LENGTHS SHALL BE A MINIMUM OF 48" FOR #5 BARS, AND 30" FOR #4 BARS UNLESS OTHERWISE SPECIFIED DRAWINGS.

ALL BOLTS AND ANCHOR BOLTS SHALL COMFORM ATO ASTM A-307

BOLTS EXPOSED TO THE ELEMENTS SHALL BE GALVANIZED BY THE HOT-DIP OR MECHANICAL

## **WELDING**

A. ALL WELDING SAHLL BE IN COMFORMANCE TO:

a. AWS D1.1, EXCEPT AS MODIFIED IN SECTION J2, AISC-360 FOR STEEL

AWS D1.3 FOR LIGHT GAUGE STEEL AWS D1.4 FOR REINFORCING STEEL

ELECTRODE CLASSIFICATION:

a. E70XX FOR STEEL AND CONCRETE STEEL REINFORCEMENT

SHOP AND FIELD WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS

E60XX FOR LIGHT GAUGE STEEL

WELDS SHALL BE CAPABLE OF PRODUCING THE FOLLOWING V-NOTCH TOUGHNESS AS DETERMINED BY APPROPRIATE AWS A5 CLASSIFICATION TEST METHOD OR MANUFACTURER LATERAL FORCE RESISTING SYSTEM (LFRS) = 20 FT-LB AT 0 DEGREE F

COMPLETE JOINT PENETRATION GROOVE WELD = 20 FT-LB AT 40 DEGREE F

PERIODIC INSPECTION OF FILLET WELDS LESS THAN OR EQUAL TO 5/16", FLOOR AND ROOF DECK WELDS.

b. CONTINUOUS INSPECTION FOR OTHER WELDS.

NONDESTRUCTIVE TESTING (NDT):

a. ULTRASONIC TESTING SHALL BE PERFORMED ON 100 PERCENT OF CJP GROOVE WELDS IN MATERIALS 5/16" OR THICK OR GREATER. ULTRASONIC TESTING NOT REQUIRED FOR MATERIALS LESS THAN 5/16" THICK. TESTING FREQUENCY MAY BE REDUCED TO 25%, PROVIDED PROVISIONS SET FORTH IN SECTION N5.5e, AISC-360 IS MET.

MAGNETIC PARTICLE TESTING SHALL BE PERFORMED ON 25 PERCENT OF ALL BEAM-TO-COLUMN CJP GROOVE WELDS. TESTING FREQUENCY MAY BE REDUCED TO 10%, PROVIDED PROVISIONS SET FORTH IN J6.2g, AISC-341 IS MET.

## **FOUNDATIONS**

GEOTECHNICAL INVESTIGATION SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 1803A.1 THROUGH 1803A.8 BY GEOTECHNICAL ENGINEER CONTRACTED BY THE DISTRICT. ALLOWABLE FOUNDATION AND LATERAL SOIL PRESSURE VALUES MAY BE DETERMINED FROM TALBLE 1806A.2, WHERE GEOTECHNINCAL REPORTS IS NOT REQUIRED PER SECT 1803A.2. A MAXIMUM ALLOWABLE SOIL PRESSURE OF 1000 PSF AND 1500 PSF SHALLBE PERMITTED FOR TEMPORARY W AND PERMANENT CONCRETE FOUNDATIONS RESPECTIVELY IN ACCORDANCE WITH SECTION 4.6, IR 16-1

A PREVIIOUS REPORT FOR A SPECIFIC SITE MAY BE RESUBMITTED. THE ALLOWABLE FOUNDATIONA AND LATERAL SOIL PRESSURE VALUES ARE ALLOWED A 33% INCREASE FOR SHORT TERM WIND AND SEIMIC LOADS.

THE DISTRCT SHALL BE RESPONSIBLE FOR EXCAVATION, BACKFILL, SETTING ELEVATIONS, CRANING AND RIGGING. PROVIDE SHIMS TO LEVEL BUILDING WITHIN 1/2" TOLERANCE.

#### COLD-FORMED STEEL:

ALL WORK SHALL, UNLESS MODIFIED BY THE CONCTRACT DOCUMENTS, SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT AISI SPECIFICATIONS AND STANDARDS.

MATERIAL SPECIFICATION:

ASTM A-1011/A, GRADE 33 FOR MATERIALS THICKNESS 0.120 OR LESS UNLESS OTHERWISE NOTI ASTM A-1003, GRADE 33 TYPE H FOR LIGHT GUAGE STUDS AND TRACKS SHAPES SHALL BE DIMENSIONED TO SSMA SPECIFICATIONS.

C. SCREWS EXPOSED TO THE ELEMENTS SHALL BE GALVANIZED

## STEEL DECK

MINIMUM THICKNESS PERMITTED FOR FLOOR STEEL DECKS IS 20GA. PER DSA IR 16-1, 1.2.1, MINIMUM THICKNESS OF NON-STRUCTURAL STEEL ROOF DECKING IS 26GA. STANDING SEAM ROOF PANELS ARE GRADE 40 SHEET STEEL WITH ALUMINUM ZINC COATING CONFORMING TO ASTM A792 AND AZ55.

CHANGES AFFECTING STRUCTURAL PORTION OF THE APPROVED PC SHALL NEED DSA APPROVAL AND SHALL BE CLASSIFIED AS CCD CATEFORY A.

ALL FRAMING LUMBER SHALL BE GRADE MARKED BY AN APPROVED GRADING AGENCY

EACH SHEET SHALL BE GRADE MARKED BY THE AMERICAN PLYWOOD ASSOCIATION IN ACCORDANCE WITH THE PROCEDURES AND QUALIFICATIONS SET FORTH BY PS 1-19.

SUB FLOOR: 1 1/8" T&G UNBLOCKED PLYWOOD, SHALL PROVIDE A SMOOTH AND UNIFORM SURFACE

CAPABLE OF ACCEPTING CARPET FINISH PLYWOOD ROOF DECK OPTION: APA RATED 3/4" T&G OSB OR EQUIVALENT RATED SHEATHING

EXTERIOR WALL SIDING: STANDARD: 5/8" DURATEMP OR 5/8" SMART PANEL

OPTION: 5/8" MOD

OPTION: 1/2" OSB OR CDX PLYWOOD FOR PLASTER/STUCCO FINISH

OPTION: 1/2" OSB OR CDX PLYWOOD FOR HARDIE BOARD (LAP SIDING) FINISH

EXTERIOR WALL SIDING ATTACHMENT:

COPPER PER CBC 2304.10.1.1

FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE HOT-DIPPED GALVANIZED, MECHANICALLY DEPOSITED ZINC-COATED, STAINLESS, SILICON BRONZE OR COPPER PER CBC SECTION 2304.10.1.1

FASTEN TO WOOD FRAMING WITH 8D BOX NAILS @ 6" E.N., 12" F.N.

FASTEN TO LIGHT GAGE METAL FRAMING WITH #8 WAFER HEAD STSMS @ 6" E.N., 12" F.N. FASTEN TO STRUCTURAL STEEL WITH #12 STSMS OR 0.145 DIAM SHOT PINS @ 12" O.C.

#### TREATED WOOD:

ALL WOOD LOCATED WITHIN 6" OF EXPOSED EARTH SHALL BE "PRESERVATIVE TREATED" OR SHALL BE "NATURALLY DURABLE" MATERIAL IN ACCORDANCE WITH CBC SECTION 2304.12.1.2.

ALL ROUGH LUMBER SHALL BE DF #2 OR BETTER. ALL POWER DRIVEN FASTENERS SHALL BE HILTI FASTENERS ICC# ESR-1663, AND RAMSET POWER DRIVEN FASTENERS (ICC # ESR-1799), OR SIMPSON POWER DRIVEN FASTENERS ICC #ESR-2138,

OR OTHER EQUIVALENT PRODUCTS WITH ICC REPORTS AND APPROVED BY DSA. FASTENERS. INCLUDING NUTS AND WASHERS. IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR

## **ROOF DIAPHRAGM:**

3/4" T&G RATED SHEATHING BLOCKED DIAPHRAGM, EXPOSURE 1, 48/24 SPAN RATING FASTEN AT METAL SUPPORTS W/ #10 x 1 1/4" SELF-TAPPING PHILLIPS FLAT-HEAD ZINC

COATED TEKS SCREWS @ 6" BN/CON. EDGE, 6" EN, AND 12" O.C. FN. PROVIDE A MINIMUM OF 3/8" EDGE DISTANCE FOR FASTENERS TO PLYWOOD EDGE PER CBC SECTION 2306.2. NOTE: ALL PANEL EDGES SHALL BE ATTACHED TO FRAMING MEMBERS OR BLOCKING. WHERE USED AS BLOCKING,

FLAT STRAPPING SHALL BE A MINIMUM THICKNESS OF 33MILS WITH A MINIMUM WIDTH OF 1.5 INCHES AND SHALL BE EITHER INSTALLED BELOW SHEATHING. FOR OTHER THAN STEEL SHEATHING, THE SCREWS SHALL BE INSTALLED THROUGH THE SHEATHING TO THE BLOCKING.

## FLOOR DIAPHRAGM:

1 1/8" PLYWOOD UNBLOCKED DIAPHRAGM - STURD-I-FLOOR T&G RATED SHEATHING, EXTERIOR, 48" oc SPAN RATING FASTEN AT METAL SUPPORTS W/#10 - 24 x 2" SELF-TAPPING PHILLIPS FLAT-HEAD ZINC COATED TEKS @ 6" O.C. BN/CON. EDGE, 6" O.C. EN, 12" FN. PROVIDE A MINIMUM OF 3/8" EDGE DISTANCE FOR FASTENERS TO PLYWOOD EDGE PER CBC SECTION 2306.2 NOTE: ALL PANEL EDGES SHALL BE ATTACHED TO FRAMING MEMBERS OR BLOCKING. WHERE USED AS BLOCKING.

FLAT STRAPPING SHALL BE A MINIMUM THICKNESS OF 33MILS WITH A MINIMUM WIDTH OF 1.5 INCHS AND SHALL BE BELOW SHEATHING. FOR OTHER THAN STEEL SHEATHING, THE SCREWS SHALL BE FITHER INSTALLED INSTALLED THROUGH THE SHEATHING TO THE BLOCKING.

CONCRETE FLOOR DATA: LIGHTWEIGHT CONCRETE FLOOR

STRENGTH: 3500 PSI TYPE: I OR II DESINTY: 110 PCF - MAX

## **DIMENSION LUMBER ATTACHMENT TO STEEL FRAMING:**

2 x STUDS AT CORNER STEEL COLUMNS (NAILING STUD) USE: #10 - 24 x 2 1/2" LG. SELF-DRILLING SELF-TAPPING PHILLIPS FLAT-HEAD WITH WASHER ZINC COATED TEK SCREWS AT 24" OC.

## NAILING NOTES:

DIAMETER.

ALL NAILS SHALL BE COMMON UNLESS OTHERWISE NOTED

MACHINE APPLIED 16d FASTENERS SHALL HAVE AN EMBEDMENT OF NOT LESS THAN 1 1/2" INTO THE SECOND MEMBER, AND SHALL NOT BE LESS THAN 3" IN OVERALL LENGTH.

NAILS SHALL BE ACCEPTABLE FOR HAND NAILING, PROVIDED THE REQUIREMENT EMBEDMENT IS MAINTAINEI

## **CONNECTIONS AND FASTENERS:**

ALL CONNECTIONS AND FASTENERS IN DRAWINGS CAN BE SUBSTITUTED BY AN EQUIVALENT PRODUCT PROVIDING I REPORTS ARE SUBMITTED TO AND APPROVED BY DSA. **CONNECTIONS LAG SCREWS:** 

#### LAG SCREWS SHALL BE INSTALLED WITH WASHER AND TURNED BY WRENCH, OVER-TORQUING SHALL BE AVOIDED. PRE-DRILLED CLEARANCE AND LEAD HOLE SHALL BE REQUIRED AS DESCRIBED BELOW:

THE CLEARANCE HOLE FOR THE UNTHREADED PORTION OR THE SHANK SHALL HAVE SAME DEPTH AND

THE LEAD HOLE FOR THE THREADED PORTION OF THE SHANK SHALL HAVE SAME DEPTH AND 65% TO 85% OF SHANK DIAMETER FOR LUMBER WITH SPECIFC GRAVITY OF, G > 0.6 60% TO 75% OF SHANK DIAMETER FOR LUMBER WITH SPECIFC GRAVITY OF, 0.5 < G ≤ 0.6 40% TO 70% OF SHANK DIAMETER FOR LUMBER WITH SPECIFC GRAVITY OF, G ≤ 0.5

LEAD OR CLEARANCE HOLES SHALL NOT BE REQUIRED FOR 3/8" DIAMETER OR SMALLER LAG SCREWS.

CONCRETE NOT EXPOSED TO FREEZING AND STRENGTH, f'c (PSI) TYPES (ASTM C150) SLAG CEMENT ACCESS WELLS SLAG CEMENT

#### SCALE DEFAULT CONCRETE MIX DESIGN

		EXPOSURE CATEGORY	: FREEZING AND	THAWING (F	=)			
			MAXIMUM	MINIMU	REQUIRED AIR	CONTENT	LIMITS ON	
EXPO	SURE CLASS	CONDITION	W/CM	M f'c	MAX AGGREGATE SIZE (IN)	TARGET AIR CONTENT (%)	CEMENTITIOUS MATERIALS	
	FO	CONCRETE NOT EXPOSED TO FREEZING-AND-THAWING CYCLES	0.55	3500	N/A	N/A	N/A	
					3/8"	6		
		CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES		3500	1/2"	5.5	N/A	
	F1	WITH LIMITED EXPOSURE TO WATER	0.55		3/4"	5		
		WITH LIMITED EXPOSORE TO WATER			1"	4.5		
					1 1/2"	4.5		
		CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES WITH FREQUENT EXPOSURE TO WATER	0.45	4500	3/8"	7.5	N/A	
					1/2"	7		
	F2				3/4"	6		
		WITH REQUERT EXPOSORE TO WATER			1"	6		
					1 1/2"	5.5		
					3/8"	7.5		
		CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES			1/2"	7	ACI 318,	
	F3	WITH FREQUENT EXPOSURE TO WATER AND EXPOSURE TO	0.4	5000	3/4"	6	SECTION 26.4.2.2(b)	
		DEICING CHEMICALS			1"	6	3ECTION 20.4.2.2(0)	
					1 1/2"	5.5		

☐ A.1 WITH OUT GEOTECH REPORT Maximum water/cement ratio of 0.45; minimum compressive strength of 4,500 pounds per square inch (psi); Type V cement plus pozzolan or slag cement complying with Footnote 7 of ACI table 19.3.2.1; prohibition of admixtures containing calcium chloride; and 4" max slump.

☐ A.2 Optional (Site-Specific) concrete Strength: WITH GEOTECH REPORT When the PC drawings require a site-specific geotechnical report that quantifies sulfate content in the soil, the PC drawings shall require a concrete mix shall comply with one of the following based on the exposure class for each category from ACI 318 Table 19.3.2.1 below (The minimum compressive strength shall not be less than 3500 psi with 4" max Slump)

		001151111	011			0211121111100011111112011120			
EXPO	SURE CLASS	WATER-SOLUBLE SULFATE (SO <sub>4</sub> <sup>2-</sup> ) IN SOIL, PERCENT BY MASS	DISSOLVED SULFATE (SO <sub>4</sub> <sup>2-</sup> ) IN WATER, PPM	MAXIMUM W/CM	MINIMUM f'c	ASTM C150	ASTM C595	ASTM C1157	CALCIUM CHLORIDE ADMIXTURE
	S0	SO <sub>4</sub> <sup>2-</sup> < 0.10	SO <sub>4</sub> <sup>2-</sup> < 150	0.55	3500	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO RESTRICTION
	S1	0.10 ≤ SO <sub>4</sub> <sup>2-</sup> < 0.20	150 ≤ SO <sub>4</sub> <sup>2-</sup> < 1500 OR SEAWATER	0.50	4000	Ш	TYPES WITH (MS) DESIGNATION	MS	NO RESTRICTION
	S2	0.20 ≤ SO <sub>4</sub> <sup>2-</sup> ≤ 2.0	1500 ≤ SO <sub>4</sub> <sup>2-</sup> ≤ 10,000	0.45	4500	V	TYPES WITH (HS) DESIGNATION	HS	NOT PERMITTED
	S3 (OPTION 1)	SO <sub>4</sub> <sup>2</sup> > 2.0	SO <sub>4</sub> <sup>2-</sup> > 10,000	0.45	4500	V PLUS POZZOLAN OR SLAG CEMENT	TYPES WITH (HS) DESIGNATION PLUS POZZOLAN OR SLAG CEMENT	HS PLUS POZZOLAN OR SLAG CEMENT	NOT PERMITTED
	S3 (OPTION 2)	SO <sub>4</sub> <sup>2-</sup> > 2.0	SO <sub>4</sub> <sup>2-</sup> > 10,000	0.50	5000	V	TYPES WITH (HS) DESIGNATION	нѕ	NOT PERMITTED
	EXPOSURE CATEGORY: IN CONTACT WITH WATER (W)								
		I		1					

**EXPOSURE CATEGORY: SULFATE (S)** 

EXPOSURE CLASS		CONDITION	MAXIMUM W/CM	MINIMU M f'c	ADDITIONAL REQUIREMENTS		
	W0	CONCRETE DRY IN SERVICE OR CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS NOT REQUIRED	0.55	3500	N/A		
	W1	CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS REQUIRED	0.50	3500	AGGREGATES ARE NOT ALKALI-SILCA OR ALKALI-CARBONATE REACTIVE		
CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS REQUIRED		0.50	4000	AGGREGATES ARE NOT ALKALI-SILCA OR ALKALI-CARBONATE REACTIVE			

			ı	EXPOSURE C	CATEGORY: CORROSION PROTECTION OF REINFORCEMENT		
EXPOSU	EXPOSURE CLASS CONDITION		MAXIMUM W/CM	MINIMU M f'c	ADDITIONAL REQUIREMENTS		
		CONCRETE NOT					
	co	EXPOSED TO	0.55	3500	1.00	N/A	
	"	MOISTURE OR TO  AN EXTERNAL	0.55	3500	1.00	N/A	
		SOURCE OF					
		CONCRETE EXPOSED					
		TO MOISTURE BUT					
	C1	NOT TO AN	0.55	3500	0.30	N/A	
		EXTERNAL SOURCE					
		OF CHLORIDES					
		CONCRETE EXPOSED					
		TO MOISTURE AND				CONCRETE COVER PER ACI 318,	
	C2	AN EXTERNAL	0.40	5000	0.15	SECTION 20.5	
		SOURCE OF				SECTION 20.3	
		CHLORIDES (DEICING					

IT SHALL BE CERTIFIED PER TITLE 24, PART 2, SECTION 1910A.1

## ALTERNATIVE CONCRETE MIX-DESIGN: SITE-SPECIFIC

NAILING SCHEDULE: (ALL NAILS SHALL BE COMMON OR BOX NAILS, GALVANIZED WHERE EXPOSED) PER CBC TABLE 2304.10.2

	CONNECTION		N FASTENERS		AIL FASTENERS	LOCATION
			SPACING O.C.		E SPACING O.C.	
1.	JOIST TO SILL OR GIRDER	3- 8d		3- 10d		TOENAIL
2.	BRIDGING TO JOIST	2- 8d		2- 10d		TOENAIL EA. END
	1X6 OR LESS SUBFLOOR TO					
3.	EA. JOIST	2- 8d		2- 10d		FACE NAIL
	WIDER THAN 1X6 SUBFLOOR					
4.	TO EA. JOIST	3- 8d		3- 10d		FACE NAIL
5.	2" SUBFLOOR TO JOIST	2- 16d		N/A N/	A N/A	BLIND & FACE NAIL
	SOLE PLT. TO JOIST OR BLK'G					
6.	TO EA. JOIST	16d	@ 16"	16d	@ 12"	FACE NAIL
			O		O	
	SOLE PLT. TO JOIST OR BLK'G					
	@ BRACED WALL PANEL	3- 16d	@ 16"	3- 16d	@ 16"	TYP. FACE NAIL
7	TOP PLT. TO STUD	2- 16d	<b>6</b> .0	3- 10d		END NAIL
	STUD TO SOLE PLT.	2- 16d		3- 10d		END NAIL
Ο.	OR	4- 8d		4- 10d		TOENAIL
۵	DOUBLE STUDS	16d	@ 24"	10d		FACE NAIL
	DOUBLE TOP PLT.		@ 24" @ 16"	10d		TYP. FACE NAIL
10.	DOUBLE TOP PLT.	16d 8- 16d	0	12- 10d	@ 12"	24" MIN LAP SPLICE
		8- 160	MIN. U.N.O.	12- 100		24 WIIN LAP SPLICE
	BLKG. BTW. JOIST OR	0.04		0.404		TOFNAII
	RAFTERS TO TOP PLT.	3- 8d	0.00	3- 10d		TOENAIL
12.	RIM JOIST TO TOP PLT.	8d	@ 6"	10d	@ 6"	TOENAIL
	TOP PLT., LAPS &					
	INTERSECTIONS	2- 16d		3- 10d		FACE NAIL
	CONT. HDR. 2 PIECES	16d	@ 16"			ALONG EDGE
15.	CLG. JOIST TO PLT.	3- 8d		3- 10d		EA. JOIST, TOENAIL
16.	CONT. HDR. TO STUD	4- 8d		4- 10d		TOENAIL
	CLG. JOIST LAP OVER					
17.	PARTITIONS	3- 16d		4- 10d		FACE NAIL
	CLG. JOIST PARALLEL TO					
18.	RAFTERS	3- 16d		SEE TAB	LE 2308.7.3.1	FACE NAIL
19	RAFTER TO PLT.	3- 8d		3- 16d		TOENAIL <sup>c</sup>
υ.	1" DIA. BRACE TO EZ. STUD &	0-00		0-100		10210112
20	PLT.	2- 8d		2- 10d		FACE NAIL
	1X8 SHT'G. TO EA. BRG.	2- 8d		3- 10d		FACE NAIL
- 1.	WIDER THAN 1X8 SHT'G TO	3- 6u		3- 100		I AGE WAIL
22		2 04		2 10-		FACE NAIL
	BRG.	3- 8d	@ 24"	3- 10d		
23.	BUILT-UP CORNER STUDS	16d	@ 24"			FACE NAIL
	DUIL TUD OIDDESS & SEASO		0.00		0.04	FACE NAIL @ TOP & BTM. STAGR.
24.	BUILT-UP GIRDERS & BEAMS	20d	@ 32"	10d	@ 24"	ON OPP. SIDES
		2- 20d		N/A N/A		FACE NAIL @ ENDS & @ EA. SPLICE
25.	2" PLANKS	2- 16d		N/A N/A	N/A	@ EA. BRG.
	COLLAR TIE TO RAFTER	3- 10d		4- 10d		FACE NAIL
27.	JACK RAFTER TO HIP	3- 10d		4- 16d		TOENAIL
28.	ROOF RAFTER TO 2X RIDGE	2- 16d		3- 10d		END NAIL
29.	JOIST TO BAND JOIST	3- 16d		4- 10d		END NAIL
30.	4X BLOCKING TO STUDS	1- A34		N/A N/A	N/A	FACE NAIL
	OR	4- 8d		4- 10d		TOENAIL

C.) WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE AND THE CEILING JOIST IS FASTENED TO THE TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE

D.) RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667

RAFTER SHALL BE PERMITTED TO BE REDUCED BY ONE NAIL

15/16 0.9375 31/32 0.96875 A.) NAILS SPACED AT 6 INCHES AT INTERMEDIATE SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND ARTICLEBOARD DIAPGHRAMS AND SHEAR WALLS, REFER TO SECTION 2305 NAILS. FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING. B.) SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).

## **DECIMAL AND GAUGE CHARTS**

FRACTION	DECIMAL		PENNY	GAUGE	DEC.
1/32	0.03125		60d, 40d	4	0.2242
1/16	0.0625		30d	5	0.2092
3/32	0.09375		20d	6	0.1943
1/8	0.125			7	0.1793
5/32	0.15625		16d	8	0.1644
3/16	0.1875		12d, 10d	9	0.1495
7/32	0.21875		8d	10	0.1345
1/4	0.25		6d	11	0.1196
9/32	0.28125	'		•	
5/16	0.3125				
11/32	0.34375				
3/8	0.375				
13/32	0.40625				
7/16	0.4375				
15/32	0.46875				
1/2	0.5				
17/32	0.53125				
9/16	0.5625				

0.59375

0.625

0.65625

0.6875

0.71875

0.75

0.78125

0.8125

0.84375

0.875

0.90625

19/32

5/8

21/32

11/16

23/32

3/4

25/32

13/16

27/32

7/8

29/32

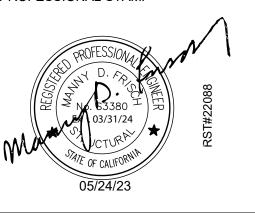
PENNY	GAUGE	DEC.
60d, 40d	4	0.2242
30d	5	0.2092
20d	6	0.1943
	7	0.1793
16d	8	0.1644
12d, 10d	9	0.1495
8d	10	0.1345
6d	11	0.1196

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR SS 🗹 FLS 🗹 ESTACS 🗹 DATE: 09/28/2023

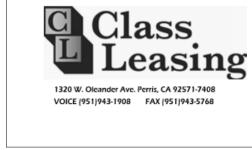
PROJECT SPECIFIC STATE AGENCY APPROVAL



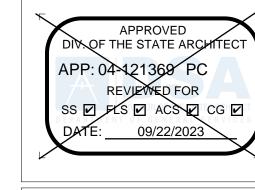
PROFESSIONAL STAMP



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ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC A separate project application for construction is required PROJECT TITLE

PC 2022 CBC: 24' x 60' **EXPANDABLE TO** 

STRUCTURAL GEN NOTES

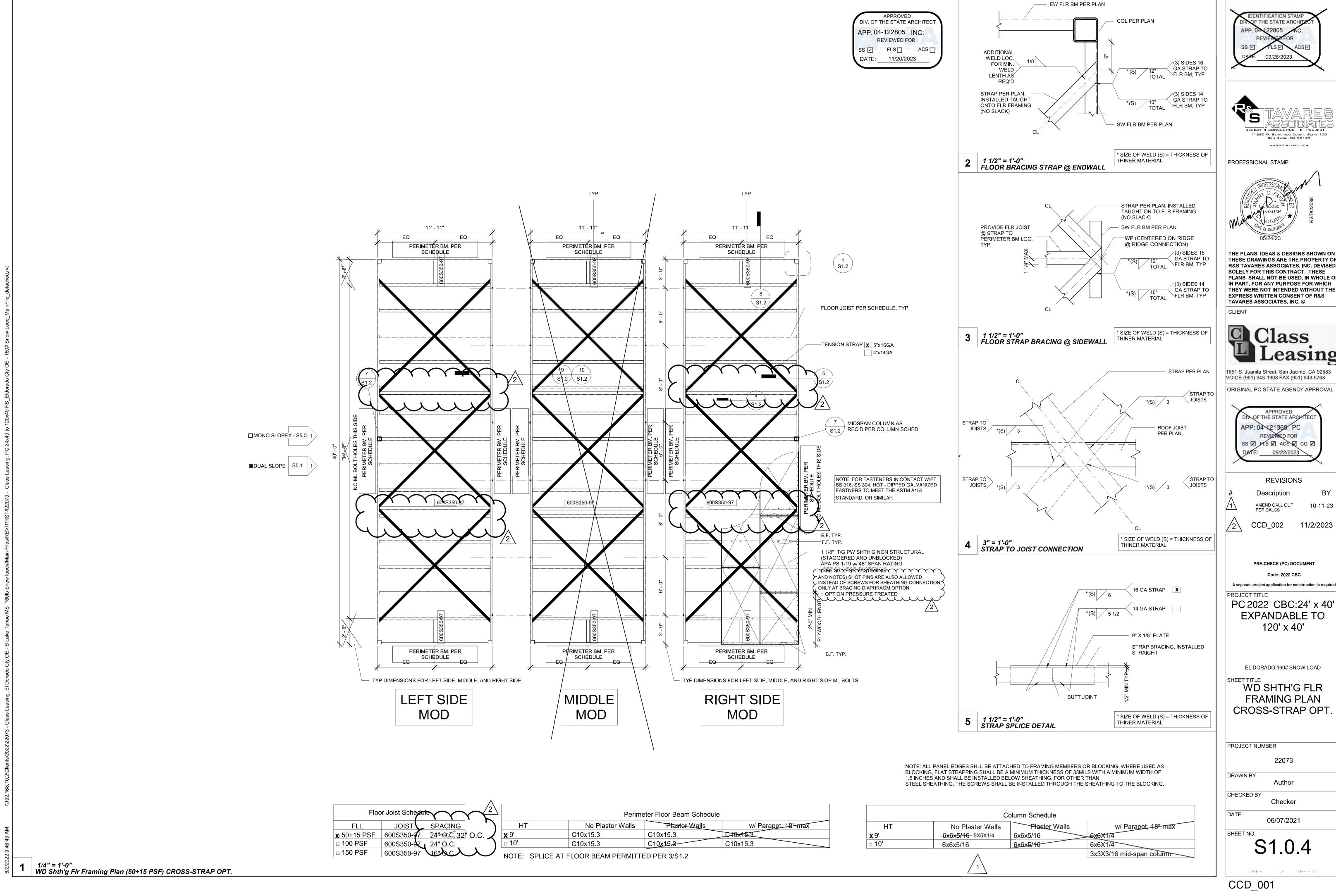
PROJECT NUMBER 22088 DRAWN BY rMc/SM

DATE

CHECKED BY

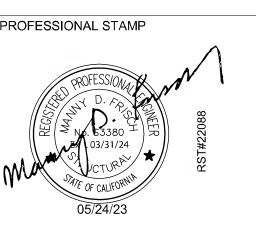
SHEET OF

JA/RT



PROJECT SPECIFIC STATE AGENCY APPROVAL





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1651 S. Juanita Street, San Jacinto, CA 92583 VOICE (951) 943-1908 FAX (951) 943-5768

DIV. OF THE STATE ARCHITECT SS O PLS O ACS O CG

	REVISION	IS
#	Description	BY
1	AMEND CALL OUT PER CALCS	10-11-23
2	CCD_002	11/2/2023

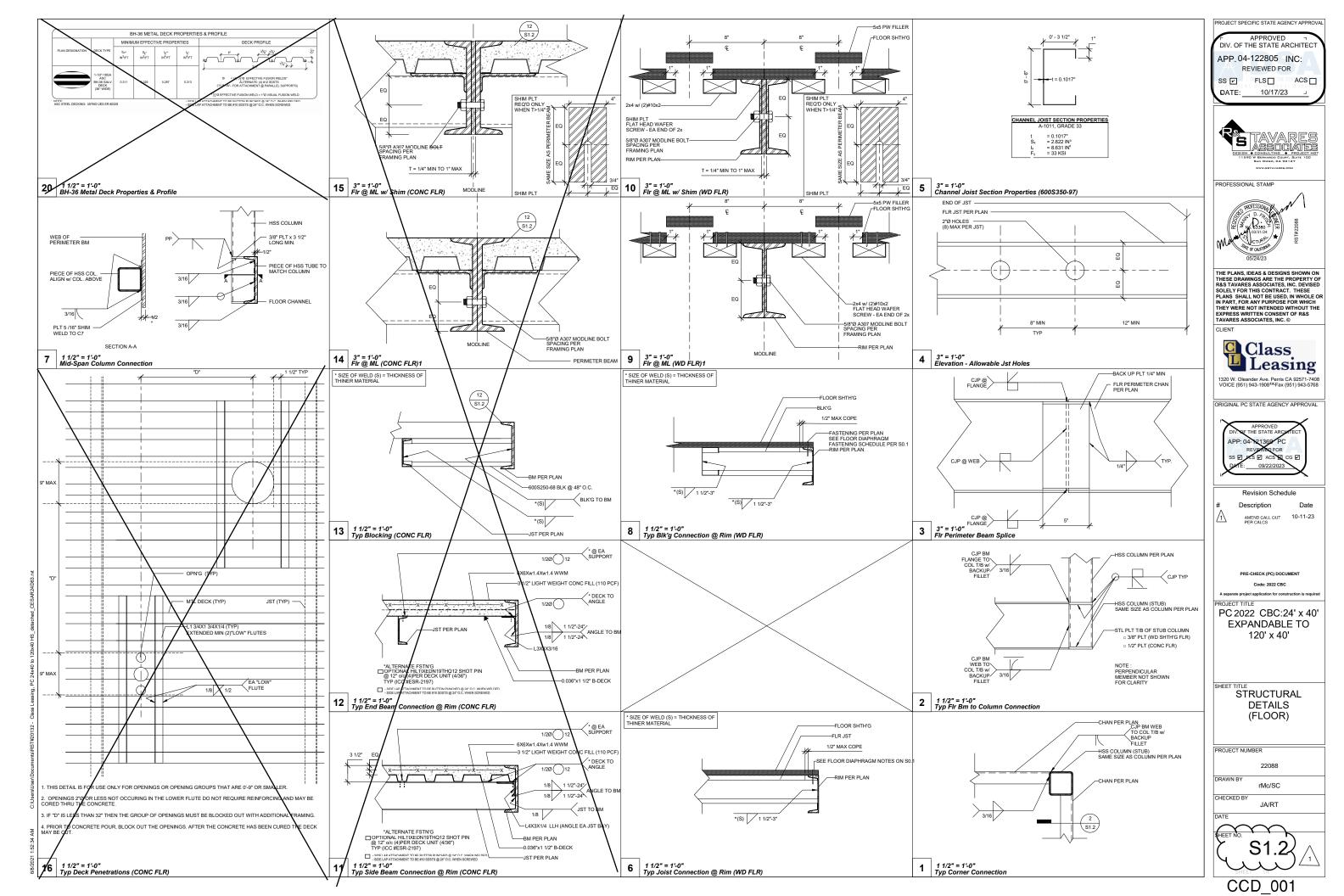
PRE-CHECK (PC) DOCUMENT

PC 2022 CBC:24' x 40' **EXPANDABLE TO** 

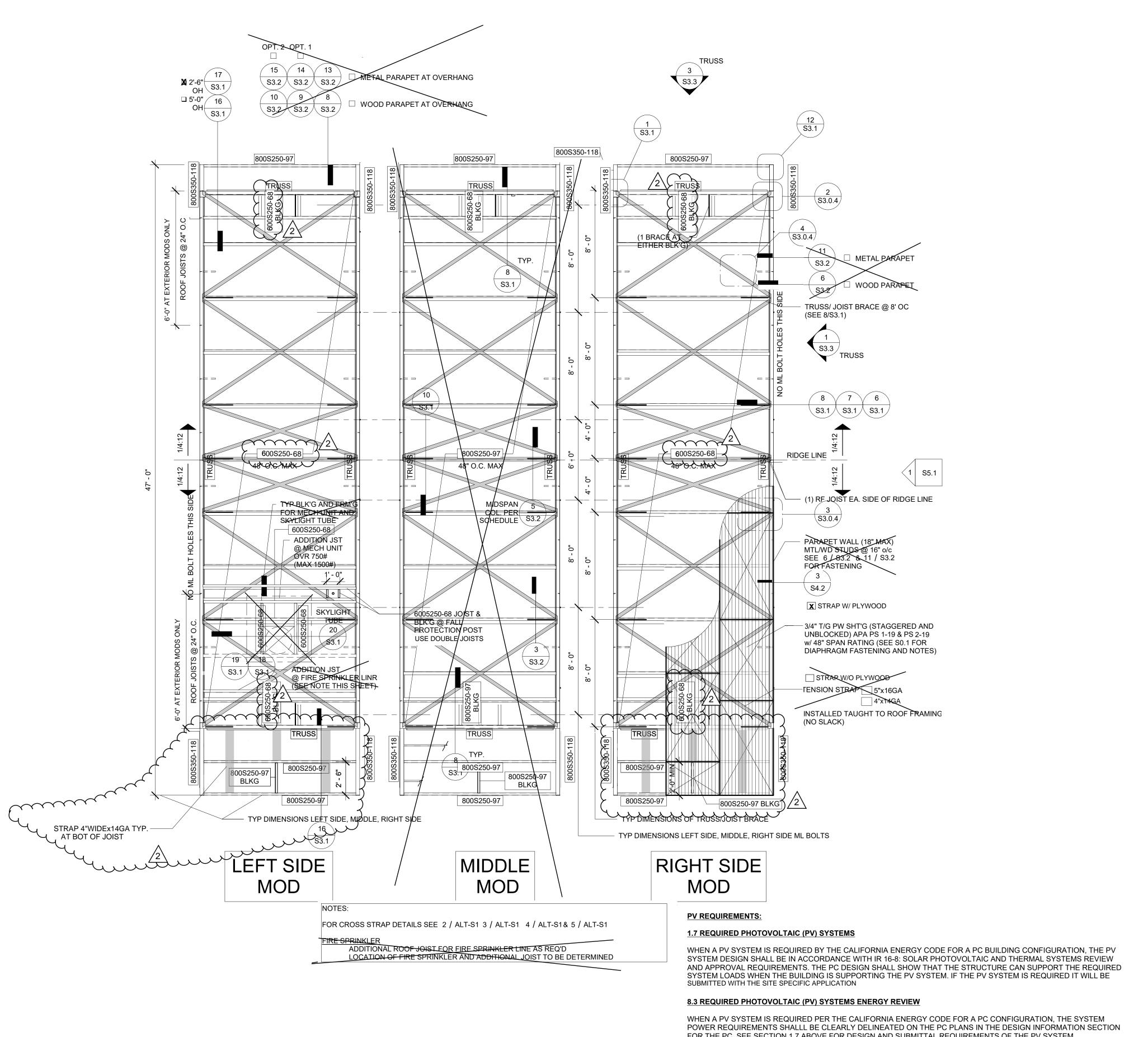
EL DORADO 160# SNOW LOAD

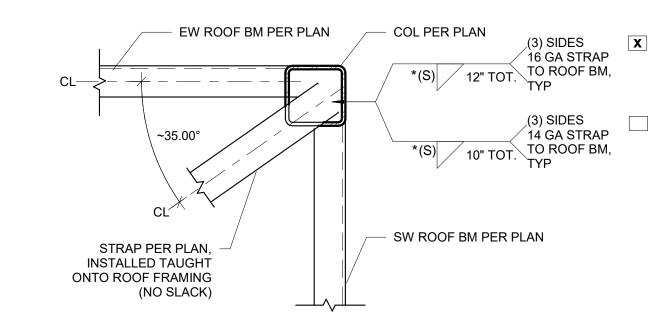
WD SHTH'G FLR FRAMING PLAN CROSS-STRAP OPT.

PROJECT NU	MBER
	22073
DRAWN BY	Author
CHECKED BY	Checker
DATE	06/07/2021
SHEET NO.	51.0.4



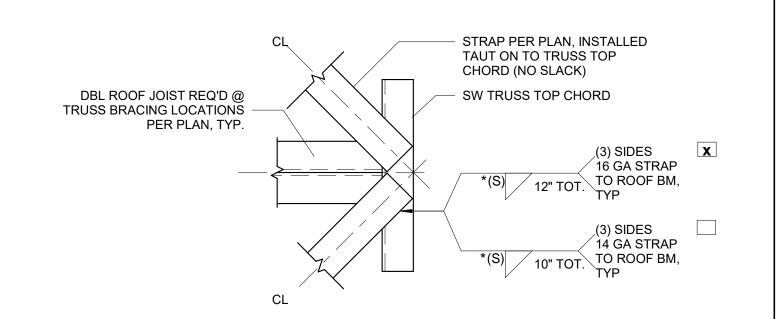
APPROVED DIV. OF THE STATE ARCHITEC APP. 04-122805 INC: REVIEWED FOR SS FLS HESTACS 11/20/2023 DATE:





2 1 1/2" = 1'-0" ROOF BRACING STRAP @ ENDWALL

\* SIZE OF WELD (S) = THICKNESS OF THINER MATERIAL



ROOF STRAP BRACING @ SIDEWALL

\* SIZE OF WELD (S) = THICKNESS OF THINER MATERIAL

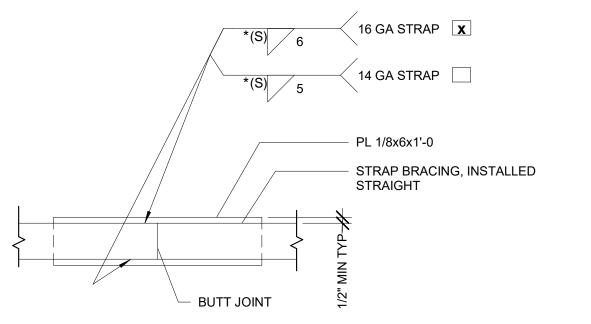
STRAP PER PLAN STRAP TO √ JOISTS \*(S) 3 STRAP TO JOISTS \*(S) 3 **ROOF JOIST** PER PLAN STRAP TO STRAP TO JOISTS \*(S) 3 \ JOISTS

3" = 1'-0" STRAP TO JOIST CONNECTION (ROOF)

\* SIZE OF WELD (S) = THICKNESS OF THINER MATERIAL

\* SIZE OF WELD (S) = THICKNESS OF

THINER MATERIAL



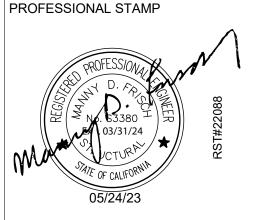
FOR THE PC. SEE SECTION 1.7 ABOVE FOR DESIGN AND SUBMITTAL REQUIREMENTS OF THE PV SYSTEM.

5 | 1 1/2" = 1'-0" STRAP SPLICE DETAIL (ROOF)

DIV. OF THE STATE ARCHITEC APP. 04-122805 REVIEWED FOR 09/28/2023

PROJECT SPECIFIC STATE AGENCY APPROVAL





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ORIGINAL PC STATE AGENCY APPROVAL

DIV. OF THE STATE ARCHITEC APP: 04-121368 PC

> Revision Schedule Description

CCD\_002 11/2/2023

PRE-CHECK (PC) ALTERNATE DOCUMENT

**CODE: 2019 CBC** 

A separate project application for construction is required

PROJECT TITLE PC 2022 CBC:24' x 40' **EXPANDABLE TO** 120' x 40'

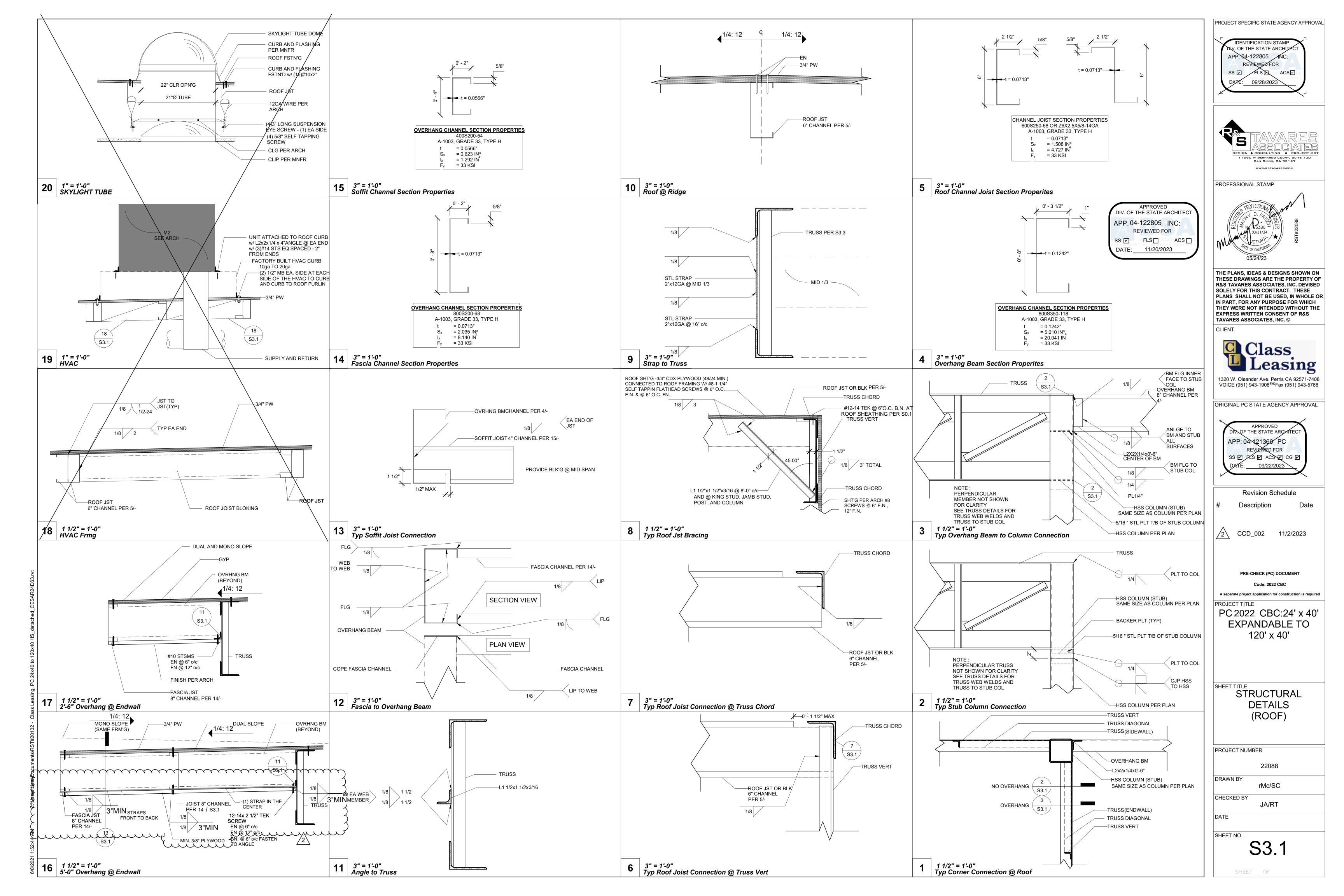
DUAL SLOPE ROOF FRM'G PLAN **CROSS-STRAP** OPT.

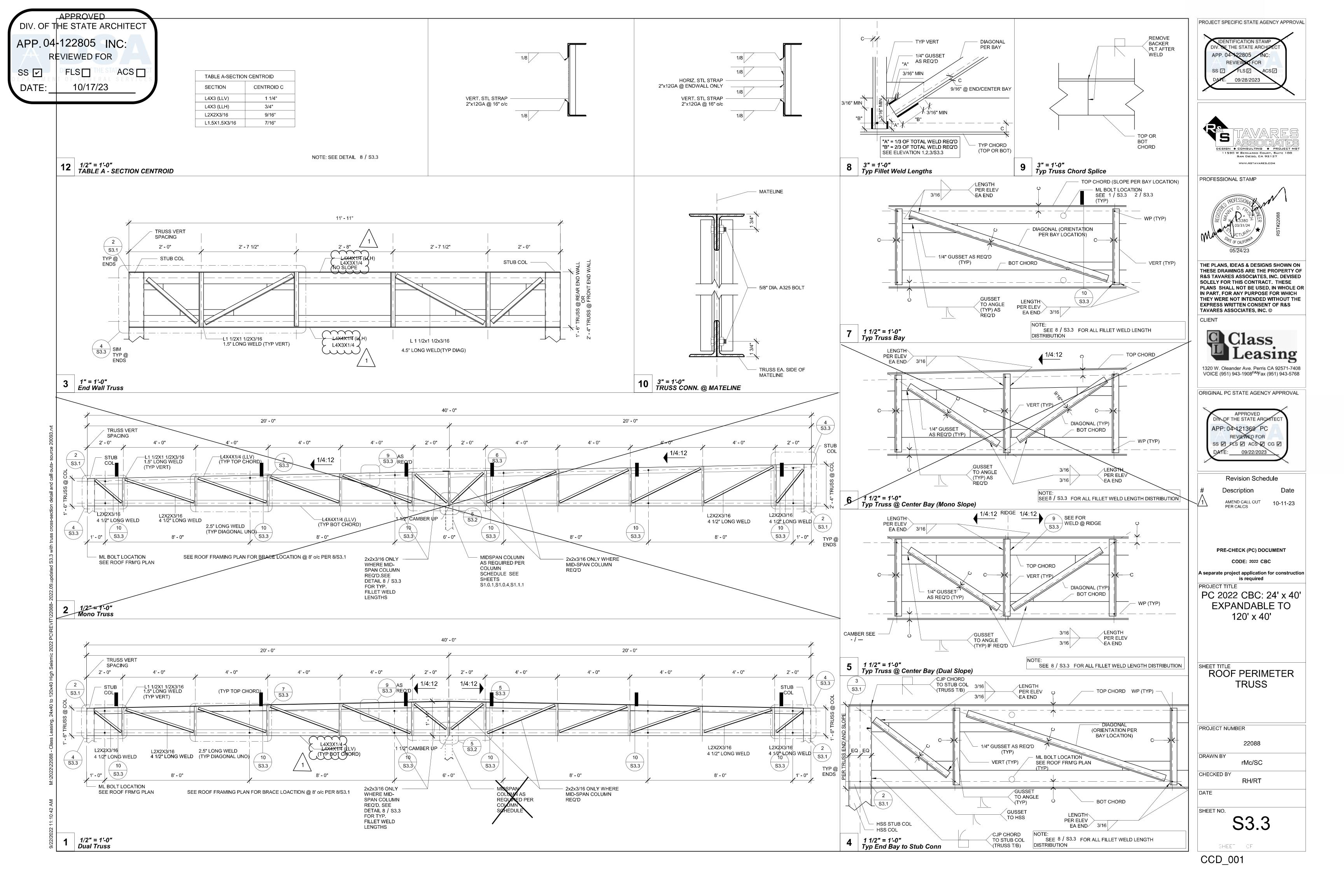
PROJECT NUMBER 22088 DRAWN BY MJM CHECKED BY RH\rMc DATE

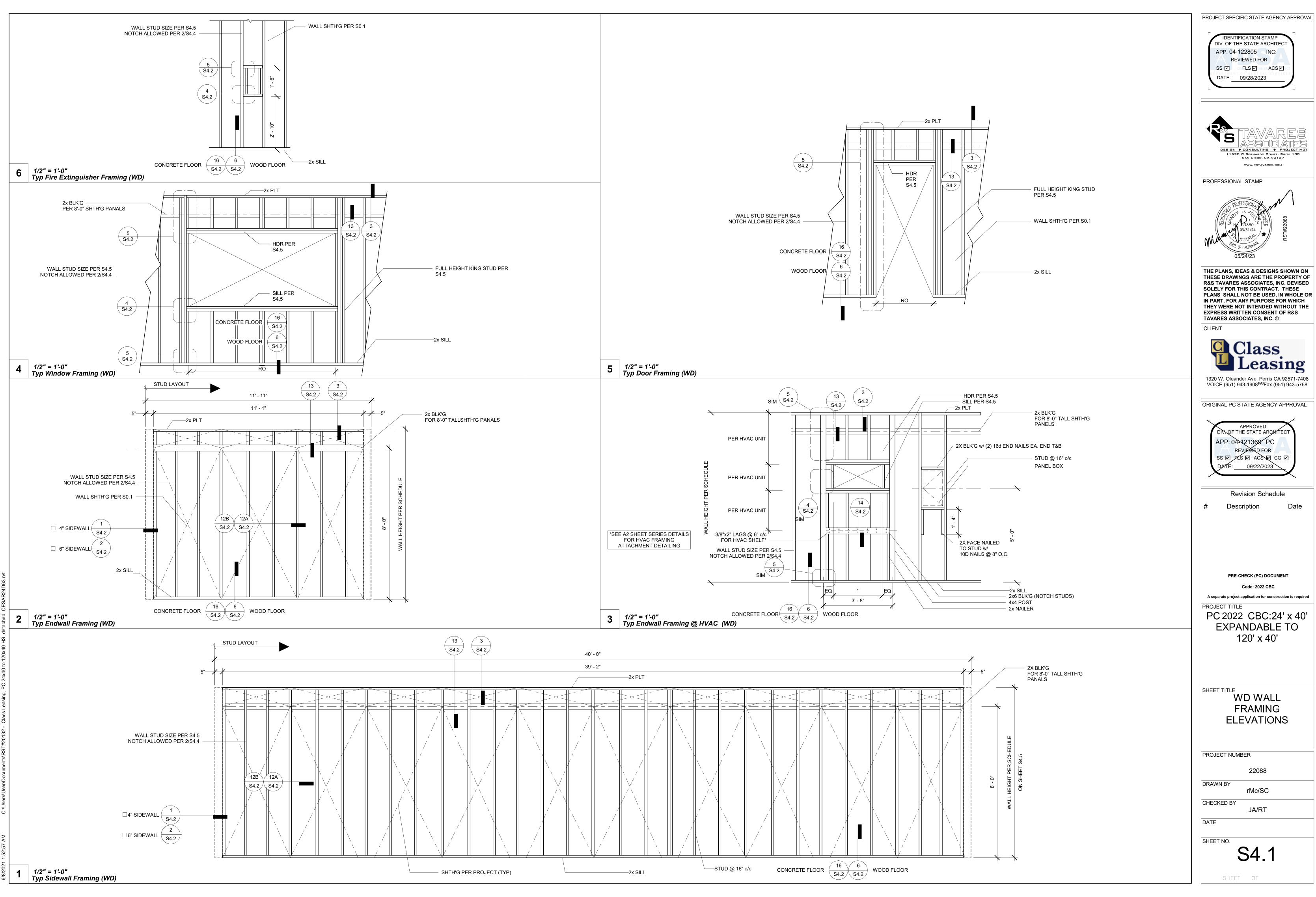
SHEET NO. S3.0.4

SHEET OF

06/07/2021



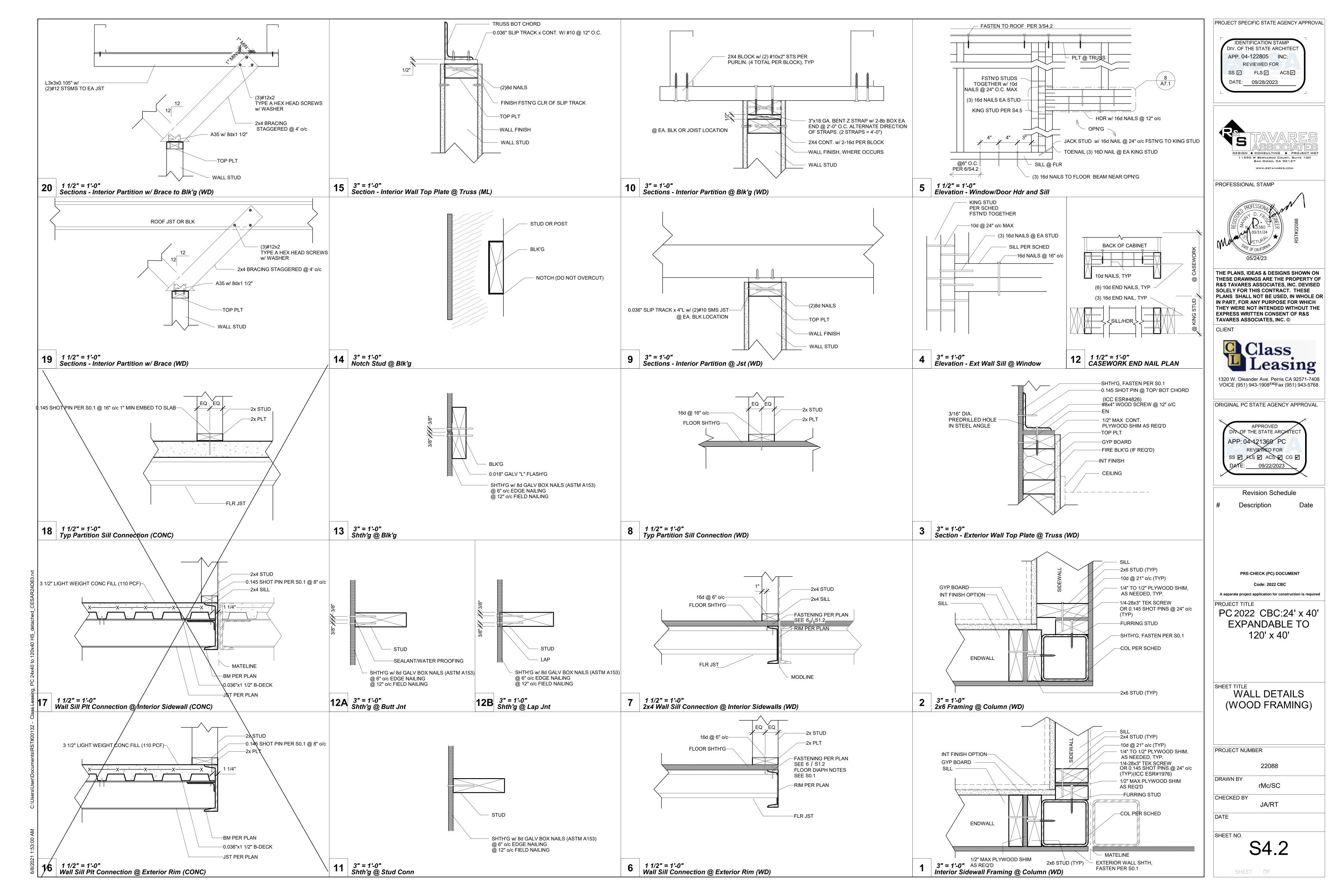


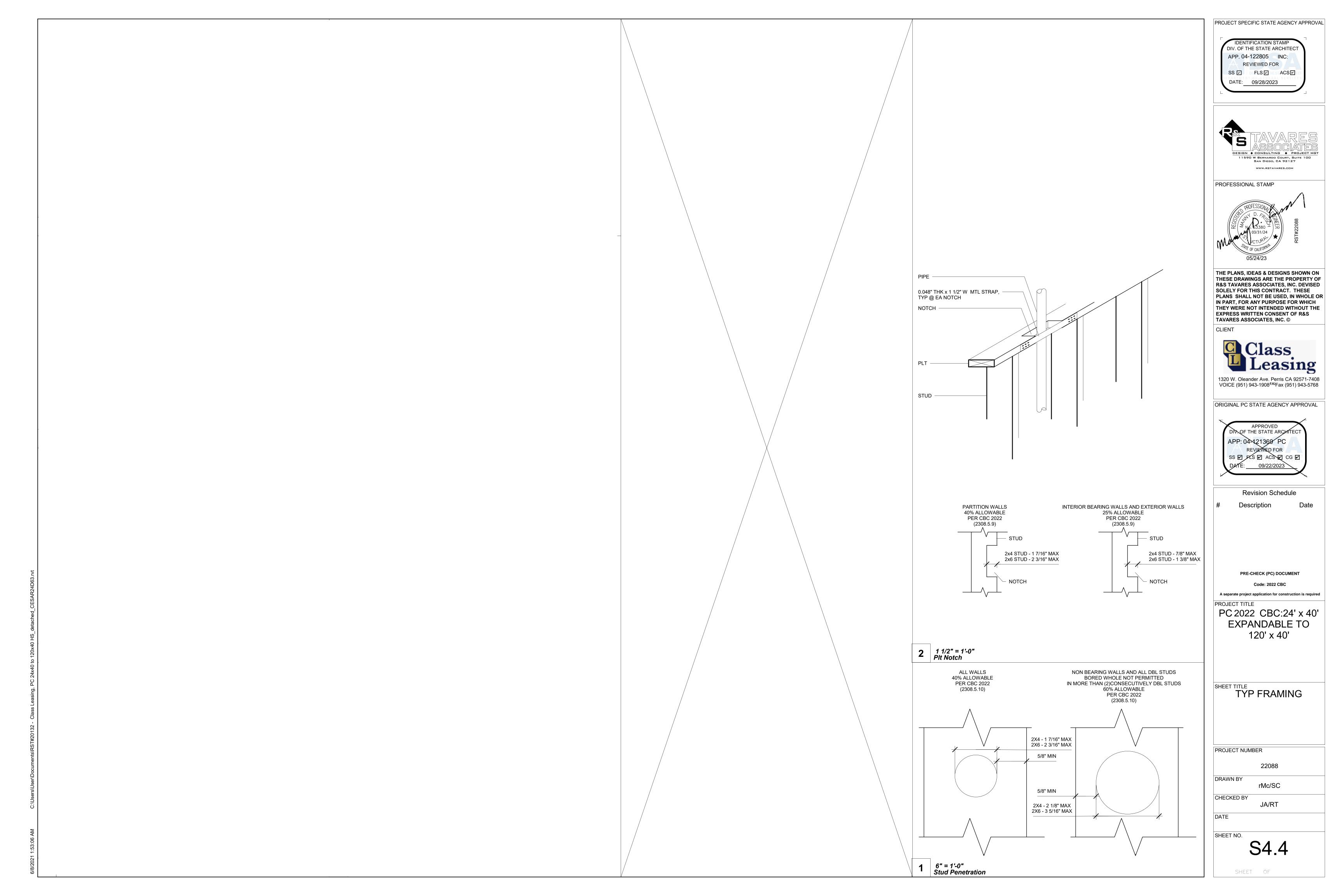




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				2x4 Interior	Wall Openi	ng Schedule				
COL	OPN'G	HDR			SILL			FULL HEIGHT KING STUD		
HEIGHT	SIZE									
		Lumber	Number	Туре	Lumber	Number	Туре	Lumber	Number	Type
9FT	3070	HF/SYP	1	#2	-	-	-	HF	2	#2
		DF/SYP	1	#2	-	-	-	DF	2	#2
	4070	HF/SYP	1	#2	-	-	-	HF	2	#2
		DF / SYP	1	#2	-	-	-	DF	2	#2
	6040	HF/SYP	2	#2	DF	2	#2	HF	2	#2
		DF/SYP	2	#2	DF	2	#2	DF	2	#2
	8040	HF/SYP	3	#2	HF	3	#2	HF	2	#2
		DF / SYP	3	#2	DF	3	#2	DF	2	#2
10FT	3070	HF/SYP	1	#2	-	-	-	HF	2	#2
		DE/SYP	1	#2	-	-	-	DF	2	#2
	4070	HF/SYP	1	#2	-	-		HF	2	#2
		DF / SYP	1	#2	-		-	DF	2	#2
	6040	HF/SYP	2	#2	HF	2	#2	HF	2	#2
		DF / SYP		#2	DF	2	#2	DF	2	#2
	8040	HF/SYP	3	#2	HF	3	#2	HF	2	#2
		DF/SYP	3	#2	DF	3	#2	DF	2	#2

							1		
	DF / SYP		#2	DF	2	#2	DF	2	#2
8040	HF/SYP	3	#2	HF	3	#2	HF	2	#2
	DF / SYP	3	#2	DF	3	#2	DF	2	#2
			2x4 Interior	Wall Frami	ng Schedule				
COL HEIGHT	-		Typical L	ocation		4ft From Building Corner			
		Lumber	Number	Туре	Spacing	Lumber	Number	Туре	Spacing
9		HF	1	#2	16" O.C.	-	-	-	-
		DF	1	#2	16" O.C.	-	-	-	-

#2 16" O.C.

601	ODNIC		LIDD			CILI		FI II I	ICICUT VINC	CTLID
COL HEIGHT	OPN'G SIZE	HDR				SILL		FULL	HEIGHT KING	מטוצ
11210111	3122	Lumber	Number	Туре	Lumber	Number	Туре	Lumber	Number	Туре
9FT	3070	HF/SYP	1	#2	HF	1	#2	HF	1	#2
		DF / SYP	1	#2	DF	1	#2	DF	1	#2
	4070	HF/SYP	1	#2	HF	1	#2	HF	1	#2
		DF / SYP	1	#2	DF	1	#2	DF	1	#2
	6040	HF / SYP	1	#2	HF	1	#2	HF	1	#2
		DF / SYP	1	#2	DF	1	#2	DF	1	#2
	8040	HF / SYP	1	#2	HF	1	#2	HF	2	#2
		DF / SYP	1	#2	DF	1	#2	DF	2	#2
10ET	3070	HF / SYP	1	#2	HF	1	#2	HF	1	#2
		DF / SYP	1	#2	DF	1	#2	DF	11	#2
	4070	HF / SYP	11	#2	HF	1	#2	HF	1	#2
		DF / SYP	1	#2	DF	1	#2	DF	1	#2
	6040	HF / SYP	1	#2	HIF	11	#2	HF	2	#2
		DF / SYP	1	#2	DF	1	#2	DF	2	#2
	8040	HF/SYP	1	#2	HF	1	#2	HF	2	#2
			1	#2	DF	1	#2	DF	2	#2

2x6 Exterior Wall Framing Schedule (SHTH'G FINISH)										
COL HEIGHT	Typical Location			4ft From Building Corner						
	Lumber	Number	Туре	Spacing	Lumber	Number	Туре	Spacing		
9	HF	1	#2	16" O.C.	HF	1	#2	16" O.C.		
	DF	1	#2	16" O.C.	DF	1	#2	16" O.C.		
10	HF	1	#2	16" O.C.	HF	1	#2	16" O.C.		
	DF	1	#2	16" O.C.	DF	1	#2	16" O.C.		

Lumber	Number	Type	Spacing	Lumber	Number	Туре	Spacing
HF	1	#2	16" O.C.	HF	1	#2	16" O.C.
DF	1	#2	16" O.C.	DF	1	#2	16" O.C.
HF.	1	#2	16" O.C.	HF	1	#2	16" O.C.
DF	1	#2	16" O.C.	DF	1	#2	16" O.C.
			•				

			2x6 Exte	rior Wall Op	ening Sched	ule (PLASTE	R FINISH)				
COL HEIGHT	OPN'G SIZE	HDR				SILL		FULL HEIGHT KING STUD			
		Lumber	Number	Туре	Lumber	Number	Туре	Lumber	Number	Туре	
9FT	3070	HF	1	#2	HF	1	#2	HF	1	#2	
		DF	1	#2	DF	1	#2	DF	1	#2	
	4070	HF	1	#2	HF	1	#2	HF	1	#2	
		DF	1	#2	DF	1	#2	<b>D</b> F	1	#2	
	6040	HF	1	#2	HF	1	#2 /	HF	2	#2	
		DF	1	#2	DF	1	#2	DF	1	#2	
	8040	HF	2	#2	HF	1	#2	HF	2	#2	
		DF	1	#2	DF	1 /	#2	DF	2	#2	
10FT	3070	HF	1	#2	HF	1	#2	HF	2	#2	
		DF	1	#2	DF	1	#2	DF	1	#2	
	4070	HF	1	#2	HE	1	#2	HF	2	#2	
		DF	1	#2	ØF	1	#2	DF	1	#2	
	6040	HF	1	#2	HF	1	#2	HF	2	#2	
		DF	1	#2	DF	1	#2	DF	2	#2	
	8040	HF	2	#2	HF	1	#2	HF	3	#2	
		DF	1 /	#2	DF	1	#2	DF	2	#2	

<u> </u>					$\overline{}$				
2x6 Exte	rior Wall Fra	ming Sched	lule (PLASTE	R FINISH)					
	Typical Location				4ft From Building Corner				
Lumber	Number	Туре	Spacing	Lumber	Number	Туре	Spacing		
HF	1	#2	16" O.C.	HF	1	#2	16" O.C.		
DF	1	#2	16" O.C.	DF	1	#2	16" O.C.		
HF	1	#2	16" O.C.	HF	1	#2	16" O.C.		
DF	1	#2	16" O.C.	DF	1	#2	16" O.C.		
	Lumber HF DF HF	Typical I  Lumber Number  HF 1  DF 1  HF 1	Typical Location  Lumber Number Type  HF 1 #2  DF 1 #2  HF 1 #2	Typical Location           Lumber         Number         Type         Spacing           HF         1         #2         16" O.C.           DF         1         #2         16" O.C.           HF         1         #2         16" O.C.	Lumber         Number         Type         Spacing         Lumber           HF         1         #2         16" O.C.         HF           DF         1         #2         16" O.C.         DF           HF         1         #2         16" O.C.         HF	Typical Location         4ft From Buildram           Lumber         Number         Type         Spacing         Lumber         Number           HF         1         #2         16" O.C.         HF         1           DF         1         #2         16" O.C.         DF         1           HF         1         #2         16" O.C.         HF         1	Typical Location         4ft From Building Corner           Lumber         Number         Type         Spacing         Lumber         Number         Type           HF         1         #2         16" O.C.         HF         1         #2           DF         1         #2         16" O.C.         DF         1         #2           HF         1         #2         16" O.C.         HF         1         #2		

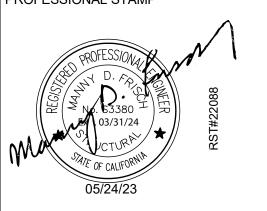
NOTE: SEE DETAIL 1 ON SHEETS A2.1 - A2.6

PROJECT SPECIFIC STATE AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT APP. 04-122805 INC: REVIEWED FOR SS P FLS P ACS P DATE: 09/28/2023



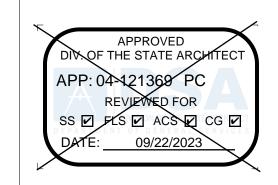
PROFESSIONAL STAMP



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ORIGINAL PC STATE AGENCY APPROVAL



Revision Schedule

Description

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC A separate project application for construction is required

PROJECT TITLE

PC 2022 CBC:24' x 40' **EXPANDABLE TO** 120' x 40'

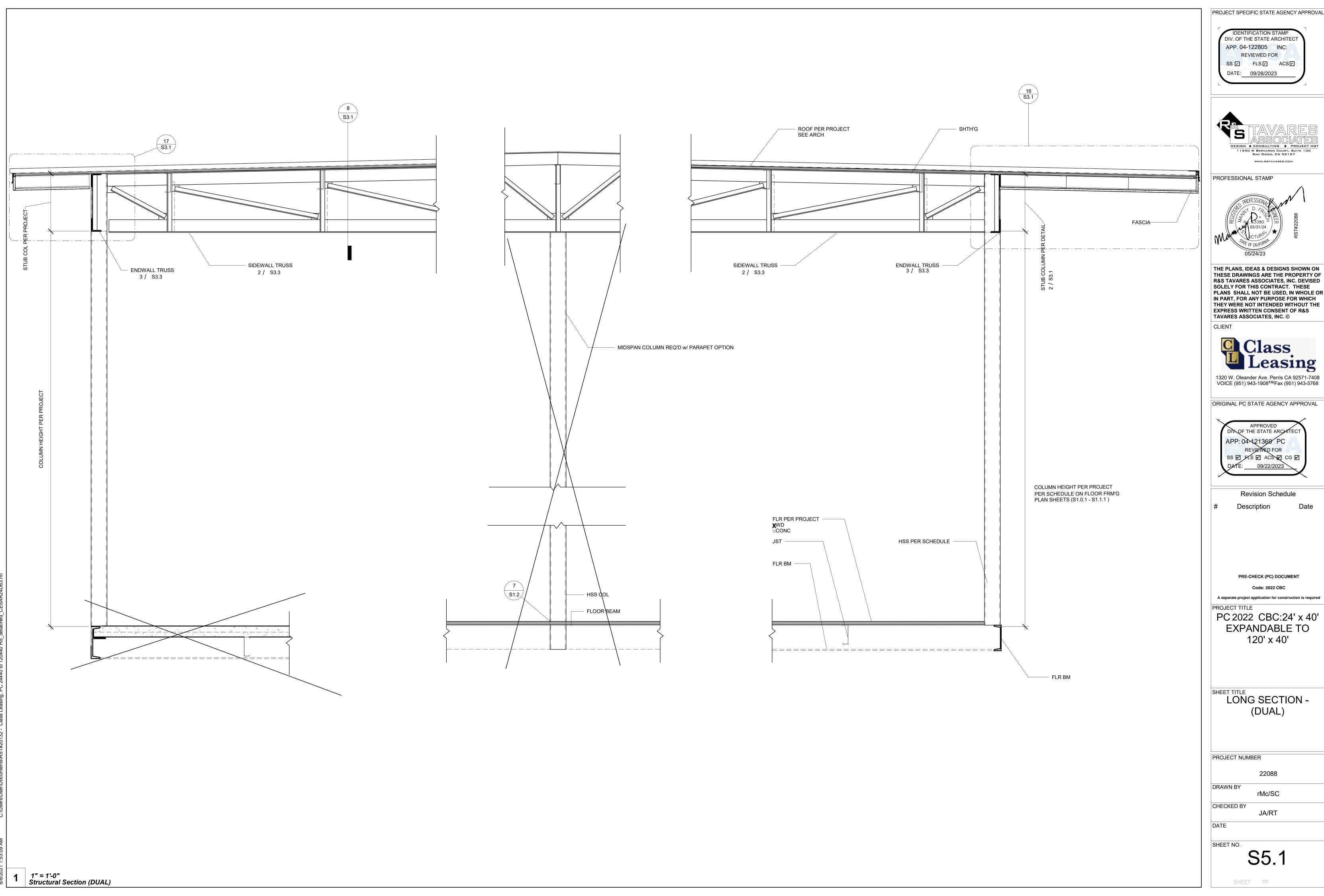
FRAMING SCHEDULES

PROJECT NUMBER 22088

CHECKED BY

SHEET OF

S4.5



PROJECT SPECIFIC STATE AGENCY APPROVAL





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ORIGINAL PC STATE AGENCY APPROVAL

PC 2022 CBC:24' x 40' **EXPANDABLE TO** 

She		ALT-A.0.0 WUI COVER SHEET ALT-01 WUI COMPLIANT N
Num	ber Sheet Name	
Cover A0.0 A0.0.1	COVER SHEET	
A0.1	PROJECT OPTIONS SCHEDULE  TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES,	
A0.2 A0.3	SIGNAGE AND SYMBOLS  DSA-103 T&I CONCRETE FLOORS	
A0.4 A0.5	DSA-103 T&I PLYWOOD FLOORS  CALGREEN SPEC'S	(3
A0.6 A0.7	CAL GREEN CHECKLIST  CAL GREEN CHECKLIST	
A0.8 Architectur		
A1.0 <del>A1.1</del>	24x40 FLOOR PLAN 36x40 FLOOR PLAN	
A1.2 A2.1(A)	48x40 thru 120x40 FLOOR PLAN ARCHITECTURAL DETAILS (WOOD FRAMING SHTG FINISH)	
A2.1(B) A2.2	ARCHITECTURAL WUI DETAILS (WOOD FRAMING SHTG FINISH)  ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)	
A2.5(A) A2.5(B)	ARCHITECTURAL DETAILS (1 HR WOOD FRAMING SHTG FINISH) ARCHITECTURAL WUI DETAILS (1 HR WOOD FRAMING SHTG FINISH)	
<del>A2.6</del> A2.9	ARCHITECTURAL DETAILS (1 HR WOOD FRAMING PLASTER FINISH)  ARCHITECTURAL DETAILS (FLOOR)	
A2.9.1 A2.9.2	DETERIORATION PROT.NON-WOOD FINISH SIDING CONC FLOOR - WD STUDS DETORIORATION PRO. STUCCO EXTERIOR RINISH CONC FLOOR WD STUDS	
A2.9.3 A2.9.4	DETERIORATION PRO. NON-WOOD FINISH SIDING WOOD FLOOR - WD STUDS  DETERIORATION PRO. STUCCO EXTERIOR FINISH WOOD FLR. WD STUDS	
A2.9.9 A3.0	DETERIORATION T-111 EXTERIOR FINISH WOOD FLR WOOD STUDS ADDITIONAL FIRE RATING DETAILS AND NOTES	
A3.0.1 A3.1	FIRE SEPARATION & PENETRATION DETAILS SINGLE OCC. BATHROOM	
A3.1.1 A3.1.2	SINGLE OCC. BATHROOM AGE GROUP SINGLE OCC. BATHROOM COMBINED AGE GROUP	
A3.2 A3.2.1	RCP CEILING NOTES	
A3.3	CEILING DETAILS (T-GRID)	
A3.4 A4.0.1	CEILING DETAILS (GYP BOARD)  ROOF PLAN MONO SLOPE (STANDING SEAM)	
A4.0.2 A4.1	ROOF PLAN DUAL SLOPE (STANDING SEAM) ROOF DETAILS (STANDING SEAM)	NOTE: BUILDING IS TO BE PLACED IN A WILL SITE
A4.2.1 A4.2.2	ROOF PLAN MONO SLOPE (EPDM) ROOF PLAN DUAL SLOPE (EPDM)	IN A WUI SITE  NOTE: BUILDING MATERIAL, SYSTEMS, ASSEMBLIES AND METHODS OF CONSTRUCTION USED IN WUI AREAS
A4.4.1	ROOF DETAILS (EPDM) ROOF PLAN w/ PARAPET MONO SLOPE (EPDM)	SHALL BE IN ACCORDANCE WITH CBC CHAPTER 7A  Roofs shall comply with the requirements of Chapter 7A and Roofs shall have a roofing assembly installed in accordance
<del>A4.5</del> A5.0	ARCHITECTURAL DETAILS (PARAPET) SIDEWALL ELEVATION	and the manufacturer's installation instructions. Roof assemb Hazard Severity Zones shall be Class A rating when tested in with ASTM E108 or UL790
A5.1 A5.2	ENDWALL ELEVATIONS INTERIOR ELEVATIONS	Roof gutters shall be provided with the means to preve accumulation of leaves and debris in the gutter.
<del>A6.0</del> A6.0.1	SECTION - STANDING SEAM (MONO) SECTION - STANDING SEAM (DUAL)	The exterior wall covering or wall assembly shall comply with one of the trequirements: Noncombustible material. Ignition-resistant material. Sawn lumber or glue laminated wood with the smallest minimum nomina
<del>A6.1</del> A6.2	SECTION EPDM (DUAL) SECTION	inches (102 mm). Sawn or glue-laminated planks splined, tongue-andgrotogether and well splited.  Log wall construction assembly.  Wall assemblies that have been tested in accordance with the test procedirect flame contact exposure test set forth in ASTM E2707 with the conc
A6.3 A7.0	SECTION - EPDM (MONO) ADDITIONAL OPTION DETAILS	shown in Section 707A.3.1.  Wall assemblies that meet the performance criteria in accordance with the a 10-minute direct flame contact exposure test set forth in SFM Standard
A7.1 A7.2	ADDITIONAL OPTION DETAILS ADDITIONAL OPTION DETAILS	Exterior windows and exterior glazed door assemblies shall comply with one requirements:     "Be constructed of multi pane glazing with a minimum of one tempered pane requirements of CBC Section 2406 Safety Clazing, or     "Be constructed of glass block units, or
MEP E0.1	ELECTRICAL GENERAL NOTES	* Have a fire-resistance rating of not less than 20 minutes when tested accor * Be tested to meet the performance requirements of SFM Standard 12-7A-2
E1.0 E1.1	ELECTRICAL PLAN 24x40 ELECTRICAL SCHEDULES 24x40	Exterior doors shall comply with one of the following     The exterior surface or cladding shall be of noncommaterial.     The exterior surface or cladding shall be of ignition-
E1.2 E1.3	ELECTRICAL PLAN 36x40 ELECTRICAL SCHEDULE 36x40	material.  The exterior door shall be constructed of solid core complies with the following requirements:  Stiles and rails shall not be less than 13/8 inches thi
E1.4 E1.5	ELECTRICAL PLAN 48x40 thru 120x40  ELECTRICAL SCHEDULE 48x40	Panels shall not be less than 11/4 inches thick, exceed exterior perimeter of the panel that shall be permitted a tongue not less than 3/8 inch thick.
M0.1 M0.2	MISCELLANEOUS NOTES & DETAILS MISCELLANEOUS NOTES & DETAILS	The exterior door assembly shall have a fire-resista not less than 20 minutes when tested according to 1 The exterior surface or cladding shall be tested to m performance requirements of Section 707A.3.1 whe
M2.9 M2.10	24'x40' T24 CZ 14 (WALL AC) 24'x40' T24 CZ 14 (WALL AC)	accordance with ASTM E2707.  The exterior surface or cladding shall be tested to n performance requirements of SFM Standard 12-7A-
M2.11 M2.11 M2.12	24'x40' T24 CZ 14 (WALE AC) 24'x40' T24 CZ 15 (ROOF AC) 24'x40' T24 CZ 15 (ROOF AC)	
M2.13 M2.14	24'x40' T24 CZ 15 (NOOF AC) 24'x40' T24 CZ 16 (WALL AC) 24'x40' T24 CZ 16 (WALL AC)	Acceptance tests be co
M3.3	ENVELOPE AND NOTES	equipment before proje Section 10-103. Accep
M5.1	MECHANICAL CEILING PLAN 24x40  MECHANICAL ROOF MOUNT 24x40	Acceptance Test Tech
M6.1 M6.2	MECHANICAL CEILING PLAN 36x40 MECHANICAL ROOF MOUNT 36x40	procedures must be re installation of the speci
M7.1 M7.2	MECHANICAL CEILING PLAN 48x40 thru 120x40  MECHANICAL ROOF MOUNT 48x40 thru 120x40	acceptance criteria. Co project inspector and the
<del>P1.0</del> Foundation	TYPICAL PLUMBING DETAILS	
F1.10 F1.11	WOOD FOUNDATION NOTES SCHED FOR BLDG W/ 50+15 WOOD FOUNDATION PLAN 24x40 BLDG W/ 50+15	CODE ADOPTED NFPA 13 2022
<del>F1.12</del> F1.13	WOOD FOUNDATION 36x40 BLDG W/ 50+15 WOOD FOUNDATION PLAN 48x40 BLDG W/ 50+15	NFPA 72 2022
F1.14 <del>F1.20</del>	MODLINE "B" W/ EXTERIOR WALLS BACK-TO-BACK 50+15 PSF WOOD FOUNDATION NOTES SCHED FOR BLDG W/ 100PSF	NOTE: VISUAL DEVICES PI
F1.21 F1.22	WOOD FOUNDATION PLAN 24x40 BLDG W/ 100 PSF WOOD FOUDATION PLAN 36x40 BLDG W/ 100 PSF	THIS PC HAS A "PRE-DESI SEE BELOW FOR SITE RE
F1.23 F1.24	WOOD FOUNDATION PLAN 48x40 BLDG W/ 100 PSF  MODLINE "B" W/ EXTERIOR WALLS BACK TO BACK 100 PSF	IT IS THE OWNERS
F1.30 F1.31	WOOD FOUNDATION PLAN 24X40 BLDG W/ 150 PSF	AND PRESSURE (F PROPOSED SITE F THIS PC RI
F1.31 F1.32 F1.33	WOOD FOUNDATION PLAN 24X40 BLDG W/ 150 PSF WOOD FOUNDATION PLAN 36x40 BLDG W/ 150 PSF WOOD FOUNDATION PLAN 48x40 BLDG W/ 150 PSF	THIS PC RI MII MII
F1.34	MODLINE "B" W/ EXTERIOR WALL BACK-TO-BACK 150 PSF	FAILURE TO ATTA
F1.40 F2.10	WOOD FOUNDATION DETAILS  CONCRETE FOUNDATION DETAILS	OF ONE OR MORE
F2.20 F2.22	CONCRETE FOUNDATION DETAILS  CONCRETE FOUNDATION DETAILS	A. WATER TANK 1. 2.
Structural	CONCRETE FOUNDATION DETAILS	B. ADDITIONAL UN C. ALL OR ANY CO
S0.1 S1.0.1	STRUCTURAL GEN NOTES WD SHTH'G FLR FRM'G PLAN (50+15 PSF)	TO ENSURE PRO
S1.0.4 <del>S1.1.1</del>	WD SHTH'G FLR FRAMING PLAN CROSS-STRAP OPT.  CONC FLR FRM'G PLAN (50+15 PSF)	THE FOLLOWING N
\$1.2 \$3.0.1	STRUCTURAL DETAILS (FLOOR)  MONO SLOPE ROOF FRM'G PLAN	1. MINIMUM ( 2. WATER FL 3. SITE PLAN
\$3.0.2 \$3.0.3	DUAL SLOPE ROOF FRM'G PLAN MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.	3. SITE PLAN HYDRANTS 4. ALL (NEW)
S3.0.4 S3.1	DUAL SLOPE ROOF FRM'G PLAN CROSS-STRAP OPT.  STRUCTURAL DETAILS (ROOF)	AND SIZE S PIPING RE
\$3.2 \$3.3	ROOF DETAILS (SOFFIT/PARAPET)	5. LOCATION A. FIF
S4.1	ROOF PERIMETER TRUSS  WD WALL FRAMING ELEVATIONS  WALL DETAILS (MOOD ERAMING)	B. PC C. FIF
S4.2 S4.4	WALL DETAILS (WOOD FRAMING)  TYP FRAMING	D. PR E. BA F. OT
S4.5 <del>S5.0</del>	FRAMING SCHEDULES LONG. SECTION (MONO)	6. HYDRAULK THE AVAIL.
S5.1	LONG SECTION - (DUAL)  AWNING FRAMING	MEET OR E
<del>S6.0</del> Grand total		7. ANY CHANG CONSTRUC

(70) RH 24X40 ALT-A.0.0 WUI COVER SHEET C-23-2716 A/B C-23-2679 A/B WUI COMPLIANT NOTES C-23-2680 A/B C-23-2717 A/B C-23-2681 A/B C-23-2718 A/B C-23-2682 A/B C-23-2719 A/B C-23-2683 A/B C-23-2720 A/B C-23-2684 A/B C-23-2721 A/B C-23-2685 A/B C-23-2722 A/B C-23-2723 A/B C-23-2686 A/B C-23-2687 A/B C-23-2724 A/B 2-23-2688 A/B C-23-2725 A/B C-23-2689 A/B C-23-2726 A/B (30) LH 24X40 C-23-2690 A/B C-23-2727 A/B C-23-2691 A/B C-23-2728 A/B C-23-2650 A/B C-23-2692 A/B C-23-2729 A/B C-23-2651 A/B C-23-2693 A/B C-23-2730 A/B C-23-2652 A/B C-23-2694 A/B C-23-2731 A/B C-23-2653 A/B C-23-2695 A/B C-23-2732 A/B C-23-2654 A/B C-23-2655 A/B C-23-2696 A/B C-23-2733 A/B C-23-2656 A/B C-23-2697 A/B C-23-2734 A/B C-23-2657 A/B C-23-2698 A/B C-23-2735 A/B C-23-2658 A/B C-23-2699 A/B C-23-2736 A/B C-23-2659 A/B C-23-2737 A/B C-23-2700 A/B C-23-2660 A/B C-23-2701 A/B C-23-2738 A/B C-23-2661 A/B C-23-2702 A/B C-23-2739 A/E C-23-2662 A/B C-23-2703 A/B C-23-2740 A/B C-23-2663 A/B C-23-2664 A/B C-23-2704 A/B C-23-2741 A/B C-23-2665 A/B C-23-2705 A/B C-23-2742 A/B

C-23-2666 A/B

C-23-2667 A/B

C-23-2668 A/B

C-23-2669 A/B

C-23-2670 A/B

C-23-2671 A/B C-23-2672 A/B

C-23-2673 A/B

C-23-2674 A/B

C-23-2675 A/B

C-23-2676 A/B

C-23-2677 A/B C-23-2678 A/B

Sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-andgroove, or set clost together and well spiked.

The exterior door assembly shall have a fire-resistance rating or

erformance requirements of Section 707A.3.1 when tested in

WILDFIRE URBAN INTERFACE (WUI) CRITERIA: PROJECT SPECIFIC BUILDING REQUIREMENTS FOR

C-23-2706 A/B

C-23-2707 A/B

C-23-2708 A/B

C-23-2709 A/B

C-23-2710 A/B

C-23-2711 A/B

C-23-2712 A/B

C-23-2713 A/B

C-23-2714 A/B

C-23-2715 A/B

C-23-2743 A/B

C-23-2744 A/B

C-23-2745 A/B

C-23-2746 A/B

C-23-2747 A/B

C-23-2748 A/B

FIRE HAZARD SEVERITY ZONE CBC CHAPTER 1A ROOF COVERING: (C.B.C SECTION 705A) 26GA. GALV. STEEL (NON-COMBUSTIBLE) INTERLOCKED STANDING SEAM ROOF PANEL W/ NO SPACE BETWEEN ROOF PANELS AND ROOF DECKING STANDING SEAM ROOF OVER ONE LAYER #15 ROOF FELT. (CBC 705A.2)

ROOFGUTTERS: (C.B.C SECTION 705A.4) SHALL BE SCREENED WITH A CORROSIÓN- RESISTANT NONCOMBUSTIBLE WIRE MESH WITH 1/4" (6MM) OPENINGS SOFFITS: (C.B.C SECTION 707A.5)

ROSEBURG DURATEMP SIDING EXTERIOR WALL FINISH: (C.B.C SECTION 707A.3) ROSEBURG DURATEMP SIDING. PER CALIFORNÍA DEPARTMENT OF FORESTRY AND FIRE PROTECTION OFFICE OF THE STATE FIRE MARSHALL PRODUCTS HANDBOOK PUBLISHED BY CALFIRE DECEMBER 14, 2021.

**VERTICAL EXTERIOR WALL VENTS & SOFFIT VENTS:** (C.B.C SEC. 706A.2) SCREENED WITH A CORROSION -RESISTANT, NONCOMBUSTABLE WIRE MESH WITH 1/16 I.6MM) MIN. OPENINGS AND NOT TO EXCEDD 1/8" (3.2MM) 4 EXTERIOR WINDOWS: (C.B.C SECTION 708A.2.1) METAL FRAME, TEMPERED GLASS, OR ASSEMBLE OF FIRE

RESIST OF NOT LESS THAN 20 MINUTES. NON COMBUSTIBLE METAL DOORS AND FRAME OR ASSEMBLY OF FIRE RESIST OF NOT LESS THAN 20 MINUTES.

Acceptance tests be completed on newly installed or replacement of lighting controls, mechanical systems, fenestration, and process equipment before project completion per the California Energy Code Section 10-103. Acceptance tests must be performed by a certified Acceptance Test Technician (ATT). The Acceptance Testing procedures must be repeated, and deficiencies corrected until the installation of the specified systems conform and pass the required acceptance criteria. Completed NRCA forms shall be submitted to the project inspector and the district.

ADOPTED YEAR NFPA 13 **AUTOMATIC SPRINKLER SYSTEMS** 2022 NFPA 72 2022 NATIONAL FIRE ALARM CODE w/ CALIFORNIA AMENDMENTS

NOTE: VISUAL DEVICES PER UL STANDARD 1971

THIS PC HAS A "PRE-DESIGNED" FIRE SPRINKLER SYSTEM INSTALLED. SEE BELOW FOR SITE REQUIREMENTS BY OWNER

IT IS THE OWNERS RESPONSIBILITY TO ENSURE THE MINIMUM FLOW (GPM) AND PRESSURE (PSI)CAN BE ATTAINED AT THE BASE OF THE RISER AT THE PROPOSED SITE FOR EACH PROPOSED BUILDING. THIS PC REQUIRES

MINIMUM GPM: 250 MINIMUM PSI: 35

FAILURE TO ATTAIN THE MIN GPM/PSI MAY NECESSITATE THE INSTALLATION OF ONE OR MORE OF THE FOLLOWING ITEMS/EQUIPMENTS.

FIRE PUMP BACK UP FIRE SUPPLY B. ADDITIONAL UNDERGROUND FIRE LINE TAPS C. ALL OR ANY COMBINATION OF THE ABOVE OR ANY OTHERS AS REQUIRED TO ENSURE PROPER OPERATION OF THE AFSS

THE FOLLOWING MUST BE SUPPLIED TO DSA AT THE TIME OF SUBMITTAL WITH THE SITE PLAN FOR EACH PROPOSED BUILDING WITH AN AFSS.

MINIMUM GPM/PSI REQUIRED WATER FLOW DATA (SEE DSA AFFS GUIDELINES) SITE PLAN SHOWING THE LOCATION OF THE "FLOW" AND "TEST"

HYDRANTS (FULLY DIMENSIONED) ALL (NEW AND EXISTING) UNDERGROUND FIRE LINES/PIPING -LENGTH AND SIZE SHOWING LOCATION AND METHOD OF UNDERGROUND

PIPING RESTRAINTS TO TEST HYDRANT LOCATION OF ALL (NEW AND EXISTING) FIRE HYDRANTS

MEET OR EXCEED MIN REQ'T)

**POST INDICATORS** FIRE DEPARTMENT CONNECTIONS PRESSURE REDUCERS

BACK-FLOW PREVENTION/DETECTOR CHECK VALVES OTHER FIRE RELATED ITEM/EQUIPMENTS APPLICABLE HYDRAULIC CALCULATIONS FOR THE UNDERGROUND PIPING WITH THE AVAILABLE GPM/PSI AT THE BASE OF EACH AFSS RISER (MUST

ANY CHANGES TO THE CONFIGURATION (WALLS, CEILINGS, CONSTRUCTION TYPE) OR OCCUPANCY OF THE PC WILL NECESSITATE ADDITIONAL/REVISED HYDRAULIC CALCULATIONS STOCKPILE # 340

(100) 24X40

(30) LEFT HAND DOOR ENTRY (70) RIGHT HAND DOOR ENTRY



HIGH SEISMIC **DESIGN CRITERIA** FILE #: PC-128

2022 CBC

PC # 04-121369

24' x 40' EXPANDABLE TO 120' x 40'

PARALLEL PARTICLE BOARD ANCHOR BOLT FLUSH JOINT AGGREGATE BASE COURSE ABOVE FLOOR FLUORESCENT PRECAST CONCRETE
POUNDS PER CUBIC FOO FLR FLUR FLEXIBLE FOUNDATION PIECES PERFORATE (D) ADDENDUM FACE OF \_\_\_\_\_\_ FIREPROOF (ED) PERIMETER
PREFABRICATE (D) ADHESIVE ADJACENT, ADJUSTABLE FIREPROOFING FRAME (D)(ING) POUNDS PER SQUARE FOOT PLATE PLUMBING POUNDS PER LINEAR FOOT FIRE RESISTANT COATING AGG AGGREGATE
ALT ALTERNATE
ALUM ALUMINUM
ANCH ANCHOR (AGE)
ANOD ANODIZED FORGED FRAMING FOOT, FEET PLYWOOD FOOTING FURRED, FURRING PAVEMENT PANEL POST TENSION (D) APPROXIMATE FIELD VERIFY ARCH ASPH AUTO **PRETENSIONED** ARCHITECT (URAL) PRETEN ASPHALT AUTOMATIC POLYETHYLENE GALVANIZED GENERAL CONTRACTOR PRESTRESSED CONCRETE GALVANIZED IRON **BOND BEAM** POUNDS PER SQUARE FOOT GLASS, GLAZING BOTTOM CHORD POUNDS PER SQUARE INCH GALVANIZED PIPE PRESSURE TREATED BEGIN (ING) BELOW BITUMINOUS GALLONS PER MINUTE GYPSUM PLASTER BED JOINT GRAVEL, GRANULAR POLYVINYL CHLORIDE GRADE, GRADING PAVEMENT BLOCK ('G, ING) GALVANIZED SHEET STEEL RADIUS, RISER BOTTOM OF \_\_\_\_ BEARING PLATE GYPSUM WALLBOARD ROOF DRAIN RETANGULAR REFERENCE, REFER TO BOARD BRIDGING REFORCE (D) (ING) BEARING BRICK BRONZE BOTH SIDES REMOVE REQUIRED  ${\sf HARDBOARD}$ HOLLOW COR HEAVY DUTY HARDENER REQUIREMENTS RETAINING HEADER HARDWARE REVISION, REVISED BETWEEN BEVELED ROOFING HARDWOOD HIGH EARLY STRENGTH CEMENT REFLECT (ED)(IVE)(OR) ROOM ROUGH OPENING CADMIUM HEADJOIN1 HOOK HOLLOW METAL CENTER TO CENTER RUBBER TILE HORIZONTAL HIGH POINT REVERSE SIDE HEADED STUD ANCHOR CAST-IN-PLACE SOLID CORE CIRCLE CIRCUMFERENCE HARDWOOD **SCHEDULE** SUPERIMPOSED DEAD LOAD **CONSTRUCTION JOINT** SELF DRILL SCREW CEILING CAULK, ('G, ING) INSIDE DIAMETER STRUCTURAL ENGINEER INCHE (ES) INCLUDE (D), INCLUDING SELF-DRILL, SELF-TAP'G SCREW CLKG CLR SECTION SQUARE FOOT, SQUARE FEET INSULATE, INSULATION CLOSURE CENTIMETER SHORE, SHORING SHEET INTERMEDIATE SHEATHING CORRUDATED METAL PIPE INVERT CONCRETE MASONRY UNI SQUARE INCH JOIST JOINT SIMILAR SLOPE SEALANT SHEET METAL SCREW CENTER COLUMN CENTER OF GRAVITY COG CENTER OF COMB COMBINATION KIP (S) COMP COMPRESS (ED)(ION)(IBLE) SLAB ON GRADE COMPOCOMPOSITE KIPS PER SQUARE INCH SPACE, (ING) CONN CONC CONST CONT CONTR COR CP CPG CPR CONNECT (ION) LONG, LENGTH SPECIFICATION (S) CONSTRUCT (ION) (ED LAMINATE (D) POUND, LAG BOLT SQUARE STAINLESS STEEL CONTINUE, CONTINUOUS CONTRACTOR STAGGERED LIGHT CONTROL CORRUGATED COMPLETE PENETRATION DEVELOPMENT LENGHT STEEL STORAGE I INFAR FOOT STRUCTURE LIVE LOAD LONG LEG HORIZONTAL STRUCTURA SYMETRICAL, SYMETRY COURSE (S) LONG LEG VERTICAL CS CTSK CU CX CY COUNTERSUNK SCREW LOW POINT CONNECTION TOP, TORSION, TREAD LEVEL (ING) LIGHT WEIGHT TOP AND BOTTOM TONGUE AND GROOVE DEED DEPTH LIGHT WEIGHT CONCRETE TOP CHORD TESION, TENSILE LIGHT WEIGHT FILL DEFLECTION TEMPORARY, TEMPERATURE METER (S) MOMENT MATERIAL MASONRY DEMOLISH, DEMOLITION THICK (NÈSS) TEMPERED TOP OF MAXIMUM TOTAL LOAD TREAD TUBE STEEL MACHINE BOLT DIAGONAL MEMBER MCONN MOMENT CONNECTION DIMENSION (ED) MECHANICAL TYPICAL MEDIUM UNDERCUT DOWN DITTO DAMPROOFING UNDERGROUND MECHANICAL, ELECTRICAL, UNDEREWRITERS LABORATORY METAL FLOOR DECKING DOWEL (ED) UNFINISHED MANUFACTURE (R) (ED MID. MIDDLE MINIMUM, MINUTE SHEAR FORCE, VELOCITY MODULUS OF ELASTICITY MISCELL ANEOUS VAPOR BARRIER MILLIMETER (S) EXPANSION BOLT MEMBRANE VERTICAL VERTICAL GRAIN MASONRY OPENING EXPANSION JOINT MODEL MODULAR VERIFY IN FIELD V-JOINTED MOVABLE MATERIAL V.T.R. VENT THROUGH ROOF ENCLOSURE, ENCLOSED EQUAL, EQUALIBRIUM NORTH, NEW WIDE FLANGE NATURAL NAILABLE ESTIMATE (ED) **EXPANSION BOLT** NONMETALLIC WITHOUT WOOD EACH WAY EXCA EXCAVATE
(E), EXIST EXISTING EXCAVATE (D) (ION) WROUGHT IRON NOT TO SCALE WIRE MESH EXPANDED METAL PLATE WATERPROFFING WATER REPELLENT ON CENTER WORKING POINT OUTSIDE DIAMETER WATER STOP EXTERIOR, EXTERNAL OVERHEAD OVALHEAD MACHINE SCREW WALL TO WALL (W/W) FASTENER OVALHEAD WOOD SCREW WELDED WIRE FABRIC

"Changes to the Division of the State Architect-approved drawings and specifications shall be made by Addenda or Construction Change Documents for changes to the structural, accessibility or fire-safety portions of the project. Changes shall be submitted to and approved by DSA prior to commencement of the work shown thereon (CAC 4-338 (c))."

OFOI

OPEN-WEB JOINT (S)

OWNER FURNISHED OWNER INSTALLED

OPPOSITE HAND

FURNISHED BY OTHERS

FLATHEAD MACHINE SCREW

FLATHEAD WOOD SCREW

FLOOR DRAIN

CONSTRUCTION OF CLASSROOM BUILDING (RELOCATABLE)

# SCOPE OF WORK

BUILDING DESIGN NUMBER OF STORIES: OCCUPANCY: CONSTRUCTION TYPE:

FLOOR LIVE LOAD: \$\infty 50+15 PSF PARTITION □ 100 PSF □ 150 PSF

FLOOR DEAD LOAD: X WOOD FLOOR - 11 PSF CONC. FLOOR - 33 PSF

ROOF LIVE LOAD: ROOF SNOW LOAD: 0 PSF ROOF DEAD LOAD: 18.5 PSF (INCLUDES SPRINKLERS & 3PSF SOLAR PANEL) RAMPLIVE LOAD: 100PSF

This PC has not been designed to accommodate flood loads. If located in zone other than X, a letter stamped and signed from a soils engineer is needed to validate the allowable soil values assumed in this PC are still applicable. (OWNER SUPPLIED)

FLOOD DESIGN DATA: PROJECT NOT LOCATED IN A FLOOD ZONE

BUILDING AREA **NO OVERHANG** WITH OVERHANG (5' @ EA. END) ALLOWABLE AREA □ 24x40 960 sf **X** 24x40 1200 sf =9,500 sf 36x40 1440 sf □ 36x40 1800 sf ACTUAL AREA □ 48x40 1920 sf □ 48x40 2400 sf =4.800 SF □ 60x40 2400 sf □ 60x40 3000 sf □ 72x40 2880 sf 72x40 3600 sf □ 84x40 3360 sf □ 84x40 4200 sf\* □ 96x40 3840 sf □ 96x40 4800 sf\* □ 108x40 4320 sf\* 108x40 5400 sf\*

□ 120x40 4800 sf\* □ 120x40 6000 sf\* Geo-hazard site specific report must be provided and approved by CGS for building area more than

¥WOOD FTG -1000PSF □ CONCRETE FTG 1500PSF LLOWABLE SOIL PRESSURE:

□ CONCRETE ABOVE GRADE FOUNDATION: ¥ WOOD (conditional) □ CONCRETE BELOW GRADE <2160sf (conditional) □ CONCRETE BELOW GRADE (AMM\*\*) \*\*SEE GENERAL NOTE 14 BELOW

C IS DESIGNED BASED ON A PINNED CONNECTION TO THE FOUNDATION.

CEC CLIMATE ZONE: 1-16

CZ 1-2 RIGID R-10 / 2" X CZ 3-15 RIGID R-5 / 1" 

CZ 16 RIGID R-15 / 4"

WIND DESIGN

WELDED WIRE MESH

LTIMATE DESIGN SPEED: Vult = 110 mph, 3 sec GUST, Kzt = 1.0 RISK CATEGORY: EXPOSURE:

**SEISMIC DESIGN** Design based on Site Class D<sub>default</sub> No geotechnical investigation required Ss = 2.33 Fa = 1.2 Design based on site class determined per chapter 20 of ASCE 7-16 Geotechnical investigation provided Design based on site specific ground motion hazard analysis per chapter 21 of ASCE 7-16 Short-period design spectral response parameter, S<sub>DS</sub>, shall be as specified in geotechnical investigation CGS approval required Not eligible for OTC review Site Class: C D E  $S_{DS} = 2/3 \text{ Fa Ss} = 1.864$ Site Class C or D:  $0.7 \times S_{DS}^* = 0.7 \times 1.864 = 1.305 \le 1.307$ Site Class E:  $C_S = 0.373$  used in design Seismic Design Category: 🔲 D 🕱 E \* Site specific S<sub>DS</sub> value before applying reduction

BASIC SEISMIC FORCE-RESISTING SYS: **EQUIVALENT LATERAL FORCE ANALYSIS PROCEDURE:** WOOD FLOOR, LL ≤ 100, BASE SHEAR= 20.04 kip BASE SHEAR PER 24X40 MODULE: WOOD FLOOR, LL = 150, BASE SHEAR= 26.71 kip CONC. FLOOR, LL ≤ 100, BASE SHEAR= 26.07 kip CONC. FLOOR, LL = 150, BASE SHEAR= 36.36 kip

This design does not require a ground motion hazard analysis because it meets ASCE -15, 11.4.7 Exception #2. Cs is determined by Eq. (12.8-3) for values of T< 1.5Ts \* Geo-hazard report with verification of site class D must be provided and approved by CGS for site specific areas with Ss > 1.76.

"Fire safety during demolition and construction shall comply with CBC Chapter 33 and CFC Chapter 33."

allowed by ASCE 7 section 12.8.1.3

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2023

2022 California Administrative Code (CAC), Part 1, Title 24 CCR

2022 California Building Code (CBC), Part 2, Title 24 CCR

2022 California Electrical Code (CEC), Part 3, Title 24 CCR

2022 California Mechanical Code (CMC), Part 4, Title 24 CCR

2022 California Plumbing Code (CPC), Part 5, Title 24 CCR

2022 California Energy Code, Part 6, Title 24 CCR

2022 California Fire Code (CFC), Part 9, Title 24 CCR

2022 California Existing Building Code (CEBC), Part 10, Title 24 CCR

2022 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR

2022 California Referenced Standards Code, Part 12, Title 24 CCR

Title 19 CCR, Public Safety, State Fire Marshal Regulations

APPLICABLE STANDARDS

For a list of applicable standards, including California amendments to the NFPA Standards, refer to CBC Chapter 35 and CFC Chapter 80.

REQUIRED PV SYSTEM SIZE (kW) 'x40' 36'x40' 48'x40' 60'x40' 72'x40' 84'x40' 96'x40' 108'x40' 120'x40' 
 NE
 NONE
 NONE
 NONE
 4.7
 5.5
 6.3

 NE
 NONE
 4.7
 5.9
 7.1
 8.3
 9.4

 NNE
 NONE
 NONE
 NONE
 NONE
 4.3
 4.9
 NONE NONE 4.7 5.9 7.1 8.3 9.4 10.6 11.8

FOR SITE-SPECIFIC PROJECT, INDICATE BUILDING SIZE AND PV SYSTEM SIZE. IF PV REQUIRES, SEE NOTE 15 UNDER GENERAL NOTES.

PV SIZING CHART

**ADOPTED YEAR** CODE NFPA 13 2022 NFPA 72 2022

AUTOMATIC SPRINKLER SYSTEMS NATIONAL FIRE ALARM CODE w/ CALIFORNIA AMENDMENTS

NOTE: VISUAL DEVICES PER UL STANDARD 1971

## **GENERAL NOTES**

ARCHITECT OF RECORD SHALL PROVIDE FIRE ALARM DRAWINGS WITH SITE ADAPTED PROJECTS. FIRE ALARM IS NOT PART OF THIS PC. THIS PC HAS BEEN STRUCTURALLY DESIGNED TO SUPPORT THE

WEIGHT OF A FIRE SPRINKLER SYSTEM ALLOWABLE AREA IS BASED ON 10'-0" SETBACK FROM ASSUMED LINE PC DESIGNED AS A SINGLE-STORY MODULAR BUILDING SEE STRUCTURAL FOR SOIL TYPES & BEARING STRENGTHS

WORK SHALL CONFORM TO TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS THIS PC IS NOT APPROVED FOR "A" OCCUPANCY USAGE

EXTERIOR PROJECTIONS TO BE FIRE PROTECTED WHERE REQUIRED SEE A0.5 AND ENGERY CALC M-SHEETS FOR REQUIRED ENVELOPE ASSEMBLIES & HVAC SYSTEMS

ALL SPECIFICATIONS BASED ON PERFORMANCE AND ABLE TO BE SUBSTITUTED BY "EQUAL" PRODUCTS

BUILDINGS TO COMPLY WITH WILDLAND URBAN INTERFACE GUIDELINES WHERE APPLICABLE

BUILDING AND SITE FEATURES MUST COMPLY WITH CALGREEN CODE FOR ITS SPECIFIC LOCATION WHEN ADAPTED FOR SITE-USE SHOULD THIS P.C. CLASSROOM BE DESIGNED TO CONNECT TO ANOTHER P.C. CLASSROOM, INTERIOR SOUND TRANSMISSION IN THE WALL AND FLOOR-CEILING ASSEMBLY MUST MEET A MINIMUM STC OF

40 PER CALGREEN THE CONCRETE BELOW GRADE FOUNDATION (AMM) OPTION IN THIS PC USES A DSA-APPROVED ALTERNATE MEANS OF COMPLIANCE FOR FOUNDATION DURABILITY REQUIREMENTS OF CBC SECTIONS 1402.2 AND 1403.2 FOR PROVIDING A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE AND CONTINUOUS WATER-RESISTIVE BARRIER ON WALLS DOWN TO THE FOUNDATION. AND CBC SECTION 2304.12.1.2 FOR

PROTECTION AGAINST DECAY AND TERMITES.

PC DOESN'T INCLUDE THE DESIGN OF PV RACK SYSTEM ON ROOF- A SEPARATE DESIGN AND DSA APPLICATION WILL BE REQUIRED. PV ON ROOF WILL NOT BE ALLOWED FOR OTC APPLICATION

IDENTIFICATION STAMF DIV. OF THE STATE ARCHITEC APP. 04-122805 REVIEWS FOR FLS ☑ 09/28/2023

APPROVED

REVIEWED FOR

11/20/2023

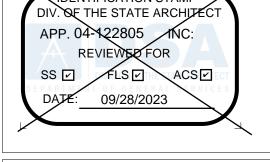
FLS

DIV. OF THE STATE ARCHITEC

APP. 04-122805 INC:

SS 🔽

DATE:



PROJECT SPECIFIC STATE AGENCY APPROVAL



PROFESSIONAL STAMP



THE PLANS, IDEAS & DESIGNS SHOWN ON THESE DRAWINGS ARE THE PROPERTY OF **R&S TAVARES ASSOCIATES, INC. DEVISED** SOLELY FOR THIS CONTRACT. THESE PLANS SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE FOR WHICH THEY WERE NOT INTENDED WITHOUT THE **EXPRESS WRITTEN CONSENT OF R&S** TAVARES ASSOCIATES, INC. ©



ORIGINAL PC STATE AGENCY APPROVAL

Revision Schedule

Description

11/2/2023

PRE-CHECK (PC) DOCUMENT

Code: 2022 CBC

A separate project application for construction is required

120' x 40'

PROJECT TITLE PC 2022 CBC: 24' x 40' **EXPANDABLE TO** 

**COVER SHEET** 

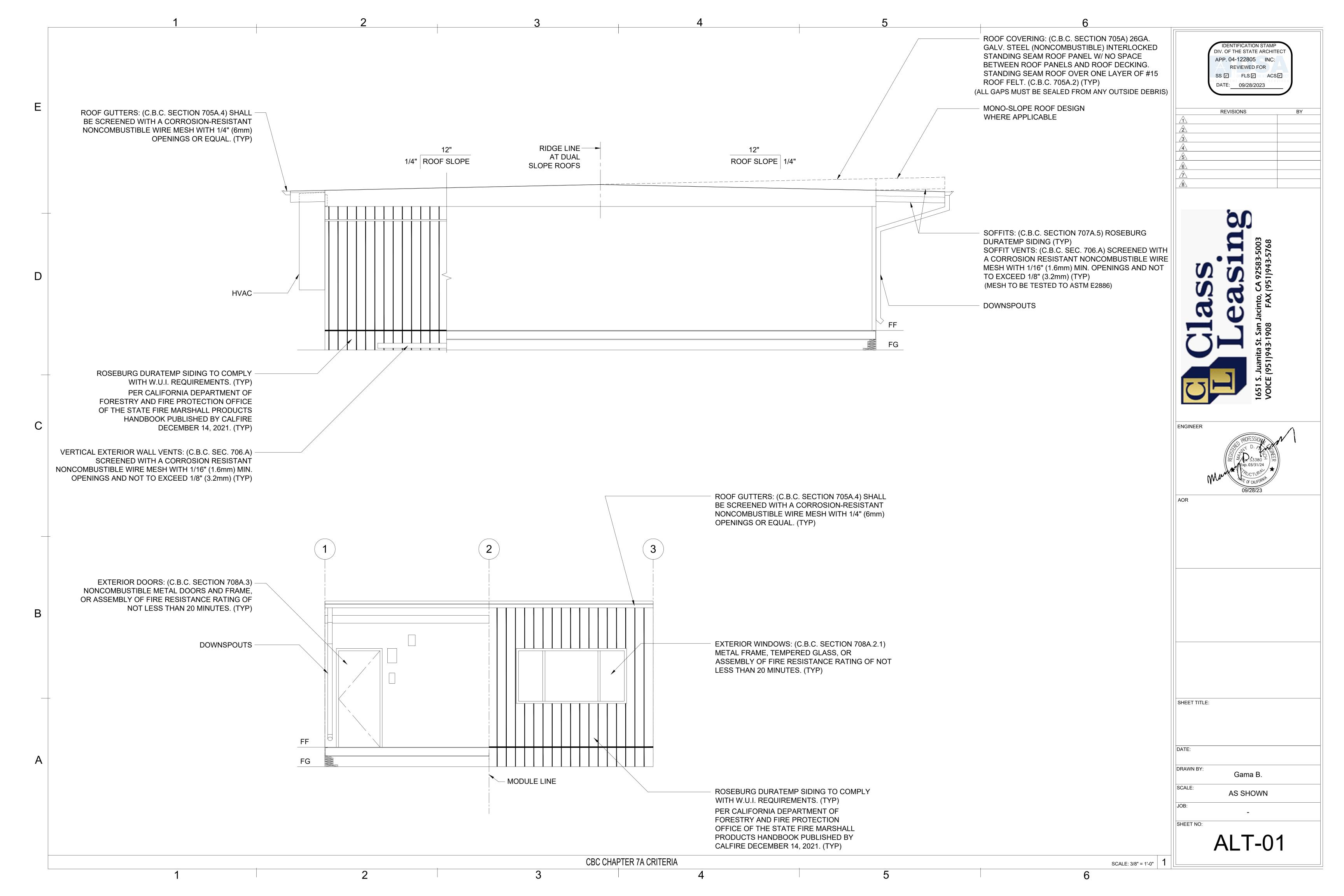
PROJECT NUMBER

22088

DRAWN BY rMc/SC CHECKED BY

RH/RT

DATE



2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4. TITLE 24 CCR 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR 2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR 2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR 2022 CALIFORNIA GREEN BUILDING STANDARD CODE (CALGREEEN), PART 11,

2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA

NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION

\*CALIFORNIA ADMINISTRATIVE CODE, PART1, CHAPTER 10, ADMINISTRATIVE REGULATIONS FOR THE CALIFORNIA ENERGY COMMISSION (CEC)

### **GENERAL NOTES**

**APPLICABLE STANDARDS** 

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATION SHALL BE MADE BY AN ADDENDUM OR CONSTRUCTION CHANGE DOCUMENT(CCD) BY DSA AS REQUIRED BY SECTION 4-338 PART1, TITLE 24, CCR

A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT(OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. DUTIES OF INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1 TITLE 24, CCR

COMPLETE ACCESS IS A DIVISION OF INTEGRATED STAIR SYSTEMS INC. WITH CORPORATE OFFICES LOCATED IN 1345 RYAN RD, BUCKLEY, WA 98321, (360)

**DESIGN LOADS** 

LIVE LOAD: 100 PSF (4.8 kPa) HANDRAIL IMPACT: 200 LBS (0.9kN) HANDRAIL DIST. LOAD: 50 PLF (0.7 kN/m)

SOIL ALLOWABLE BEARING: 1,000 PSF (4.8 kPa

RISK CATAGORY:

Ss=2.80g, S1=1.99g, R=1.25, SITE CLASS D LATERAL RESISTING SYST: OTHER STRUCTURES SIMILAR TO BUILDINGS 110 MPH, 3 SEC GUST EXPOSURE "C", Kzt=1.0 SEIS IMPORTANCE FACTOR: le=1.25, lw=1.0 Cs=1.493 DESIGN BASE SHEAR, V: 1493 W SNOW LOAD: 0 PSF (0 kPa)

## **MATERIALS**

SQUARE STEEL TUBE

RAMP OVERHANG POST ASTM A500 B

ASTM A513 GR. C

## **BOLTS, SCREWS AND NAILS**

STEEL TO STEEL CONNECTIONS: ASTM A307 CARBON STEEL BOLTS SHALL BE GRADE 5 ZINC PLATED, HOT DIPPED GALVANIZED TO ASTM A153 OR ELECTROGALVANIZED TO ASTM B63.3. FASTENER SHALL BE LUBRICATED TO ELIMINATE GALLING. ALL STEEL MEMBERS IN CONTACT WITH ALUMINIUM SHALL BE ZINC COATED TO ELIMINATE GALVANIC REACTION.

STEEL TO STEEL & WOOD CONNECTIONS: ANSI/ASME STEEL LAG SCREWS, STEEL STANDARD WOOD SCREWS, WOOD TO WOOD CONNECTION: ASTM STANDARD COMMOM STEEL NAIL.

ITW RED HEAD CONCRETE WEDGE ANCHORS SHALL BE INSTALLED PER RECOMMENDATION SHOWN IN ESR-2427

## HANDRAIL NOTES:

MANEUVERING CLEARANCE ON EXTERIOR PULL SIDE OF DOOR SHALL BE 42" TYPICAL (610MM) MINIMUM WITH 60" (1524MM) MINIMUM LANDING IN FRONT OF DOOR.

HANDRAILS SHALL BE CONTINUOUS ALONG BOTH SIDES. HANDRAILS SHALL BE PARALLEL WITH THE SURFACE AND PROJECT 12" (301MM) ON BEYOND TOP OF RISER AND 12" (301MM) PLUS 1 TREAD AT BOTTOM RISER. AT RAMPS WHERE HANDRAIL ARE NOT CONTINUOUS BETWEEN RUNS THE HANDRAIL SHALL EXTEND HORIZONTALLY ABOVE THE LANDING 12" (301MM) MINIMUM BEYOND THE BEGINNING AND ENDING OF RAMPS

TOP OF HANDRAILS SHALL BE MOUNTED BETWEEN 34" (864MM) AND 38" (965MM) ABOVE THE WALKING SURFACE, ONE CONSISTENT HEIGHT, BEIGINNING

CLEARANCE BETWEEN HANDRAIL AND WALL SHALL BE A MINIMUM OF

GUARDS ARE TO BE DESIGNED FOR A CONCENTRATED LOAD OF 200 LBF (0.9 kN) APPLIED @ ANY POINT AND ANY DIRECTION ALONG THE RAIL OR A UNIFORM LOAD OF 50 PLF (0.7 kN/m) APPLIED HORIZONTALLY @ HANDRAIL

HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION WITH AN OUTSIDE DIAMETER OF 1-1/4" (31.75MM) MINIMUM AND NOT GREATER THAN 2" (51MM) MAXIMUM. **11B-505.7.2** NON-CIRCULAR CROSS SECTIONS. HANDRAIL GRIPPING SURFACES WITH A NON-CIRCULAR CROSS SECTION SHALL HAVE A PERIMETER DIMENSION OF 4 INCHES (102 MM) MINIMUM AND 61/4 INCHES (159 1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291 MM) MAXIMUM, AND A CROSS-SECTION DIMENSION OF 2 1/4 INCHES (57 MM)

GRIPPING SURFACE SHALL BE CONTINUOUS ALONG THIER LENGTH AND 2. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for SHALL NOT BE OBSTRUCTED ALONG THEIR TOPS OR SIDES.

HANDRAILS SHALL NOT ROTATE IN THEIR FITTINGS.

ENDS OF HANDRAILS SHALL RETURN SMOOTHLY TO FLOOR, WALL OR PÓST

RAMP NOTES

RAMPS SHALL CONFORM TO CBC 2022 TITLE 24 PART 2, CHAPTER 11B, 11B-405

RAMP SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:12 (8% SLOPE) FOR A MAXIMUM RISE OF 30" (762MM)

THE MAXIMUM VERTICAL RISE OF RAMP RUN SHALL BE 30" (762MM)

4) RAMPS SHALL HAVE LANDING AT BOTTOM AND TOP OF EACH RAMP RUN

5) THE SLOPE ON LANDINGS SHALL NOT BE STEEPER THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL (2% SLOPE) IN ANY DIRECTION

6) LANDING SHALL HAVE A WIDTH AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING AND A MINIMUM LENGTH OF 60" IN THE DIRECTION OF TRAVEL @ TOP LANDING - 72" MIN @ BOT LANDING

7) CHANGES IN DIRECTION OF TRAVEL SHALL HAVE A LANDING 60" WIDE BY 72" LONG (1524MM x 1829MM) MINIMUM, WITH WITH THE LENGTH BEING IN THE DIRCTION OF DOWNWARD TRAVEL AND CHANGES IN DIRECTION

8) MANEUVERING CLEARANCE ON LANDING ADJACENT TO DOORWAYS SHALL BE NO LESS THAN 42" WITH DOOR IN ANY POSITION AND SHALL NOT BE REDUCED BY MORE THAN 3" WHEN DOOR IS FULLY OPENED

9) WALKING SURFACE SHALL BE ROUGHED OR SHALL BE OF SLIP RESISTANT DIAMOND PLATE ALUMINUM AND ALL LANDINGS TO BE DESIGNED TO NOT RETAIN STANDING WATER - 2.083 MAX SLOPE ANY DIRECTION

#### **ADDITIONAL NOTES**

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR

## **SCOPE OF WORK**

Increment Number:

CONSTRUCTION OF RAMP AND STAIRS BUILDINGS (RELOCATABLE)

OSA 103-22: LISTIN	IG OF STRUCTURAL TES	TS & SPECIAL INSPECTIONS, 2022 CBC
Application Number:	School Name:	School District:

	20

**IMPORTANT**: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

Date Created:

\*\*NOTE: Undefined section and table references found in this document are from the CBC, or California Building Code.

46 KSI	KEY TO COLUMNS				
	1. TYPE				

Fy= 33 KSI (345 MPa

DSA File Number:

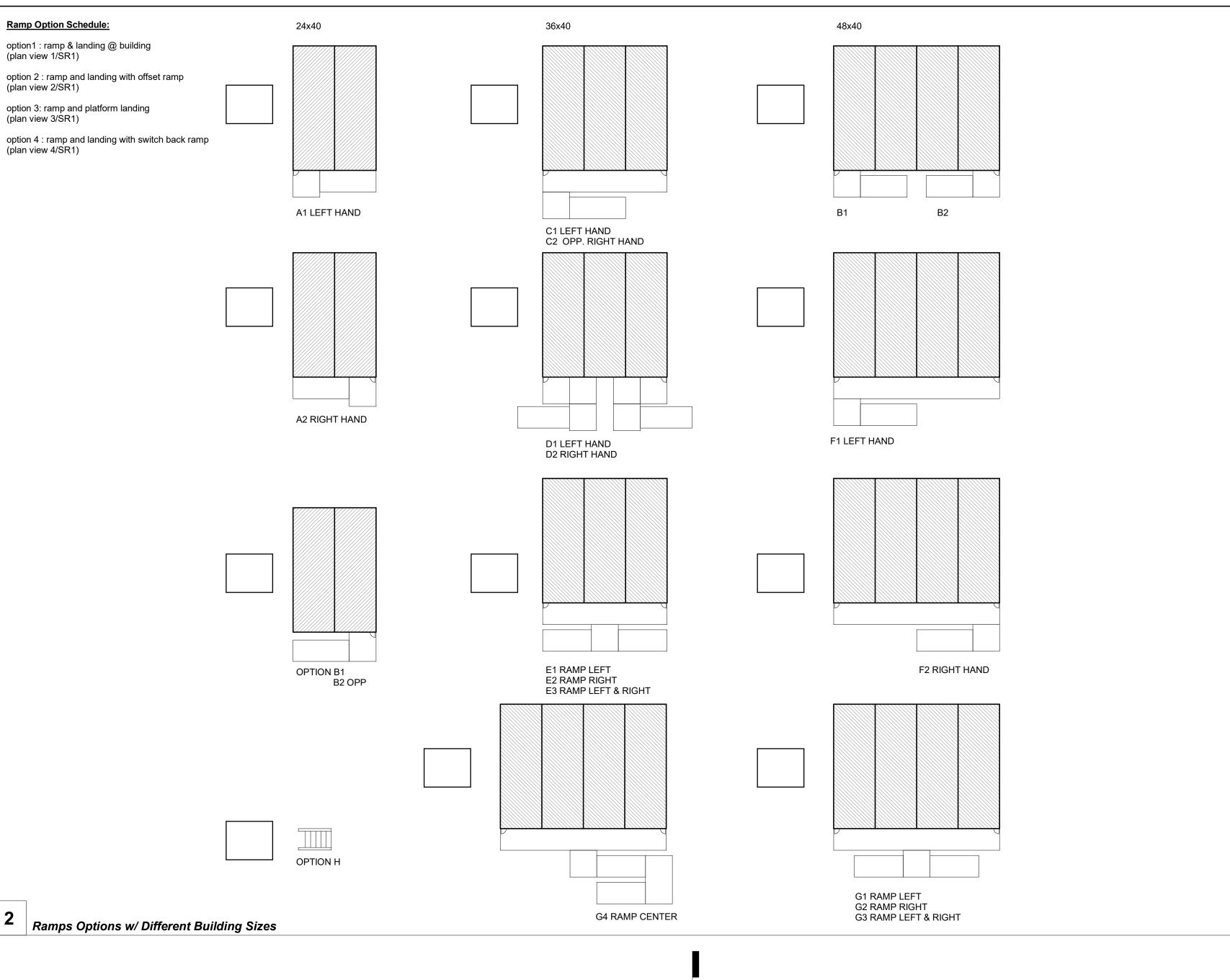
	RAMP OVERHANG POST	ASTM A500 B	Fy= 46 KSI	KEY TO COLUMNS	
				1. TYPE	2. PERFORMED BY
	*ALL STEEL TO BE COATED WITH G			Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.  LOR (Laboratory of Record) – Indicates that the test or special inspection shall
	WOOD FOUNDATION SHALL BE OF PRESERVATIVE PRESSURE TREAT DIRECTLY ON SOIL OR PAVEMENT.	ED HEM-FIR #2 AND IS ALL		Periodic – Indicates that a periodic special inspection is required	be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
	WELDS				PI (Project Inspector) – Indicates that the special inspection may be performed by a project
ELECTRODES FOR STEEL	WELDING SHALL BE IN ACCORDANG ELECTRODES FOR STEEL AND AWS D1.2 AND A5.10 FOR ALUI			Test – Indicates that a test is required	inspector when specifically approved by DSA.  SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.
				C5. POST-INSTALLED ANCHORS:	

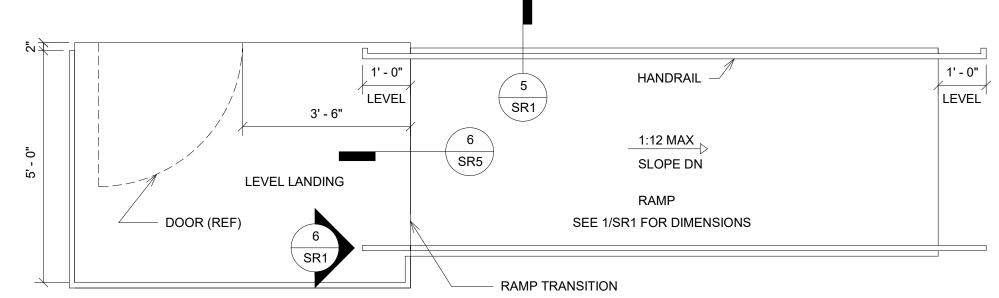
	Test	– Indicates that a test is required	or when specifically approved by DSA.  cial Inspection) – Indicates that the special inspection shall be performed ppropriately qualified/approved special inspector.						
		C5. POST-INSTALLED ANCHORS:							
•		Test or Special Inspection	Туре	Performed By	Code References and Notes				
.L		a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-14 Sections 17.8 & 26.13.* May be performed by the project inspector when specifically approved by DSA.				
•		b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)				
		S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES							
		Test or Special Inspection	Туре	Type Performed By Code References and Notes					
	<b>7</b>	a. Verify identification of all materials and:  Mill certificates indicate material properties that comply with requirements.  Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.				
	<b>√</b>	b. Test unidentified materials	Test	LOR	2202A.1.				
	<b>√</b>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.				
	7	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).				
		S/A3. WELDING:							
•		Test or Special Inspection	Туре	Performed By	Code References and Notes				
	7	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.				
" IG	<b>7</b>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.				
	<b>√</b>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.				
		S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):							
		Test or Special Inspection	Туре	Performed By	Code References and Notes				
3F	<b>7</b>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	<b>Table 1705A.2.1 Items 5a.1 4</b> ; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.				
	7	<b>b.</b> Inspect single-pass fillet welds $\leq$ 5/16", floor and roof deck welds.	Periodic	SI	<b>1705A.2.2, Table 1705A.2.1 Items 5a.5 &amp; 5a.6</b> ; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.				
	<b>7</b>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 &				

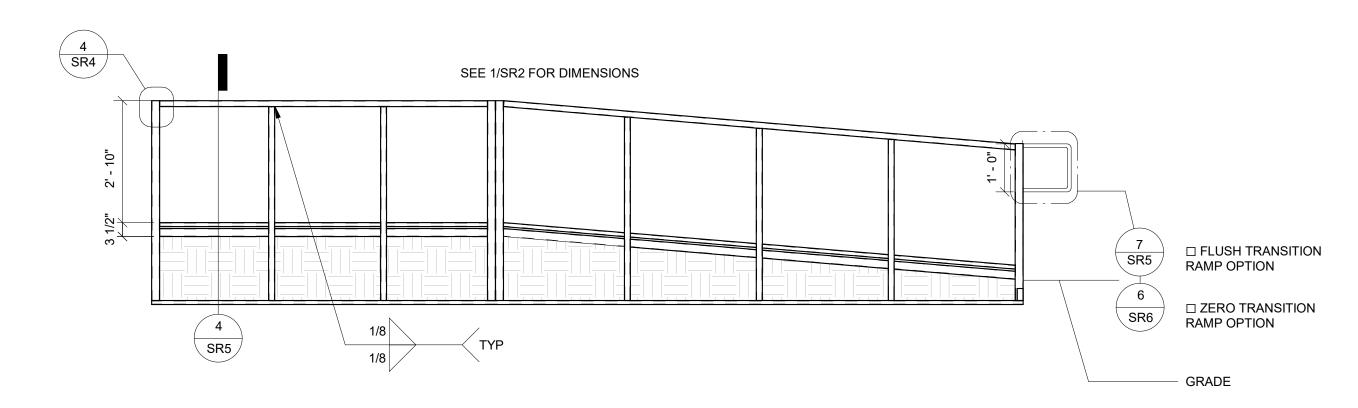
independently contracting SI, Special Inspection Verified Report Form DSA 292

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D1.3; DSA IR 17-3.



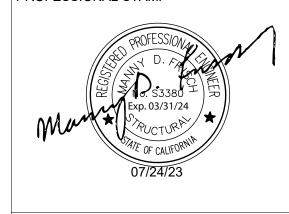




3 | 1/2" = 1'-0" Standard Ramp PROJECT SPECIFIC STATE AGENCY APPROVAL

DESIGN ♦ CONSULTING ♦ PROJECT MG 11590 W BERNARDO COURT, SUITE 100 SAN DIEGO, CA 92127

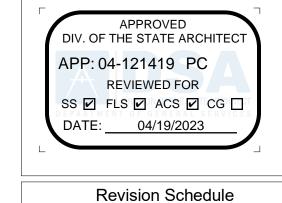
PROFESSIONAL STAMP



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ORIGINAL PC STATE AGENCY APPROVAL



Description Date22079

PRE-CHECK (PC) DOCUMENT

A separate project application for construction is require

PROJECT TITLE RAMPS PC CLASS LEASING

PC#04-121419

Module Plan and

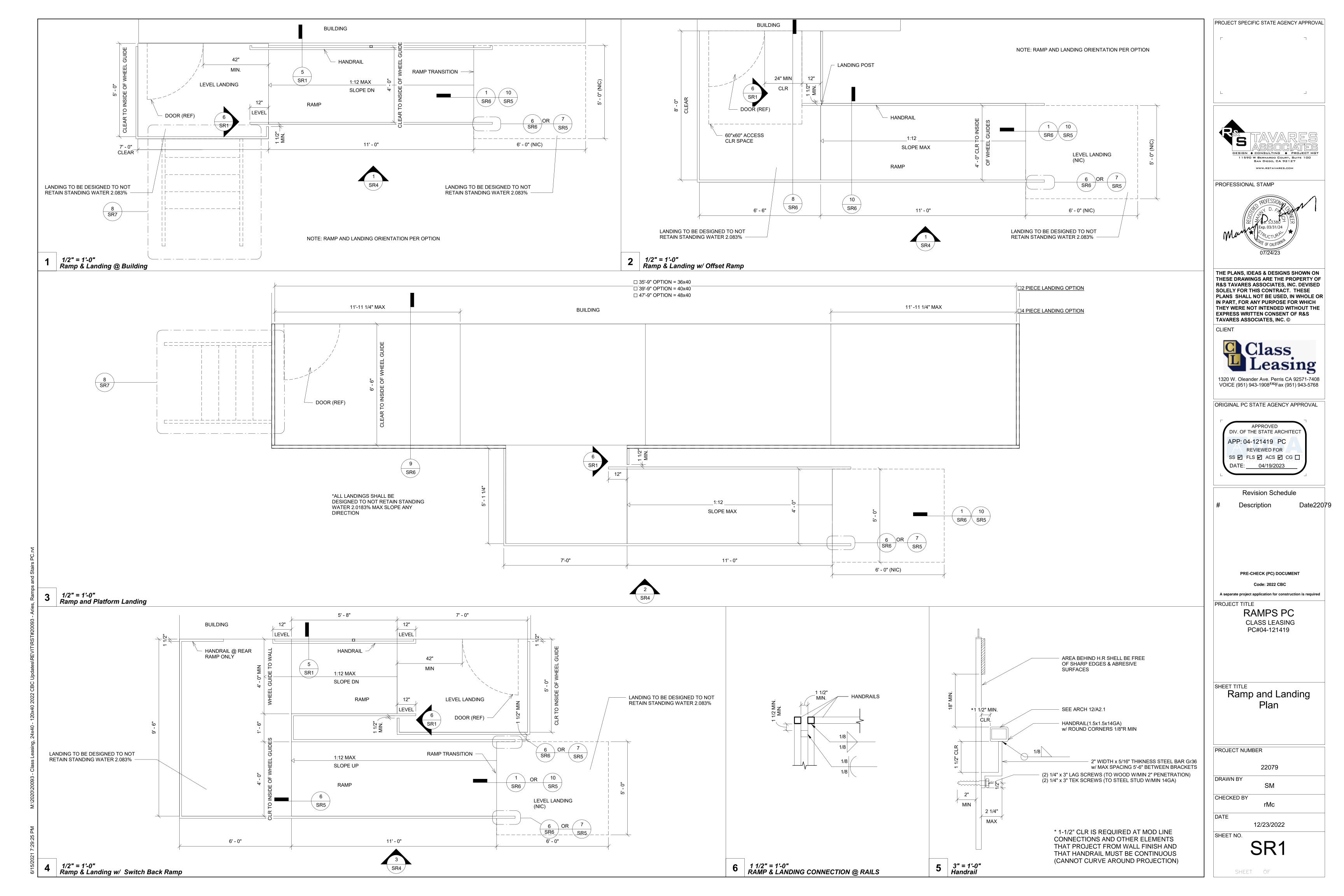
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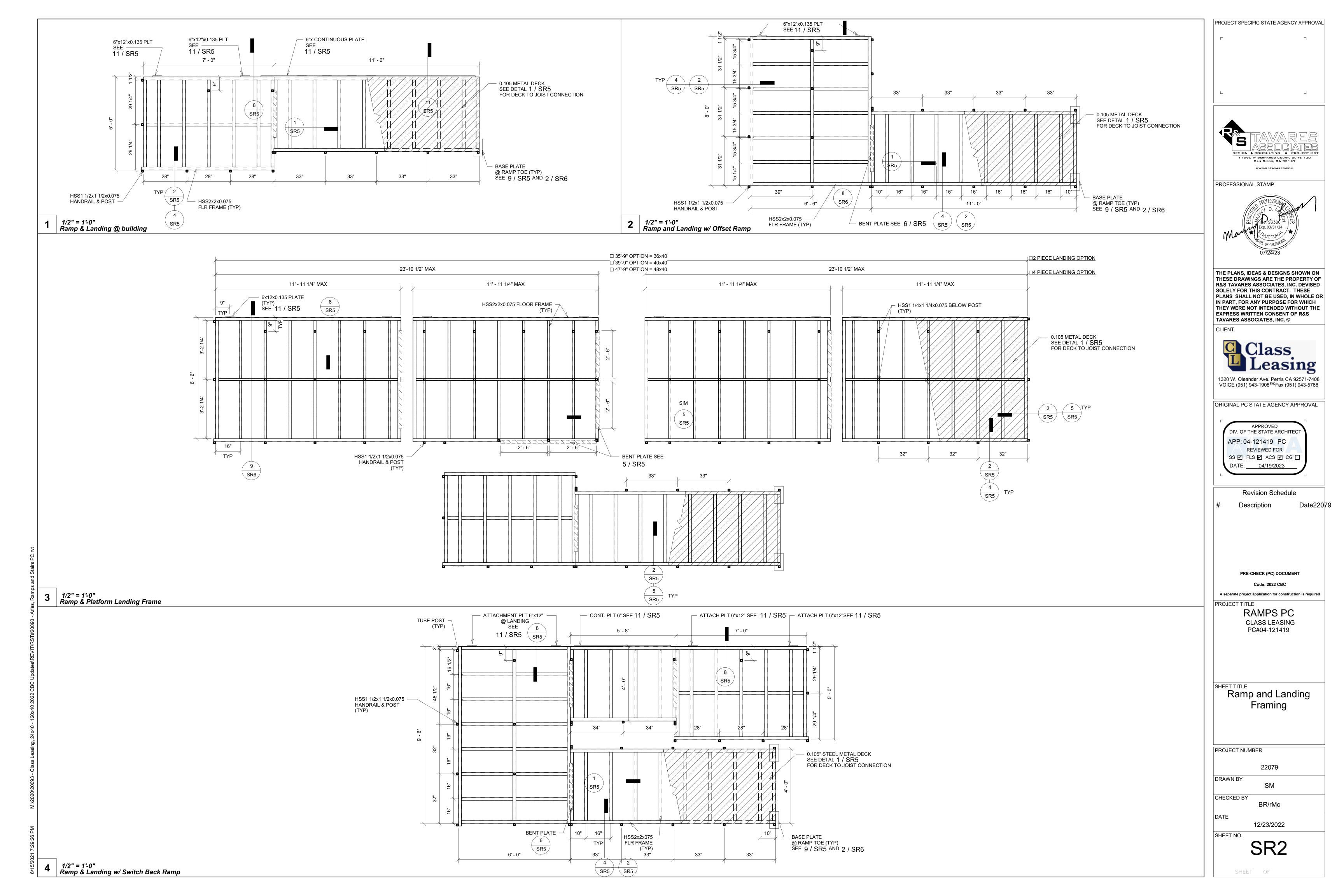
PROJECT NUMBER 22079 CHECKED BY

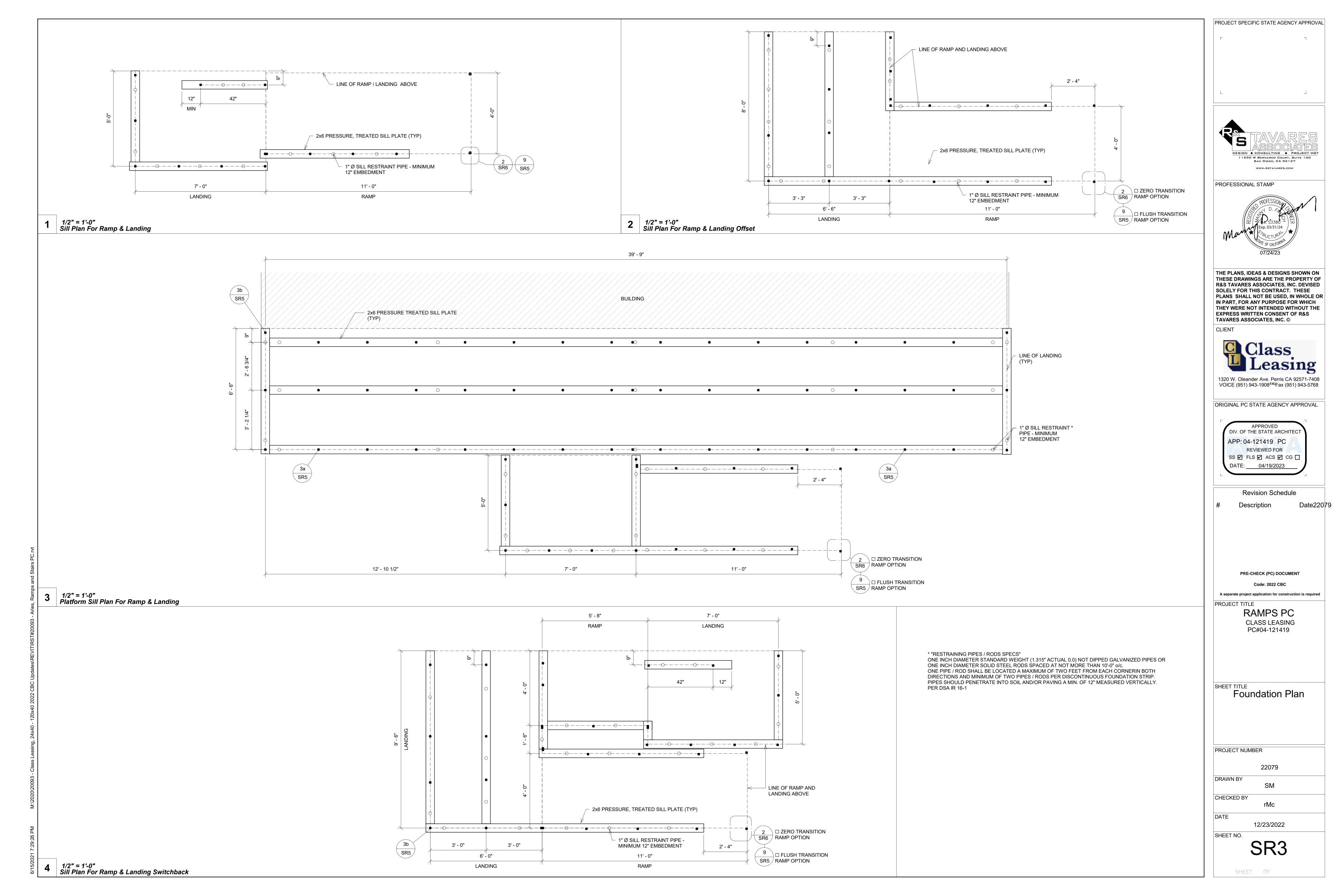
6/15/2021

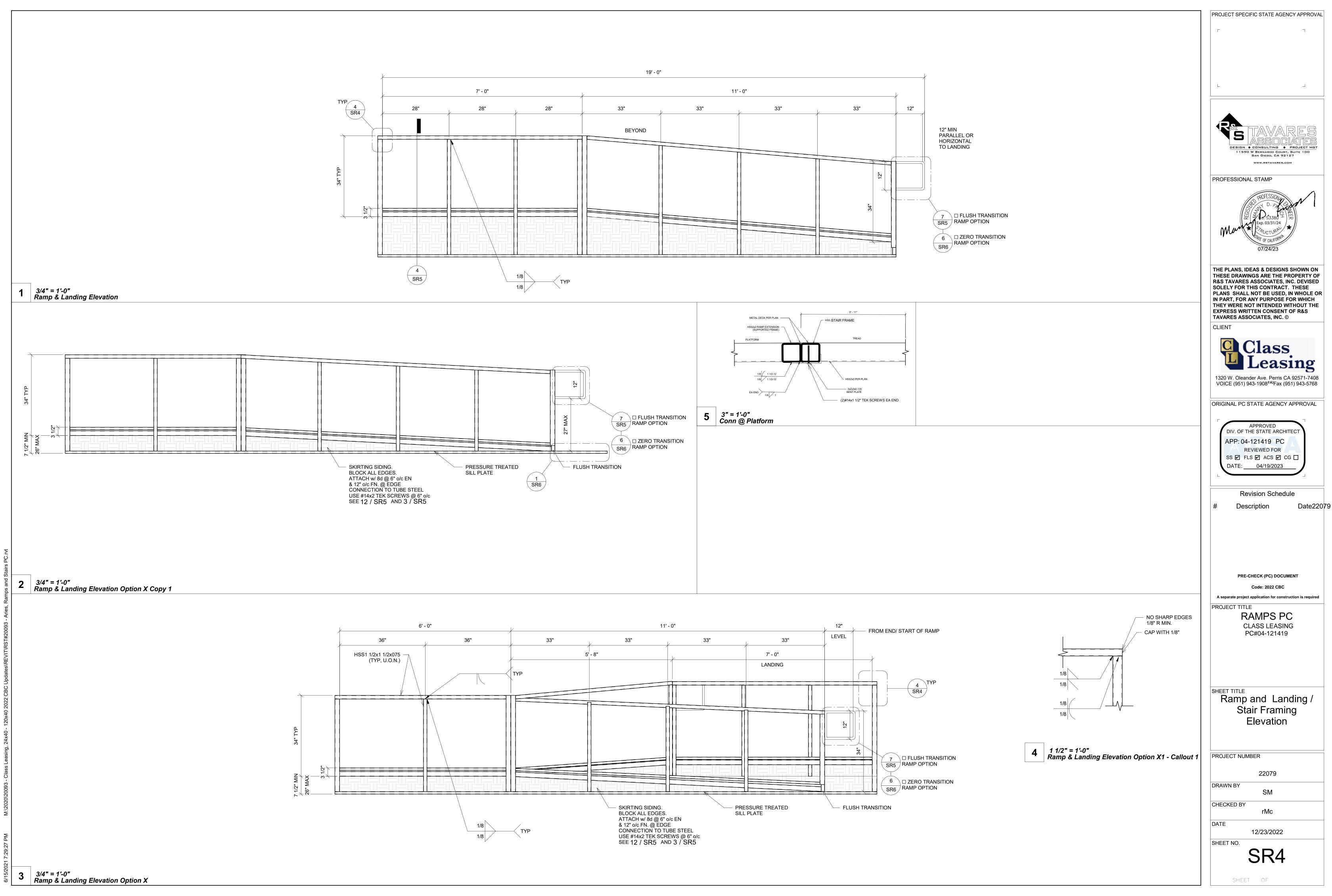
SRC

1 1/2" = 1'-0" Notes













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