BUILDING ENERGY ANALYSIS REPORT

PROJECT:

100 El Prado
100 El Prado Ave
San Rafael, CA 94903

Project Designer:

Report Prepared by:

Mohamad Nohayli

Job Number:

162

Date:

4/17/2023

TABLE OF CONTENTS

Electrical Power Distribution

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii

Project Name:	100 El Prado	**Report Page:**	**(Page 1 of 4)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	02	Climate Zone	2
			03	Occupancy Types Within Project:	All Other OccupanciesGrocerySupport AreasWarehouse

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
Main	Add/Alt to feeders and branch circuits only	50	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.

[2] If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.

[3] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

CERTIFICATE OF COMPLIANCE			**NRCC-ELC-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 2 of 4)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND	Yes	AND	Yes	AND	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

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

F. SERVICE ELECTRICAL METERING

This section does not apply to this project.

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This section does not apply to this project.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2Piii/ 180.2(b)4Bviic.

01	02	03	04	05	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method	Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
				Pass	Fail

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	100 El Prado	**Report Page:**	**(Page 3 of 4)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

H. VOLTAGE DROP

Main	☒	Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))*	Attached		☐	☐

** NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This section does not apply to this project.

J. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

Electrical Power Distribution

CERTIFICATE OF COMPLIANCE			NRCC-ELC-E
Project Name:	100 El Prado	**Report Page:**	**(Page 4 of 4)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mohamad Nohayli	**Mohamad Nohayli**
Company:	Signature Date: **2023.04.17**
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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 will ensure that a completed signed 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. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed: 2023-04-17
Address:	License:
City/State/Zip:	Phone:

STATE OF CALIFORNIA

Envelope Component Approach

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
This document is used to demonstrate compliance with mandatory requirements in 110.8(g) and 120.7(b)/ 160.1 for newly constructed nonresidential, hotel/ motel, multifamily and mixed-use buildings, and 141.0(b)1/ 180.2 for alterations, related to roof, wall and floor assemblies. It is also used to demonstrate compliance with prescriptive requirements in 140.3/ 170.2 for newly constructed buildings, and 141.0/ 180.1/ 180.2 for additions and alterations, related to roof, wall, floor, door, fenestration and daylighting requirements.			
Project Name:	100 El Prado	**Report Page:**	**(Page 1 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	05	# of Stories (Habitable Above Grade)	1
02	Zipcode	94903	06	Total Conditioned Floor Area (ft^2)	3315
03	Climate Zone	2	07	Total Unconditioned Floor Area (ft^2)	0
04	Occupancy Types Within Project: (select all that apply): If one occupancy constitutes >= 80% of the conditioned floor area, the entire building envelope may be designed to comply with the provisions of that occupancy per 100.0(f).		08	☐ Project includes unconditioned enclosed space(s) > 5,000 ft^2 under a roof with a ceiling height of at least 15 ft.[1]	

● Grocery ● Support Areas ● Warehouse ● All Other Occupancies

[1] FOOTNOTE: Enclosed spaces > 5,000 ft^2 directly under roof with ceiling height > 15 ft in climate zones 2 through 15 are required to meet the minimum daylighting requirements defined in 140.3(c)/ 170.2(b). Compliance with 140.3(c)/ 170.2(b) is documented in Table L. This is the only prescriptive requirement which applies to unconditioned spaces.

B. PROJECT SCOPE

This table specifies project envelope components within the permit application demonstrating compliance using the prescriptive paths outlined in 140.3/ 170.2 and 141.0(a)1/ 180.1 and 141.0(b)1 and 2/ 180.2 for additions and alterations.

My project consists of (check all that apply)		**Component Types**					
01		02					
☐	New Construction or Newly Conditioned Space	☐	Roof	☐	Walls	☐	Exterior Opaque Doors
	☐ One or more enclosed spaces > 5,000 ft^2 directly under roof with ceiling height > 15ft			☐	Floors	☐	Fenestration/ Glazed Doors[1]
☐	Addition of conditioned space	☐	Roof	☐	Walls	☐	Exterior Opaque Doors
	☐ One or more enclosed spaces > 5,000 ft^2 directly under roof with ceiling height > 15ft						
	☐ Addition is <=700 ft^2			☐	Floors	☐	Fenestration/ Glazed Doors[1]
	☐ Addition is >700 ft^2						
☒	Alteration of conditioned space	☐	Roof Assembly	☒	Walls		Exterior Opaque Doors NA. for Alts.
	☐ One or more enclosed spaces > 5,000 ft^2 directly under roof with ceiling height > 15ft and lighting system installed for the first time	☐	Roofing Material[2]	☐	Floors	☒	Fenestration

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 2 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

B. PROJECT SCOPE

[1]FOOTNOTE: Doors that are more than 25% glass in area are considered Glazed Doors and should be documented on table K with fenestration.

[2]Roof recovers and replacements must also check "Roof Assembly" box and document compliance with insulation requirements in Table F. Roof recoats may document compliance with roof material only in Table G.

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through L. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see the applicable table referenced below.

Opaque Envelope Components					Fenestration	Daylighting Spaces > 5,000ft^2	Compliance Results
Roof Assembly	**Roofing Materials**	**Walls**	**Floors**	**Doors**			
01	02	03	04	05	06	07	08
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	COMPLIES
Yes	Yes	Yes			Yes		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

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

F. ROOF ASSEMBLY SCHEDULE

This section does not apply to this project.

G. RATED ROOFING MATERIAL (COOL ROOF)

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 3 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

H. WALL ASSEMBLY SCHEDULE

This table demonstrates compliance with prescriptive wall assembly requirements in 140.3(a)/ 170.2(a) for new constructions, 141.0(a)/ 180.1 for additions and 141.0(b)1B/ 180.2 for alterations.

01	Indicate wall types included in the project:[1]	☐	Framed	☐	Mass (new only)	☐	Concrete Sandwich Panel (new only)	☐	SIPS	☐	ICF (new only)
		☐	Metal Panels	☐	Metal Building	☐	Spandrel/ Curtain Wall	☐	Straw Bale	☐	Log Home (new only)

[1] FOOTNOTES: Wall types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.

I. FLOOR ASSEMBLY SCHEDULE

This section does not apply to this project.

J. EXTERIOR DOOR SCHEDULE

This section does not apply to this project.

K. FENESTRATION AND GLAZED DOOR SCHEDULE

This table demonstrates compliance with prescriptive fenestration requirements in 140.3(a)5/ 170.2(a)3 for new constructions, 141.0(a)/ 180.1 for additions, or 141.0(b)2A/ 180.2 for alterations. Exterior doors that are more than 25% glass in area are considered Glazed Doors and should be documented on this table with fenestration.

01	Indicate fenestration types included in the project:[1]	☒	Vertical (alterations)	☐	Vertical (new)	☐	Skylights	☐	Glazed Doors (new only)

[1] FOOTNOTES: Fenestration types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.

Vertical Fenestration And Glazed Doors- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)		
01	☒	Calculate Area-Weighted Average U-factor for Vertical Fenestration and Glazed Doors[1]
02	☒	Calculate Area-Weighted Average (R)SHGC for Vertical Fenestration and Glazed Doors[1]
03	☒	Calculate Area-Weighted Average VT for Vertical Fenestration and Glazed Doors[1]

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 4 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Fenestration And Glazed Doors- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	U-factor/ (R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]	Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft^2
W1	Fixed window	Nonresidential/ Relocatable 1 CZ: : New	Table 140.3-B/C/D	Table 140.3-B/C/D	§110.6 Defaults	U-factor (max)	0.55	0.55	100
					☐ Overhang/ Slats used for RSHGC	(R)SHGC (max)	0.67	0.67	
						VT (min)	0.8	0.804	
W2	Fixed window	Nonresidential/ Relocatable 1 CZ: : New	Table 140.3-B/C/D	Table 140.3-B/C/D	§110.6 Defaults	U-factor (max)	0.55	0.55	57
					☐ Overhang/ Slats used for RSHGC	(R)SHGC (max)	0.67	0.67	
						VT (min)	0.8	0.804	
W3	Fixed window	Nonresidential/ Relocatable 1 CZ: : New	Table 140.3-B/C/D	Table 140.3-B/C/D	§110.6 Defaults	U-factor (max)	0.55	0.55	100
					☐ Overhang/ Slats used for RSHGC	(R)SHGC (max)	0.67	0.67	
						VT (min)	0.8	0.804	

[1]FOOTNOTES: If any individual fenestration product is non-compliant, products may show compliance using an area-weighted calculation. Chromogenic glazing is not included in area-weighted calculations. Area-weighted calculation shown in separate area-weighted table below.

[2]The NA6 Default Calculation can only be used for alterations or dwelling units in buildings with <= 3 habitable stories. Alterations are limited to 200ft^2 of site built glazing and dwelling units are limited to 250ft^2 or 5% of conditioned floor area. If the fenestration does not meet these conditions, the only options for determining fenestration values are NFRC Certification or the Default Tables in 110.6.

[3] Overhangs must extend past the left and right window the same distance as the depth of the overhang or greater to show an affect on the RSHGC. If an overhang does not meet this requirement, the affect of the overhang will be ignored.

[4]Projecting includes casement and awning windows.

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 5 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Area-Weighted Average U-factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors

01	02	03	04	05
Product Performance Unit	Total Area of Fenestration (ft^2)	Area-weighted Calculation for Fenestration		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
U-Factor	257	0	0	COMPLIES
(R)SHGC	257	0	0	COMPLIES
VT	257	0	0	COMPLIES

L. DAYLIGHT IN LARGE ENCLOSED SPACES

This section does not apply to this project.

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-ENV-01-E - Must be submitted for all buildings

N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Form/Title	Systems/Spaces To Be Field Verified
NRCA-ENV-02-F must be submitted for all new, added or altered fenestration.	

O. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

CERTIFICATE OF COMPLIANCE			**NRCC-ENV-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 6 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mohamad Nohayli	**Mohamad Nohayli**
Company:	Signature Date: **2023.04.17**
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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 will ensure that a completed signed 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. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed: 2023-04-17
Address:	License:
City/State/Zip:	Phone:

Indoor Lighting

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.			
Project Name:	100 El Prado	**Report Page:**	**(Page 1 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Conditioned Floor Area (ft^2)	3,315
02	Climate Zone	2	05	Total Unconditioned Floor Area (ft^2)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Grocery ● Support Areas ● Warehouse ● All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	**Conditioned Spaces**		**Unconditioned Spaces**	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft^2)	Calculation Method	Area (ft^2)
☐ New Lighting System				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	3315	Area Category Method	0
Total Area of Work (ft^2)	3315		0	

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 2 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	**Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)**							**Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)**				**Compliance Results**
	01	02	03	04		05		06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)			
Conditioned		3,092.6	1,015		=	4,108	≥	4,010	0	=	4010	COMPLIES
Unconditioned					=		≥			=		
											Controls Compliance (See Table H for Details)	COMPLIES
											Rated Power Reduction Compliance (See Table Q for Details)	

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

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

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 3 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
FL	FL - 1'x4' Fluorescent 2 Lamp Light	No	NA	40	Mfr. Spec	2	No	80	☐	☐
PL	PL-Round LED High Bay Light	No	NA	80	Mfr. Spec	45	No	3,600	☐	☐
SW	SW-4" Downlight Capri R4	No	NA	30	Mfr. Spec	7	No	210	☐	☐
WS	WS-Wall Sconce	No	NA	60	Mfr. Spec	2	No	120	☐	☐
							Total Designed Watts: CONDITIONED SPACES	4,010		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Pass	Fail

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 4 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
New Storage	Commercial Industrial Storage Area	Readily Accessible	NA: General Ltg <= 0.5W/SF	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
New Retail	Retail Merchandise Sales	Readily Accessible	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
Mech & Electrical Room	Electrical Mechancial Telephone Room	Readily Accessible	NA: Enclosed area <100SF	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Service Area	Lounge	Readily Accessible	NA: Enclosed area <100SF	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Restroom	Restroom	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐

13
Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft^2)	Area (ft^2)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 5 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

New Storage	Commercial Industrial Warehouse	0.4	210	84	No	No
New Retail	Grocery Sales	1	2,900	2,900	Yes	No
Mech & Electrical Room	Electrical Mechancial Telephone Room	0.4	62	24.8	No	No
Service Area	Lounge	0.55	92	50.6	No	No
Restroom	Restroom	0.65	51	33.2	No	No
		TOTALS:	3,315	3,092.6	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

All areas indicated in Table I as using an additional allowance using the Area Category Method have been included in this table to calculate the additional allowance per Table 140.6-C /170.2-M

Conditioned Spaces

01	02	03	04	05	06	07	08	09	10
Area Description	Primary Function Area	Applicable Qualifying Lighting System from Table 140.6-C	Allowed Density (W/ft^2 or W/lf or W/unit)	Ltg Area, Length or ATM/Mirror (ft^2, lf or #)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	Number of Luminaires	Total Design Watts
New Retail	Grocery Sales	DecorativeDisplayA	0.35	2900	1015.0	PL	80	45	3600

Total Design Watts	Calculated Allowance (Watts):	Total Additional Allowance for this area:
3600	1015.0	1015.0
11		
Total Additional Allowance (Watts) CONDITIONED SPACES		1015.0

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	100 El Prado	**Report Page:**	**(Page 6 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 7 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch; New Storage; New Retail; Mech & Electrical Room; Service Area; Restroom;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	New Retail;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 8 of 8)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mohamad Nohayli	**Mohamad Nohayli**
Company:	Signature Date: **2023.04.17**
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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 will ensure that a completed signed 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. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed: 2023-04-17
Address:	License:
City/State/Zip:	Phone:

Mechanical Systems

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.			
Project Name:	100 El Prado	**Report Page:**	**(Page 1 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Conditioned Floor Area	3315
02	Climate Zone	2	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

● Grocery ● Support Areas ● Warehouse ● All Other Occupancies

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01		02		03	
Air System(s)		Wet System Components		Dry System Components	
☒	Heating Air System	☐	Water Economizer	☐	Air Economizer
☒	Cooling Air System	☐	Pumps	☐	Electric Resistance Heat
Mechanical Controls		☐	System Piping	☒	Fan Systems
☒	Mechanical Controls (existing to remain, altered or new)	☐	Cooling Towers	☒	Ductwork (existing to remain, altered or new)
		☐	Chillers	☒	Ventilation
		☐	Boilers	☐	Zonal Systems/ Terminal Boxes

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 2 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
Heat Pump	2	Single zone	New/ Addition		☐

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 3 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
Heat Pump	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	124.91	90	0	142.88	80	51.57	163.16

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are excepted.

[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

[4] Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
Heat Pump	>=65,000 and <135,000		COP	3.4	3.2	EER IEER	11 14.1	12.2 11.7

G. PUMPS

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 4 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	Heat Pump	Quantity	2	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	6,000	Site Elevation	40	Economizer	NA: Special OA filtration
01	02	03	04						05	06	07	08	09	10	11

Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
						Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	2	Base Allowance for system serving spaces <=6 floors away	3,000		696		Manufacturer provided		0.89
			MERV 13-16 Filter upstream of thermal conditioning equipment	3,000		417				
			Hydronic/DX cooling coil or heat pump coil	3,000		417				
				Fan System Allowance (kW)[3]		3.06		Fan System Electrical Output (kW)		1.78

[1] *FOOTNOTES: Fans serving spaces with design background noise goals below NC35*

[2] *Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.*

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 5 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

Fan Energy Index (FEI)		
01	02	03
Name or Item Tag	FEI Exception	FEI

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft^2)	Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
Heat Pump	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided

[1]FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 6 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	Heat Pump	System Design OA CFM Airflow[1]		497	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
New Storage	Warehouse	210			31.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
New Retail	Supermarket	2900			725	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Mech & Electrical Room	All others	62			0	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Service Area	All others	92			13.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Restroom	Toilet, private	51			0	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 7 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

J. VENTILATION AND INDOOR AIR QUALITY					
17	Total System Required Min OA CFM	770	18	Ventilation for this System Complies?	Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

[2] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[4] See Standards Tables 120.1-A and 120.1-B.

[5] For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

[6] 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft^2 or smaller, multipurpose rooms less than 1,000 ft^2, classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

Multifamily Dwelling Unit Ventilation Systems								
☐	Check the box if the system is using continuous ventilation to meet the ventilation requirements per 160.2(b)2Aivb2							
19	20	21	22	23	24	25	26	27
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(b) & 160.2(b)2				Ventilation per Design		Local Exhaust	Air Filtration per 120.1(c) & 160.2(b)1
	Conditioned Floor Area (ft^2)	# of Bedrooms	# of Dwelling Units	Required Min OA CFM[1]	Supply Air CFM	Exhaust CFM		
28	Is this a balanced system[4]				29	Meeting Outside Air Requirements?		

[1] FOOTNOTES: Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[2] Kitchen range hood will be verified per NA7.18.1 to confirm model is rated by HVI or AHAM.

[3] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

[4] A balanced ventilation system provides ventilation airflow to each dwelling-unit at a rate equal to or greater than the required minimum rate, but not more than twenty percent.

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 8 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	Heat Pump	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No
		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A
18		All ductwork is an extension of an existing duct system
19		Ductwork serving individual dwelling unit
20		< 25 ft of new or replacement space conditioning ducts installed
21	R-8	Dust Insulation R-value

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 9 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Form/Title	Systems/Spaces To Be Field Verified
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.	Standard Heat Pump;
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	Standard Heat Pump;
NRCA-MCH-11-A Automatic Demand Shed Controls	Standard Heat Pump;
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Standard Heat Pump;
NRCA-MCH-18-A Energy Management Control Systems	Standard Heat Pump;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location
		M-Sheets

CERTIFICATE OF COMPLIANCE			**NRCC-MCH-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 10 of 10)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mohamad Nohayli	**Mohamad Nohayli**
Company:	Signature Date: **2023.04.17**
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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 will ensure that a completed signed 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. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed: 2023-04-17
Address:	License:
City/State/Zip:	Phone:

STATE OF CALIFORNIA

Domestic Water Heating System

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.			
Project Name:	100 El Prado	**Report Page:**	**(Page 1 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	02	Climate Zone	2
03	Occupancy Types Within Project (select all that apply):				

● Grocery ● Support Areas ● Warehouse ● All Other Occupancies

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☒ New system (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1]FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.

[2] Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.

[3] DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

CERTIFICATE OF COMPLIANCE			**NRCC-PLB-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 2 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

E. ADDITIONAL REMARKS

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

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03		04			05		06		
System Name	50 Gallon Electric	Exception to 140.5(c)/ 170.2(d)3			☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %		
07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
50 Gallon Electric	Consumer Rated Electric Storage	50	20,000	FHR >=75	0.93	0.93	UEF		

[1]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 average.

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft^2 and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

CERTIFICATE OF COMPLIANCE			**NRCC-PLB-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 3 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft^2 per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	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

CERTIFICATE OF COMPLIANCE			**NRCC-PLB-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 4 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

H. DOMESTIC HOT WATER CONTROLS

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 demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity {d:gte/] 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

CERTIFICATE OF COMPLIANCE			**NRCC-PLB-E**
Project Name:	100 El Prado	**Report Page:**	**(Page 5 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

Domestic Water Heating System

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	100 El Prado	**Report Page:**	**(Page 6 of 6)**
Project Address:	100 El Prado Ave	**Date Prepared:**	4/17/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Mohamad Nohayli	**Mohamad Nohayli**
Company:	Signature Date: **2023.04.17**
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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 will ensure that a completed signed 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. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed: 2023-04-17
Address:	License:
City/State/Zip:	Phone:

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
100 El Prado	4/17/2023
System Name	**Floor Area**
Heat Pump	3,315

ENGINEERING CHECKS

Number of Systems	2
Heating System	
Output per System	90,000
Total Output (Btuh)	180,000
Output (Btuh/sqft)	54.3
Cooling System	
Output per System	90,000
Total Output (Btuh)	180,000
Total Output (Tons)	15.0
Total Output (Btuh/sqft)	54.3
Total Output (sqft/Ton)	221.0
Air System	
CFM per System	3,000
Airflow (cfm)	6,000
Airflow (cfm/sqft)	1.81
Airflow (cfm/Ton)	400.0
Outside Air (%)	8.3%
Outside Air (cfm/sqft)	0.15
Note: values above given at ARI conditions	

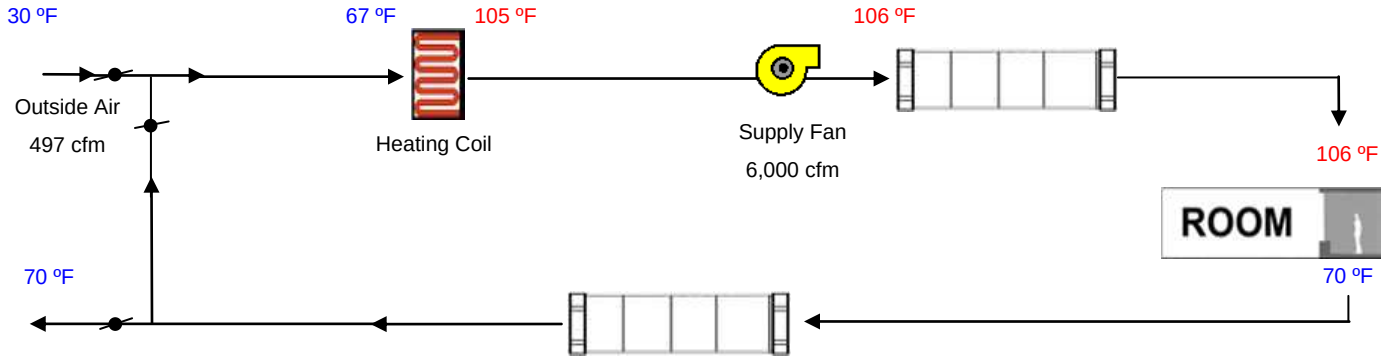
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	5,932	110,107	104,975	489	18,875
Return Vented Lighting		0			
Return Air Ducts		5,505			944
Return Fan		0			0
Ventilation	497	7,657	-12,121	497	21,371
Supply Fan		6,069			-6,069
Supply Air Ducts		5,505			944
TOTAL SYSTEM LOAD		134,844	92,854		36,065

HVAC EQUIPMENT SELECTION

Standard Heat Pump	142,880	40,967		124,911
Total Adjusted System Output (Adjusted for Peak Design conditions)	142,880	40,967		124,911
TIME OF SYSTEM PEAK		Jul 2 PM		Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)