

Autodesk Docs\1516807000 - SCUSD Matsuyama ES Modernization\1818070000-A-MATSUYAMA-MOD-V1
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J. VENTILATION AND INDOOR AIR QUALITY										
Storage	All others	210			31.5	0	0	DCV	NA: Not required per §120.1(d)(3)	
17	Total System Required Min OA CFM				641	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 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, corridors, 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).

K. TERMINAL BOX CONTROLS
This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK AND PIPING)	
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 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:
HP-10-1 & HP-10-2
NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No

L. DISTRIBUTION (DUCTWORK AND PIPING)			
11	No	The scope of the project includes only duct systems serving healthcare facilities	Yes
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	No
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area	No
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system.	Yes
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	Duct Insulation R-value	
22			
23			

M. COOLING TOWERS
This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.
These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/
Form/Title
NRCC-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE	
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/ 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.	BARO W42H;
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".	BARO W42H;
NRCA-MCH-11-A Automatic Demand Shed Controls	BARO W42H;
NRCA-MCH-16-A Supply Air Temperature Reset Controls	BARO W42H;
NRCA-MCH-18-A Energy Management Control Systems	BARO W42H;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION
There are no NRCV forms required for this project.

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(f), 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	HP-10-1 & HP-10-2	Quantit y	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Fan System Airflow (cfm)	1,350	Site Elevation	17	Economizer	NA: Altered packaged AC or HP <54 kBtu/h
01	02	03	04	05	06	07	08	09	10	11	Design		Design	
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (wg)	Component Allowance	Fan Allowance (watt/(cfm) ³)	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)				
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	1,350		313		Manufacturer provided		0.44				
			MERV 13-16 Filter upstream of thermal conditioning equipment	1,350		188								
			Hydronic/DX cooling coil or heat pump coil	1,350		188								
			Supply Fan System	1,350		188								
Supply Fan Base Allowance (kW)	Exhaust/Return/Relief/Transfer Fan Base Allowance (kW)							1	Fan System Electrical Output (kW)	0.44				

¹ FOOTNOTES: Fans serving spaces with design background noise goals below NC35
² Low-turnaround single-zone VAV fan systems 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.
³ Fan system allowance includes fan system base allowance.
⁴ Filter pressure loss can only be counted once per fan system.
⁵ Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
⁶ Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document.

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)(4)										
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)(4)	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)(4)	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass
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)(2) 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)(2)E & 180.2(b)(2)	Shut-Off Controls 120.2(e) & 160.3(a)(2)D	Isolation Zone Controls 120.2(g) & 160.3(a)(2)F	Demand Response 110.12 120.2(b) & 160.3(a)(2)B	Supply Air Temp. Reset 140.4(f) & 170.2(c)(4D)	Window Interlocks per 140.4(n) & 170.2(c)(4D)
HP-10-1 & HP-10-2	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 §124refnolink/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	<input type="checkbox"/>	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	<input checked="" type="checkbox"/>	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
03	<input type="checkbox"/>	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												
04			05			06			07			
System Name	HP-10-1 & HP-10-2	System Design OA CFM Airflow ¹	641	System Design Transfer Air CFM	0	Air Filtration per 120.1(d) 141.0(b)(2) & 160.2(c)(2) ²	Provided					
08	09	10	11	12	13	14	15	16				
Space Name or Item Tag	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	DCV	NA: Not required per §120.1(d)(3)	NA: Not required space type		
Classroom	Classroom (ages 5-18)	1605			609.9	0	0	DCV	NA: Not required per §120.1(d)(3)	NA: Not required space type		
Restroom	Toilet, private	106			0	0	0	DCV	NA: Not required per §120.1(d)(3)	NA: Not required space type		

A. GENERAL INFORMATION			
01 Project Location (city)	Sacramento	04 Total Conditioned Floor Area	1921
02 Climate Zone	12	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
Classroom • Support Areas • 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) for alterations.									
01			02			03			
Air System(s)			Wet System Components			Dry System Components			
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input type="checkbox"/> Air Economizer							
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat							
Mechanical Controls			<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems					
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input type="checkbox"/> Ductwork (existing to remain, altered or new)							
	<input type="checkbox"/> Chillers	<input checked="" type="checkbox"/> Ventilation							
	<input type="checkbox"/> Boilers	<input type="checkbox"/> Zonal Systems/ Terminal Boxes							

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	Pumps 140.4(h), 170.2(c)(4)	Fans/Economizers 140.4(c), 140.4(e), 170.2(c)	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	Ventilation 120.1, 160.2	Terminal Box Controls 140.4(d), 170.2(c)(4B)	Distribution 120.3, 140.4(i), 160.2, 160.3	Cooling Towers 110.2(e)(2)	Compliance Results		
Yes	AND	AND	AND	AND	AND	AND	AND	AND	AND	COMPLIES
Mandatory Measures 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.

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
HP-10-1 & HP-10-2	1	Single zone	Alteration		<input type="checkbox"/>

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)(3a)	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)(6), 170.2(c)(1) & 170.2(c)(2)			Heating Output ^{2,3}		Cooling Output ^{2,3}		Load Calculations ^{4,5}
HP-10-1 & HP-10-2	PTAC/ PTHP	PTHP newly constructed or newly conditioned space	NA: Altered per 141.0(b)(2)E and 180.2(b)(2)	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)	
				24.36	39	0	39.91	30.8	60.51	81.41	

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 exempted.
² It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
³ Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).
⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equipment Efficiency (Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP) only)						
01	02	03	04	05	06	07
Name or Item Tag	Rated Output Capacity (kBtu/h)	Minimum COP Required per Table 110.2-E	Design COP	Rated Output Capacity (kBtu/h)	Minimum EER Required per Tables 110.2-E	Design EER
HP-10-1 & HP-10-2	39000	3	3.3	41500	9.5	11

G. PUMPS
This section does not apply to this project.



HMC Architects
3186-070-000

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA 95816
916 368 7990 / www.hmcarchitects.com

ISSUE	
DESCRIPTION	DATE
1 ADDENDUM #1	03/01/2024



FACILITY:
MATSUYAMA ELEMENTARY SCHOOL
7680 WINBRIDGE DR.
SACRAMENTO, CA 95831

PROJECT:
MATSUYAMA ELEMENTARY SCHOOL MODERNIZATION

SHEET NAME:
TITLE 24 COMPLIANCE - BUILDING 10

DSA SUBMITTAL

DATE: 01/04/2024
CLIENT PROJ NO: 3186-070-000

SHEET:

T24.05

FILE LINE INFORMATION IS
LOCATED IN THE ORIGINAL FILE SIZE
SHEET ORIGINAL PAGE SIZE

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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	Plan sheet or construction document location
Mandatory Measures Note Block	M-Sheets

Generated Date/Time: Documentation Software: EnergyPro
 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-4955-1223-1556
 Schema Version: rev 20220101 Report Generated: 2023-12-14 13:55:25

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Lydia Reynolds	Documentation Author Signature:
Company: LP Consulting Engineers, Inc.	Signature Date: 2023-12-14
Address: 1209 Pleasant Grove Blvd.	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Roseville CA 95678	Phone: 916.771.0778

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: Ryan Ennis	Responsible Designer Signature:
Company: LP Consulting Engineers, Inc.	Date Signed: 2023-12-14
Address: 1209 Pleasant Grove Blvd.	License: M41413
City/State/Zip: Roseville CA 95678	Phone: 916.771.0778

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 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-4955-1223-1556
 Schema Version: rev 20220101 Report Generated: 2023-12-14 13:55:25

AGENCY APPROVAL:



HMC Architects
 3186-070-000
 2101 CAPITOL AVENUE, SUITE 100,
 SACRAMENTO, CA, 95816
 916 368 7990 / www.hmcarchitects.com

ISSUE	DESCRIPTION	DATE
1	ADDENDUM #1	03/01/2024

MEP & FS / Sustainability / CxA

 1209 Pleasant Grove Blvd.
 Roseville, CA 95678
 p 916-771-0778
 www.lpengineers.com
 Job #: 23-2274

FACILITY:
MATSUYAMA ELEMENTARY SCHOOL
 7680 WINDBRIDGE DR.
 SACRAMENTO, CA 95831

PROJECT:
MATSUYAMA ELEMENTARY SCHOOL MODERNIZATION

SHEET NAME:
TITLE 24 COMPLIANCE - BUILDING 10

DSA SUBMITTAL

DATE: 01/04/2024 CLIENT PROJ NO: 3186-070-000
 SHEET:

T24.06

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H. FAN SYSTEMS & AIR ECONOMIZERS
Table with columns: System Name, HP-11.3, Quantity, Fan System Status, Alteration, System Zoning, all other systems, Servicing Dwelling Units, Not Servicing Dwelling Units, Fan System Airflow (cfm), 1,350, Site Elevation, 17, Economizer, NA: Altered packaged AC or HP <54 kbtu/h. Includes a detailed table for SF Supply 1 with component details like Base Allowance, MERV 13-16 Filter, and Supply Fan System.

FOOTNOTES:
1 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.
3 Fan system allowance includes fan system base allowance.
4 Filter pressure loss can only be counted once per fan system.
5 Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
6 Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document.

H. EXHAUST AIR HEAT RECOVERY 140.4(a), 170.2(c)(40)
Table with columns: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11
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H. EXHAUST AIR HEAT RECOVERY 140.4(a), 170.2(c)(40)
Table with columns: 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 per 140.4(a) & 170.2(c)(40), Exhaust Air Heat Recovery 140.4(a) & 170.2(c)(40), Type Of Heat Recovery Rating, Required Recovery Ratio, Energy Recovery Bypass
Includes a table for Fan Energy Index (FEI) with columns 01-03.

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)(2), 180.2(b)(2) for altered space conditioning systems.
Table with columns: 01, 02, 03, 04, 05, 06, 07, 08, 09
Includes a table for System Name, System Zoning, and various control parameters like Thermostats, Shut-Off Controls, Isolation Zone Controls, Demand Response, Supply Air Temp. Reset, Window Interlocks, etc.

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.
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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Compliance ID: EnergyPro-4955-1223-1597
Report Generated: 2023-12-14 14:00:11

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 141.0(a)(1), 160.2, 160.3(a)(3), 170.2(b)(4N), 170.2(b)(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 airflow rates may be shown on the plans or the calculations can be presented in a spreadsheet.
Table with columns: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11
Includes a table for Nonresidential and Hotel/Motel Multifamily Common Use Ventilation Systems with columns 04-07 and a table for Classroom ventilation with columns 04-07.

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)
Dry System Equipment Efficiency (Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP) only)
Table with columns: 01, 02, 03, 04, 05, 06, 07
Includes a table for Name or Item Tag with columns: Heating Mode, Cooling Mode, Rated Output Capacity (kbtu/h), Minimum COP Required per Table 110.2-E, Design COP, Rated Output Capacity (kbtu/h), Minimum EER Required per Tables 110.2-E, Design EER.

G. PUMPS
This section does not apply to this project.

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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.
Table with columns: System Name, HP-11.1, Quantity, Fan System Status, Alteration, System Zoning, all other systems, Servicing Dwelling Units, Not Servicing Dwelling Units, Fan System Airflow (cfm), 1,350, Site Elevation, 17, Economizer, NA: Altered packaged AC or HP <54 kbtu/h.
Includes a table for SF Supply 1 with component details like Base Allowance, MERV 13-16 Filter, and Supply Fan System.

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H. FAN SYSTEMS & AIR ECONOMIZERS
Table with columns: System Name, HP-11.2, Quantity, Fan System Status, Alteration, System Zoning, all other systems, Servicing Dwelling Units, Not Servicing Dwelling Units, Fan System Airflow (cfm), 1,350, Site Elevation, 17, Economizer, NA: Altered packaged AC or HP <54 kbtu/h.
Includes a table for SF Supply 1 with component details like Base Allowance, MERV 13-16 Filter, and Supply Fan System.

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A. GENERAL INFORMATION
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.
Table with columns: 01, 02, 03, 04, 05, 06
Includes a table for Project Location (city), Climate Zone, Occupancy Types Within Project, etc.

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.
Table with columns: 01, 02, 03
Includes a table for Air System(s), Wet System Components, Dry System Components, Mechanical Controls, etc.

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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.
Table with columns: 01, 02, 03, 04, 05, 06, 07, 08, 09
Includes a table for System Summary, Fans/Economizers, System Controls, Ventilation, Terminal Box Controls, Distribution, Cooling Towers, Compliance Results, etc.

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
Table with columns: 01, 02, 03, 04, 05, 06
Includes a table for System Name, Quantity, System Serving, System Status, Space Type, Utilizing Recovered Heat.

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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)
Table with columns: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11
Includes a table for Name or Item Tag, Equipment Category per Tables 110.2, 140.4(a)(2) and 170.2(c)(3a)(i), Equipment Type per Tables 110.2 and Title 20, Heating Output, Cooling Output, Load Calculations, etc.

FOOTNOTES:
1 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 exempt.
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).

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HMC Architects

3186-070-000

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA 95816
916 368 7990 / www.hmcarchitects.com

ISSUE
Table with columns: DESCRIPTION, DATE
1 ADDENDUM #1 03/01/2024



FACILITY:
MATSUYAMA ELEMENTARY SCHOOL
7680 WINBRIDGE DR.
SACRAMENTO, CA 95831

PROJECT:
MATSUYAMA ELEMENTARY SCHOOL MODERNIZATION

SHEET NAME:
TITLE 24 COMPLIANCE - BUILDING 11

DSA SUBMITTAL

DATE: 01/04/2024 CLIENT PROJ NO: 3186-070-000

SHEET:

T24.07

Autodesk Docs://18607000 - SCUSD Matsuyama ES Modernization/318607000-A-MATSUYAMA-MOD-14
12/15/2023 2:28:53 PM

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 16 of 17)
Date Prepared: 12/14/2023

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	Plan sheet or construction document location
Mandatory Measures Note Block	M-Sheets

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STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 17 of 17)
Project Address: 7880 Windbridge Dr Date Prepared: 12/14/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Lyla Reynolds
Signature Date: 2023-12-14
Company: LP Consulting Engineers, Inc.
Address: 1209 Pleasant Grove Blvd.
City/State/Zip: Roseville CA 95678
Phone: 916.771.0778

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).
- 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.
- 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.
- 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 inspectors. 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: Ryan Ennis
Signature Date: 2023-12-14
Company: LP Consulting Engineers, Inc.
Address: 1209 Pleasant Grove Blvd.
City/State/Zip: Roseville CA 95678
Phone: 916.771.0778

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Mechanical Systems
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CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 13 of 17)
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L. DISTRIBUTION (DUCTWORK and PIPING)

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
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	Duct Insulation R-value
22		
23		

The answers to the questions below apply to the following duct systems: HP-11-3 NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No

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Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 11 of 17)
Date Prepared: 12/14/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

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
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	Duct Insulation R-value
22		
23		

M. COOLING TOWERS
This section does not apply to this project.

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Mechanical Systems
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CERTIFICATE OF COMPLIANCE NRCC-MCH-4
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N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

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

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

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.	BAR2 W42H; BAR2 W42H; BAR2 W42H;
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".	BAR2 W42H; BAR2 W42H; BAR2 W42H;
NRCA-MCH-11-A Automatic Demand Shed Controls	BAR2 W42H; BAR2 W42H; BAR2 W42H;
NRCA-MCH-16-A Supply Air Temperature Reset Controls	BAR2 W42H; BAR2 W42H; BAR2 W42H;
NRCA-MCH-18-A Energy Management Control Systems	BAR2 W42H; BAR2 W42H; BAR2 W42H;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION
There are no NRCV forms required for this project.

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STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 10 of 17)
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J. VENTILATION AND INDOOR AIR QUALITY

Space Name or Item Tag	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	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 ¹ 160.2(c)5D 160.2(c)5E 160.2(c)5D	
								DCV	NA: Not required per 120.1(d)3		
Classroom	Classroom (ages 5-18)	947			359.9	0	0			DCV	NA: Not required per 120.1(d)3
17	Total System Required Min OA CFM				360	18				Occ Sensor	NA: Not required space type
Ventilation for this System Complies? Yes											
04 05 06 07											
System Name	HP-11-3	System Design OA CFM Airflow ¹	360	System Design Transfer Air CFM	0					Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)121 ¹ Provided	
08	09	10	11	12	13	14	15			16	
Space Name or Item Tag	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	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 ¹ 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Classroom	Classroom (ages 5-18)	947			359.9	0	0			DCV	NA: Not required per 120.1(d)3
17	Total System Required Min OA CFM				360	18				Occ Sensor	NA: Not required space type
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.

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CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 11 of 17)
Date Prepared: 12/14/2023

J. VENTILATION AND INDOOR AIR QUALITY

¹ See Standards Tables 120.1-A and 120.1-B.
² For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
³ 120.2(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 250ft² or smaller, multipurpose rooms less than 1,000 ft², 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).

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.
	<input type="checkbox"/>	

Duct Leakage Testing
The answers to the questions below apply to the following duct systems: HP-11-1 NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No

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STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-4
Project Name: Matsuyama Elementary School Modernization Report Page: (Page 12 of 17)
Date Prepared: 12/14/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

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
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	Duct Insulation R-value
22		
23		

The answers to the questions below apply to the following duct systems: HP-11-2 NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems? No

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Schema Version: rev 20220101 Report Generated: 2023-12-14 14:00:11

AGENCY APPROVAL:



HMC Architects
3186-070-000

2101 CAPITOL AVENUE, SUITE 100, SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

DESCRIPTION	DATE
1 ADDENDUM #1	03/01/2024



FACILITY: MATSUYAMA ELEMENTARY SCHOOL
7680 WINDBRIDGE DR.
SACRAMENTO, CA 95831

PROJECT: MATSUYAMA ELEMENTARY SCHOOL MODERNIZATION

SHEET NAME: TITLE 24 COMPLIANCE - BUILDING 11

DSA SUBMITTAL

DATE: 01/04/2024 CLIENT PROJ NO: 3186-070-000

SHEET:

T24.08