BMS - HVAC CONTROLS M-800 POINT FUNCTION SCHEDULE

NO.	TAG	POINT NAME	POINT DEFINITION	POINT TYPE	FAIL MODE: FAIL OFF (CLOSED)	FAIL MODE: FAIL MODE ON (OPEN)	FAIL MODE: LAST COMMANDED STATE	FAIL MODE: LOCAL DEFAULT	SOFTWARE: CALCULATED POINT	SOFTWARE: DIRECT DIGITAL CONTROL	SOFTWARE: NETWORK POINT	SOFTWARE: PROGRAM START/STOP	SOFTWARE: RUN TIME	SOFTWARE: SOFTWARE INTERLOCKS	SOFTWARE: SETPOINT ADJUSTMENT	SOFTWARE: UNOCCUPIED SETPOINT	SOFTWARE: SETBACK SETPOINT	SOFTWARE: TREND	TREND INTERVAL	UNITS	ALARMING: ENHANCED ALARM	ALARMING: CRITICAL ALARM	ALARMING: MAINTENANCE ALARM	HIGH LIMIT	LOW LIMIT	NOTES
DX SPLIT SYSTEM																										
1	AUX	GenAlm	SYSTEM ALARM (GENERIC)	DI						■	■								■	COV		■					
2	TT	ZoneTemp	ZONE TEMPERATURE	AI						■	■					■			■	NUMERIC	°F	■			EffCoolSp + 5°F (ADJ)	EffCoolSp - 5°F (ADJ)	
EXHAUST FAN EF-3																										
1	CMD	EaFanCmd	EXHAUST FAN COMMAND	DO	■					■	■			■					■	COV							
2	CSR	EaFanSts	EXHAUST FAN STATUS	DI							■		■						■	COV		■					
3	TT	ZoneTemp	ZONE TEMPERATURE	AI						■	■					■			■	NUMERIC	°F	■			EffCoolSp + 5°F (ADJ)	EffCoolSp - 5°F (ADJ)	
GENERAL/TOILET EXHAUST FAN																										
1	CMD	EaFanCmd	EXHAUST FAN COMMAND	DO	■					■	■				■				■	COV							
2	CSR	EaFanSts	EXHAUST FAN STATUS	DI							■		■						■	COV		■					

MECHANICAL CONTROLS GENERAL NOTES

A. THESE DRAWINGS CONTAIN THE GENERAL CONTROL REQUIREMENTS. THESE STRATEGIES WILL BE CLARIFIED AND MODIFIED THROUGH PROGRAMMING MEETINGS BETWEEN THE COMMISSIONING AUTHORITY, OWNER AND ENGINEER PRIOR TO IMPLEMENTATION. AT THAT TIME INITIAL SET POINTS AND RESET SCHEDULES WILL BE FINALIZED BEFORE PROGRAMMING. AFTER THE SYSTEM IS OPERATIONAL, TRENDING WILL BE REQUIRED TO VERIFY THE ACCURACY AND ADEQUACY OF THE SEQUENCE OF CONTROL. PROVIDE ADDITIONAL FINE TUNING OR CHANGES IN STRATEGY IN ORDER TO OPTIMIZE BUILDING OPERATION AS DIRECTED DURING THESE MEETINGS. PROVIDE PROGRAMMING FOR ADDITIONAL ALARMS AS REQUESTED BY THE OWNER OR ENGINEER OR COMMISSIONING AUTHORITY. ALL SET POINTS SHALL BE OPERATOR ADJUSTABLE THROUGH THE BMS AT THE OPERATOR'S WORKING STATION (OWS).

B. THESE DIAGRAMS ARE INTENDED TO DEMONSTRATE THE SYSTEM CONFIGURATION REQUIREMENTS WITH RELATIVE PLACEMENT OF THE CONTROL RELATED DEVICES AND INSTRUMENTATION. IT SHOULD BE NOTED THAT ADDITIONAL ELEMENTS SUCH AS GENERAL VALVES OR OTHER NON-ACTIVELY CONTROLLED DEVICES MAY NOT SHOWN. REFER TO THE DETAILS, PROJECT PLANS, AND SPECIFICATIONS FOR ADDITIONAL DEVICES AND CONSTRUCTION THAT IS REQUIRED IN THE CONSTRUCTION OF THESE SYSTEMS.

C. SEE SPECIFICATIONS FOR MINIMUM CLEARANCE OF ALL MECHANICAL EQUIPMENT, PIPING, DUCTWORK, AND DEVICES OF IN ALL GENERAL AND PUBLIC ACCESS AREAS. MAINTAIN ACCEPTABLE CLEARANCE IN ALL AREAS REQUIRED FOR SERVICE AND ACCESS OF MECHANICAL EQUIPMENT AS PER ANY APPLICABLE CODES AND/OR MANUFACTURER RECOMMENDATIONS.

D. MAINTAIN CODE-REQUIRED MINIMUM CLEARANCES ABOVE AND IN FRONT OF ALL ELECTRICAL PANELS, INCLUDING THOSE INCLUDED AS A PART OF MECHANICAL EQUIPMENT.

E. EDIT THE LOADING AND UNLOADING SEQUENCES TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR TIME DELAYS BETWEEN STAGING ON/OFF COMPONENTS.

F. ALL POINTS LISTED (DIRECT& NETWORK) SHALL BE INCLUDED ON GRAPHICS.

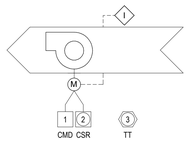
G. ALL CONTROL POINTS ARE TRENDABLE.

H. PROVIDE ANY DEVICES SHOWN IN THE DIAGRAM NOT PROVIDED BY THE UNIT MANUFACTURER.

I. ALL NUMERICAL INPUTS FOR SETPOINTS AND ALARMING SHALL BE MADE TO BE ADJUSTABLE THROUGH THE OWS AND FINALIZED DURING START-UP AND/OR COMMISSIONING.

J. SEE PLANS AND SCHEDULES FOR PARENT/CHILD AIR HANDLING UNIT AND TERMINAL UNIT RELATIONSHIPS.

BMS POINT GRAPHIC LEGEND



SEQUENCE OF OPERATION

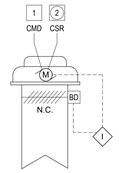
GENERAL

THE BUILDING MANAGEMENT SYSTEM (BMS) SHALL CONTINUOUSLY MONITOR THE ELECTRICAL ROOM TEMPERATURE. THE EXHAUST FAN SHALL OPERATE AS FOLLOWS TO MAINTAIN THE ROOM TEMPERATURE AT THE DESIRED SETPOINT (85°F, ADJUSTABLE).

SAFETIES AND ALARMS

CURRENT RELAYS SHALL BE PROVIDED TO MONITOR THE STATUS OF THE EXHAUST FANS. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT, AN ALARM WILL BE GENERATED THROUGH THE BMS.

3 INLINE FAN EF-3
NOT TO SCALE



SEQUENCE OF OPERATION

GENERAL

THE UNIT WILL BE STARTED AUTOMATICALLY THROUGH THE DDC BASED ON AN OCCUPANCY SCHEDULE COORDINATED WITH THE OWNER.

WHEN ENABLED, THE EXHAUST FAN WILL BE FORCED TO ITS MINIMUM ECM SPEED. ONCE STABLE, THE FAN WILL SLOWLY RAMP UP ITS SPEED TO MAINTAIN THE EXHAUST AIR STATIC PRESSURE (EaPress) AT THE EXHAUST STATIC PRESSURE SETPOINT (EaPressSp). THE EXHAUST AIR STATIC PRESSURE SET-POINT SHALL BE DETERMINED BY THE AIR BALANCER.

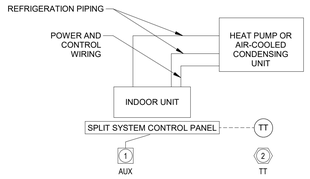
WHEN THE EXHAUST FAN IS DISABLED, THE FAN WILL STOP. AFTER A 30 SECOND (ADJ) TIME DELAY.

ALL SETPOINTS AND TIME OF DAY SCHEDULES SHALL BE COORDINATED WITH THE OWNER.

SAFETIES AND ALARMS

CURRENT RELAYS SHALL BE PROVIDED TO MONITOR THE STATUS OF THE EXHAUST FANS. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT, AN ALARM WILL BE GENERATED THROUGH THE BMS.

2 GENERAL EXHAUST FAN CONTROLS DIAGRAM
NOT TO SCALE



SEQUENCE OF OPERATION

GENERAL

ALL CONTROLS SHALL BE PROVIDED BY THE UNIT MANUFACTURER AND SHALL HAVE THE CAPABILITY TO INTERFACE WITH THE BMS **[VIA BACNET MS/TP]**.

THE UNIT SHALL CYCLE OPERATION TO MAINTAIN A ZONE TEMPERATURE SETPOINT OF **[72°F]** (ADJ). ZONE TEMPERATURE SETPOINT SHALL BE DETERMINED AND SET THROUGHT THE BAS.

ALL SETPOINTS AND TIME OF DAY SCHEDULES SHALL BE COORDINATED WITH THE OWNER.

SAFETIES AND ALARMS

THE LOCAL DDC SHALL MONITOR THE UNIT ALARM STATUS AND IN THE EVENT OF A FAILURE REPORT AN ALARM THROUGH THE BMS.

1 DX SPLIT SYSTEM CONTROLS DIAGRAM
NOT TO SCALE

Inglewood Unified School District

401 S. Inglewood Ave.
Inglewood, CA 90301

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave.
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SHAHROKH SARCEMI M-34968 EXP.6-30-26 MECHANICAL STATE OF CALIFORNIA

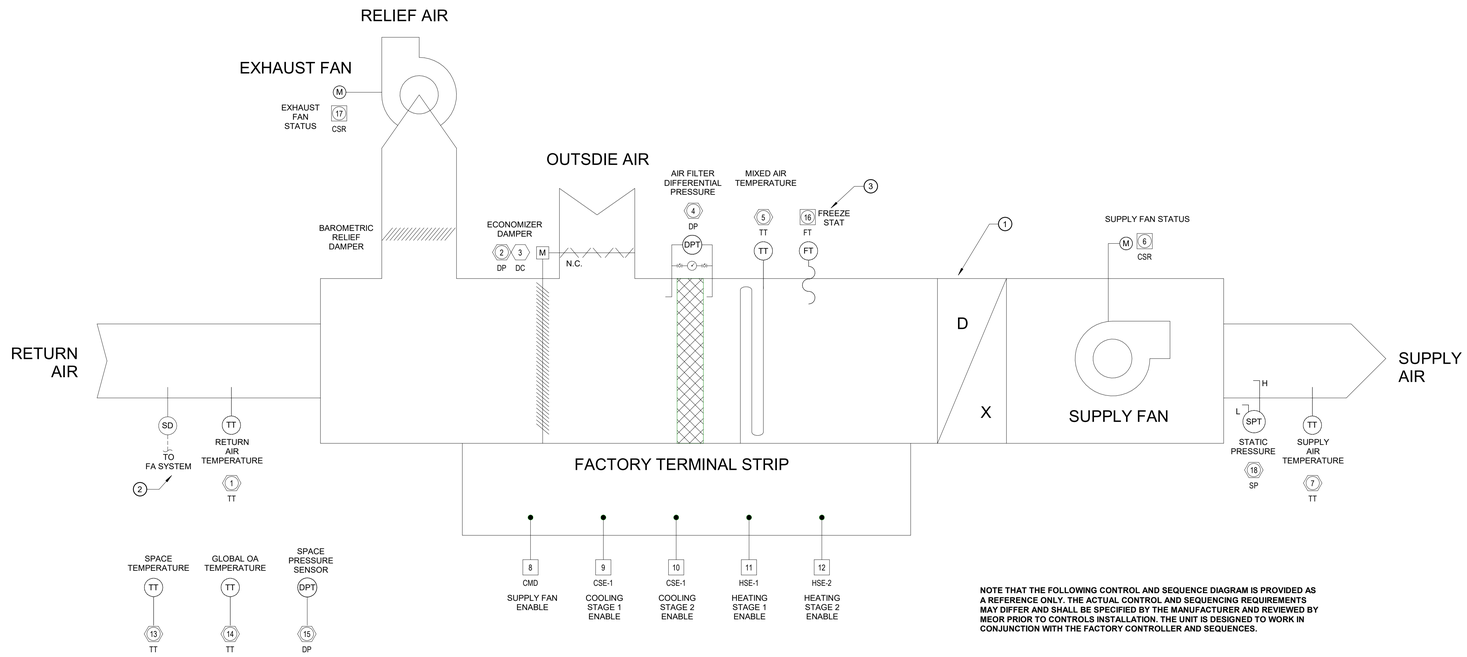
2023-IU002-002

Control Diagrams

M-800

BMS - HVAC CONTROLS M-801 POINT FUNCTION SCHEDULE

NO.	TAG	POINT NAME	POINT DEFINITION	POINT TYPE	FAIL MODE: FAIL OFF (CLOSED)	FAIL MODE: FAIL MODE ON (OPEN)	FAIL MODE: LAST COMMANDED STATE	FAIL MODE: LOCAL DISFAULT	SOFTWARE: CALCULATED POINT	SOFTWARE: DIRECT DIGITAL CONTROL	SOFTWARE: NETWORK POINT	SOFTWARE: PROGRAM START/STOP	SOFTWARE: RUN TIME	SOFTWARE: SOFTWARE INTERLOCKS	SOFTWARE: SETPOINT ADJUSTMENT	SOFTWARE: UNOCCUPIED SETPOINT	SOFTWARE: SETBACK SETPOINT	SOFTWARE: TREND	TREND INTERVAL	UNITS	ALARMING: ENHANCED ALARM	ALARMING: CRITICAL ALARM	ALARMING: MAINTENANCE ALARM	HIGH LIMIT	LOW LIMIT	NOTES
RTU TYPICAL																										
1	TT	Temp	TEMPERATURE	AI						■	■						■	■	NUMERIC	°F						
2	DP	DmprPos	DAMPER POSITION	AI					■	■	■				■			■	NUMERIC	%						
3	DC	DmprCmd	DAMPER COMMAND	AO	■					■	■				■			■	NUMERIC	%						
4	DP	PreFilDiffPr	PREFILTER DIFFERENTIAL PRESSURE	AI							■							■	NUMERIC	IN WC			■			
5	TT	MaTemp1	MIXED AIR TEMPERATURE 1	AI						■	■					■		■	NUMERIC	°F						
6	CSR	PreFilDiffPr	PREFILTER DIFFERENTIAL PRESSURE	DI							■							■	NUMERIC	IN WC			■			
7	TT	Temp	TEMPERATURE	AI						■	■					■		■	NUMERIC	°F						
8	CMD	MaTemp1	MIXED AIR TEMPERATURE 1	DO						■	■					■		■	NUMERIC	°F						
9	CSE-1	MaTemp1	MIXED AIR TEMPERATURE 1	DO						■	■					■		■	NUMERIC	°F						
10	CSE-1	MaTemp1	MIXED AIR TEMPERATURE 1	DO						■	■					■		■	NUMERIC	°F						
11	HSE-1	MaTemp1	MIXED AIR TEMPERATURE 1	DO						■	■					■		■	NUMERIC	°F						
12	HSE-2	MaTemp1	MIXED AIR TEMPERATURE 1	DO						■	■					■		■	NUMERIC	°F						
13	TT	Temp	TEMPERATURE	AI						■	■					■		■	NUMERIC	°F						
14	TT	Temp	TEMPERATURE	AI						■	■					■		■	NUMERIC	°F						
15	DP	Temp	TEMPERATURE	AI						■	■					■		■	NUMERIC	°F						
16	FT	LowLmtTemp	LOW LIMIT FREEZESTAT	DI							■		■					■	COV			■				
17	CSR	PreFilDiffPr	PREFILTER DIFFERENTIAL PRESSURE	DI							■							■	NUMERIC	IN WC			■			
18	SP	DaPress	DISCHARGE AIR DUCT STATIC PRESSURE	AI						■	■				■			■	NUMERIC	IN WC	■			4 IN WC (ADJ)	0 IN WC (ADJ)	



NOTE THAT THE FOLLOWING CONTROL AND SEQUENCE DIAGRAM IS PROVIDED AS A REFERENCE ONLY. THE ACTUAL CONTROL AND SEQUENCING REQUIREMENTS MAY DIFFER AND SHALL BE SPECIFIED BY THE MANUFACTURER AND REVIEWED BY MEOR PRIOR TO CONTROLS INSTALLATION. THE UNIT IS DESIGNED TO WORK IN CONJUNCTION WITH THE FACTORY CONTROLLER AND SEQUENCES.

NOTES

1. DX COIL.
2. PROVIDE RELAY FOR FIRE ALARM INTERFACE.
3. LOW TEMPERATURE THERMOSTATS (FREEZESTATS) SHALL BE INCREMENTAL CAPILLARY TUBE TYPE AVERAGING THE TEMPERATURE IN 12" INCREMENTS. THE FACE OF THE COOLING COIL, (MINIMUM OF 2 IN ALL CASES). EACH FREEZESTAT SHALL COVER A MAXIMUM OF 20 SQ.FT OF DUCT CROSS-SECTIONAL AREA.

SEQUENCE OF OPERATION

GENERAL

RTU-1 thru RTU-8 IS A PACKAGED SINGLE ZONE (CAV) CONSTANT VOLUME ROOF TOP AIR HANDLING UNIT INTENDED TO SERVE EACH ZONE WITH TWO STAGES OF DX COOLING, AND TWO STAGES OF DX HEATING.

THE UNIT WILL BE STARTED AUTOMATICALLY THROUGH AN OCCUPANCY SCHEDULE COORDINATED WITH THE OWNER.

THE UNIT WILL AUTOMATICALLY TURN OFF DURING UNOCCUPIED MODE AND WILL FOLLOW A MORNING WARM-UP/COOLING-DOWN SEQUENCE PRIOR TO BEING PLACED IN OCCUPIED MODE.

THE H-O-A SWITCH WILL BE KEPT IN THE "AUTO" POSITION. "HAND" AND "OFF" POSITIONS WILL BE USED ONLY FOR MAINTENANCE. WHEN THE UNIT IS "OFF" ITS RESPECTIVE MINIMUM OUTSIDE AIR, ECONOMIZER, RELIEF AIR AND FAN ISOLATION DAMPERS SHALL FULLY CLOSE AND THE SUPPLY AND EXHAUST FANS SHALL BE STOPPED. WHEN THE UNIT IS COMMANDED ON, THE FAN ISOLATION DAMPERS SHALL FULLY OPEN AND THE MINIMUM OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL OPEN TO THEIR MINIMUM POSITIONS. WHEN THE ISOLATION DAMPERS ARE PROVEN OPEN THROUGH THEIR RESPECTIVE END SWITCHES, THE SUPPLY FANS ARE STARTED AT MINIMUM SPEED AND PLACED UNDER SPEED CONTROL AS DESCRIBED IN THE "SUPPLY FAN SPEED CONTROL". ONCE THE FANS ARE UNDER SPEED CONTROL AND ARE MAINTAINING THEIR RESPECTIVE PRESSURE & AIRFLOW SETPOINTS, THE DAMPERS SHALL OPERATE AS DESCRIBED IN THE "ECONOMIZER AND DAMPER CONTROL" PORTION OF THIS SEQUENCE.

ALL SETPOINTS AND TIME OF DAY SCHEDULES SHALL BE COORDINATED WITH THE OWNER.

SUPPLY FAN SPEED CONTROL

THE SUPPLY FAN SHALL OPERATE TO MEET THE AIR FLOW REQUIRMENT PER SCHEDULE.

EXHAUST FAN SPEED CONTROL

THE EXHAUST FAN(S) WILL BE ELECTRONICALLY INTERLOCKED TO ECONOMIZER AND START AND STOP UPON ACTIVATION.

ECONOMIZER AND DAMPER CONTROL

ECONOMIZER HIGH LIMIT CUTOFF TEMPERATURE SETPOINT (EconHITempSp) WILL BE A CALCULATED POINT BY THE DDC EQUAL TO THE FOLLOWING EQUATION: RETURN AIR TEMPERATURE (RaTemp) MINUS **[6°F]**.

WHEN THE OUTSIDE AIR TEMPERATURE (OaTemp) IS GREATER THAN OR EQUAL TO THE EconHiTempSp, OR THE OUTSIDE AIR ENTHALPY (OaEnth - CALCULATED USING OaTemp and OaHum) IS GREATER THAN RETURN AIR ENTHALPY (RaEnth - CALCULATED USING RaTemp AND RaHum), THE MIXED AIR DAMPER (MaDmprCmd) WILL MODULATE TO ITS FULLY OPEN POSITION, THE MINIMUM OUTDOOR AIR DAMPER (MoaDmprCmd) WILL MODULATE TO MAINTAIN MINIMUM OUTSIDE AIR FLOW (OaFlow) SETPOINT AND THE RELIEF AIR DAMPER (RlfDmprCmd) WILL MODULATE TO ITS MINIMUM POSITION. DURING THIS MODE OF OPERATION, THE ECONOMIZER DAMPER (EconDmprCmd) SHALL REMAIN FULLY CLOSED. THE DCC WILL ENABLE ITS "MINIMUM VENTILATION AND MECHANICAL COOLING" MODE TO PREVENT OPERATION OF THE HEATING COIL CONTROL VALVE (HcoilVlvCmd).

WHEN OaTemp IS LESS THAN EconHiTempSp AND GREATER THAN DISCHARGE AIR TEMPERATURE SETPOINT (DaTempSp) AND OaEnth IS LESS THAN RaEnth, THE MoaDmprCmd, EconDmprCmd, AND RlfDmprCmd WILL MODULATE TO THEIR FULLY OPEN POSITIONS AND THE MaDmprCmd WILL MODULATE TO ITS FULLY CLOSED POSITION. THE DDC WILL ENABLE ITS ECONOMIZER AND MECHANICAL COOLING" MODE TO PREVENT OPERATION OF THE HcoilVlvCmd.

WHEN OaTemp IS LESS THAN DaTempSp, THE MaDmprCmd WILL MODULATE TO ITS FULLY OPEN POSITION, THE MoaDmprCmd WILL MODULATE TO MAINTAIN DaTempSp AND THE RlfDmprCmd WILL MODULATE TO MAINTAIN MIXED AIR PLENUM PRESSURE (MaPress) AT THE MIXED AIR PLENUM PRESSURE SETPOINT (MaPressSp) OF -0.05" WG (ADJ). IF THE MoaDmprCmd IS FULLY OPEN AND DaTemp REMAINS ABOVE DaTempSp, THE EconDmprCmd SHALL OPEN AND MODULATE TO MAINTAIN DaTemp AT DaTempSp. THE DDC WILL ENABLE ITS "OA RAMP AND MECHANICAL HEATING" MODE TO PREVENT OPERATION OF THE COOLING COIL CONTROL VALVE (CoolVlvCmd).

DURING UNOCCUPIED MODE AND IN MORNING WARM-UP/COOL-DOWN OPERATION, THE EconDmprCmd, MoaDmprCmd, and RlfDmprCmd WILL REMAIN FULLY CLOSED. WHEN THE UNIT SWITCHES FROM UNOCCUPIED OR MORNING WARM-UP/COOL-DOWN MODE TO OCCUPIED MODE, THE MoaDmprCmd AND RlfDmprCmd WILL SLOWLY MODULATE OPEN TOWARDS THEIR MINIMUM POSITIONS PRIOR TO BEING PLACED INTO ANY ECONOMIZER CONTROL.

DISCHARGE AIR TEMPERATURE CONTROL

THE INITIAL PROGRAMMED DISCHARGE AIR TEMPERATURE SETPOINT (DaTempSp) WILL BE **[55°F]** (ADJ).

SPACE TEMPERATURE SENSOR LOCATED IN THE FLOOR SHALL ENABLE COOLING OR HEATING MODE TO MEET THE SPACE SETPOINT TEMPERATURE.

WHEN HEATING MODE IS SELECTED, COOLING WILL BE LOCKED OUT AND ONLY THE HEATING STAGES WILL BE ENABLED.
WHEN THE COOLING MODE IS SELECTED, HEATING WILL BE LOCKED OUT AND ONLY THE COOLING STAGES WILL BE ENABLED.

HEATING: THE HEATING STAGES WILL BE ENERGIZED WHEN THE FAN IS RUNNING, AND THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT. THE HEATING STAGES WILL BE DE-ENERGIZED AS THE SPACE TEMPERATURE ACHIEVES THE HEATING SETPOINT.

COOLING: THE COOLING STAGES WILL BE ENERGIZED WHEN THE FAN IS RUNNING, AND THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT. THE COOLING STAGES WILL BE DE-ENERGIZED AS THE SPACE TEMPERATURE ACHIEVES THE COOLING SETPOINT.

SAFETIES AND ALARMS

THE SUPPLY AND EXHAUST FANS AND THE ASSOCIATED DISCHARGE AND RETURN AIR SMOKE ISOLATION DAMPERS (DalsoDmprCmd AND RalsoDmprCmd) SHALL BE INTERLOCKED WITH THE FIRE ALARM SYSTEM THROUGH A CONTROL MODULE (CM). THE CONTROL MODULE SHALL BE HARD-WIRED INTERLOCKED TO CONTROL THE FANS AND DalsoCmprCmd AND RalsoDmprCmd IN THE "HAND" AND "AUTO" OPERATING MODES. THE DUCT SMOKE DETECTORS LOCATED IN THE SUPPLY AND RETURN AIR OF EACH UNIT WILL BE MONITORED BY THE FIRE ALARM SYSTEM. WHEN PRODUCTS OF COMBUSTION ARE SENSED BY ONE OF THE SUPPLY OR RETURN AIR DUCT SMOKE DETECTORS, THE CONTROL MODULE SHALL STOP THE FANS, CLOSING THE ASSOCIATED SMOKE/ISOLATION DAMPERS WHILE IN THE "HAND" AND "AUTO" OPERATING MODES.

WHEN A FREEZE CONDITION OCCURS AT THE FREEZESTAT (LowLmtTemp), THE SUPPLY FAN SHALL BE STOPPED AND THE SMOKE/ISOLATION DAMPERS SHALL CLOSE THROUGH A HARD-WIRED INTERLOCK. IN ADDITION, THE EXHAUST FAN SHALL BE STOPPED, THE OaDmprCmd AND RlfDmprCmd SHALL CLOSE AND AN ALARM SHALL BE GENERATED. THE LowLmtTemp SHALL BE SET TO TRIP AT 36°F (ADJ) AND MUST BE MANUALLY RESET AT ITS RESPECTIVE LOCATION.

PRESSURE DIFFERENCE INDICATORS, LOCATED AT THE FILTERS, SHALL INDICATE THE DIFFERENTIAL PRESSURE ACROSS THE FILTERS. WHEN THE PRESSURE EXCEEDS AN ADJUSTABLE LIMIT BASED ON MANUFACTURER'S RECOMMENDATIONS TO DENOTE A DIRTY FILTER, AN ALARM SIGNAL WILL BE GENERATED AT THE UNIT.

1 RTU CONTROL DIAGRAM
1/8" = 1'-0"

Inglewood Unified School District

401 S. Inglewood Ave.
Inglewood, CA 90301

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave.
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SHAHROKH SARCMI M-34968 EXP.6-30-26 MECHANICAL STATE OF CALIFORNIA

2023-IU002-002

Control Diagrams

M-801

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 1 of 20)
Project Name: Bennet Kew	**Date Prepared:** 2024-08-23

A. General Information

1	Project Name	Bennet Kew			
2	Run Title	Title 24 Analysis			
3	Project Location	11710 S Cherry Ave			
4	City	Inglewood	5	Standards Version	Compliance 2022
6	Zip code	90303	7	Compliance Software (version)	EnergyPro 9.3
8	Climate Zone	8	9	Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential	11	Weather File	FULLERTON_STYP20.epw
12	Project Scope	• New complete scope	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	7705	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	0	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	7705	19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0			

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 2 of 20)

B. PROJECT SUMMARY

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

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

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 3 of 20)

C1. COMPLIANCE SUMMARY

COMPLIES[1]

	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[2] (kBtu/ft² - yr)	**Total[2] (kBtu/ft² - yr)**	**Total[2] (kBtu/ft² - yr)**
Standard Design	203.78	139.45	10.98
Proposed Design	197.29	49	8.37
Compliance Margins	**6.49**	**90.45**	**2.61**
	Pass	**Pass**	**Pass**

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Compliance Totals include efficiency, photovoltaics and batteries
[3] New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 4 of 20)

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	3.88	3.1	0.78
Space Cooling	64.71	60.38	4.33
Indoor Fans	72.02	94.07	-22.05
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	31.26	13.15	18.11
Indoor Lighting	31.91	26.59	5.32
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**203.78**	**197.29**	**6.49 (3.2%)**
Photovoltaics	-60.59	-148.29	87.7
Batteries	-3.74	---	-3.74
TOTAL COMPLIANCE	**139.45**	**49**	**90.45 (64.9%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 5 of 20)

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	66.84	66.84	---
Process	---	---	---
Other Ltg	---	---	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**206.29**	**115.84**	**90.45 (43.8%)**

[1] Notes: This table is not used for Energy Code Compliance.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 6 of 20)

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]

Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	0.53	0.42	0.11
Space Cooling	2.5	2.25	0.25
Indoor Fans	6	7.8	-1.8
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.55	1.04	1.51
Indoor Lighting	2.57	2.14	0.43
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**14.15**	**13.65**	**0.5 (3.5%)**
Photovoltaics	-2.19	-5.28	3.09
Batteries	-0.98	---	-0.98
TOTAL COMPLIANCE	**10.98**	**8.37**	**2.61 (23.8%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 7 of 20)

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	4.92	4.92	---
Process	---	---	---
Other Ltg	---	---	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**15.9**	**13.29**	**2.61 (16.4%)**

[1] Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 8 of 20)

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.8	0.7	0.1	---	---	---
Space Cooling	15.5	13.6	1.9	---	---	---
Indoor Fans	19.7	25.4	-5.7	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	10	4.2	5.8	---	---	---
Indoor Lighting	9.5	7.9	1.6	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**55.5**	**51.8**	**3.7**	**0**	**0**	**0**
Photovoltaics	-20.5	-49.5	29	---	---	---
Batteries	0.2	---	---	---	---	---
ENERGY USE SUBTOTAL	**35.2**	**2.3**	**32.9**	**0**	**0**	**0**
Receptacle	20.4	20.4	0	---	---	---
Process	---	---	---	---	---	---
Other Ltg	---	---	---	---	---	---
Process Motors	---	---	---	---	---	---
ENERGY USE TOTAL	**55.6**	**22.7**	**32.9**	**0**	**0**	**0**

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
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C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	33.7	31.97	1.73	5.13
NET EUI[1]	24.62	10.05	14.57	59.18

[1] Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

D1. EXCEPTIONAL CONDITIONS

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

F1. REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	**Exception[1]**	**Module Type**	**Array Type**	**Power Electronics**	**CFI**	**Azimuth (deg)**	**Tilt Input**	**Array Angle (deg)**	**Tilt: (x in 12)**	**Inverter Eff. (%)**	**Annual Solar Access (%)**
29		Standard (14-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

[1]See Table 01 for any PV exceptions used.

Inglewood Unified School District

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Inglewood, CA 90301

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave.
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SHAHROKH SARCMI M-34968 EXP.6-30-26 MECHANICAL STATE OF CALIFORNIA

2023-IU002-002

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M-900

F1B. PV BATTERY BUILDING TYPE(S)

01	02	03
Building Occupancy Type* (From Table 140.10-A/B and 170.2-U/V)	Conditioned Floor Area (ft²)	Unconditioned Floor Area (ft²)
Grocery	0	0
High-Rise Multifamily	0	0
Office, Financial Institutions, Unleased Tenant Space	0	0
Retail	0	0
School	7705	0
Warehouse	0	0
Auditorium, Convention Center, Hotel/Motel, Library, Medical Office Building/Clinic, Restaurant, Theater	0	0
None	0	0

** Building Occupancy Types are defined in Section 100.1 of the Energy Code*

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft²)	Total Fenestration Area (ft²)	Window to Wall Ratio (%)
North-Facing[1]	964	396	41.08
East-Facing[2]	1380	630	45.65
South-Facing[3]	0	0	0
West-Facing[4]	1380	450	32.61
Total	**3724**	**1476**	**39.63**
Roof	7705	0	0

Notes
[1]North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),
[2]East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),
[3]South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),
[4]West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

G4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	Air Barrier
Com-Floor 1	No air barrier

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
Surface Name	Construction Type	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value		Units	Value	Description of Assembly Layers	Status[1]
					Interior	Exterior				
R 218	Exterior Wall	3,724	Wood	21	N/A	N/A	U-factor	0.0691	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-1 Gypsum Board - 1/2 in.	N
R 3011	Roof	7,705	Wood	30	N/A	N/A	U-factor	0.0418	AsphaltShingles0_25in Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-2 Gypsum Board - 1/2 in.	N
Slab13	Underground Floor	7,705	N/A	0	N/A	N/A	F-factor	0.61	Slab Type =Unheated slab on grade Insulation Orientation =12 in vertical Insulation R-Value =R-5	N
Partition15	Interior Wall	1,995	Wood	13	N/A	N/A	U-factor	0.0952	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-3 Gypsum Board - 1/2 in.	N

[1] Status: N - New, A - Altered, E - Existing

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method[1]	Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	Overall VT	Status[2]
New fenestration	Vertical fenestration Fixed window N/A	NFRC	Manufactured	1,476	0.36	0.25	0.5	N

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

G8. OVERHANG DETAILS

01	02	03	04	05	06	07
Fenestration Tag/ ID	Azimuth	Depth (ft)	Height from Top of Sill to Overhang (ft)	Right Extent (ft)	Left Extent (ft)	Flap Height
Window9	270	6	9.5	10	10	N/A
Window19	270	6	9.5	10	10	N/A
Window26	270	6	9.5	10	10	N/A
Window37	0	20	9.8	10	10	N/A
Window39	90	6	10	10	10	N/A
Window43	90	6	9.5	10	10	N/A
Window50	90	6	10	10	10	N/A
Window57	90	6	10	10	10	N/A

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01	02	03	04	05	06	07	08	09	10	11	12
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
RTU-1	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12.2 14	No Economizer	N
RTU-2	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N
RTU-3	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N
RTU-4.1 & RTU4.2	Single Zone Heat Pump (SZHP) Air System	2	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N
RTU-5	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N
RTU-6	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N
RTU-7	Single Zone Heat Pump (SZHP) Air System	1	49.25	0	COP HSPF2	3.45 7.5	62.29	EER2 SEER2	12 14.3	Differential DB	N

[1] Status: N - New, A - Altered, E - Existing

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
			Supply Fan				Return / Relief Fan					
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status[1]
RTU-1	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-2	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-3	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-4.1 & RTU4.2	2	390	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-5	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-6	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N
RTU-7	1	555	1,900	0.8	BHP	Constant Vol	N/A	1,900	0.5	BHP	Constant Vol	N

[1] Status: N - New, A - Altered, E - Existing

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
RTU-2	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
RTU-3	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
RTU-4.1 & RTU4.2	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
RTU-5	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
RTU-6	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.
[1] Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
RTU-7	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
Bennet Kew1 - SHW	Service Hot Water	N/A	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.
[1] Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

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

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
1-Zone-1	Education - Classrooms (ages 5-8)	37	555	0	964	N/A
2-Zone-2	Education - Classrooms (ages 5-8)	37	555	0	964	DCV
3-Zone-3	Education - Classrooms (ages 5-8)	37	555	0	964	DCV
4-Zone-4	Education - Classrooms (ages 5-8)	52	780	0	1921	DCV
5-Zone-5	Education - Classrooms (ages 5-8)	37	555	0	964	DCV
6-Zone-6	Education - Classrooms (ages 5-8)	37	555	0	964	DCV
7-Zone-7	Education - Classrooms (ages 5-8)	37	555	0	964	DCV

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtuh)		Airflow (cfm)			Fan			VSD
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
1-Zone-1-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐
2-Zone-2-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐
3-Zone-3-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐
4-Zone-4-Trm	Uncontrolled	2	N/A	N/A	3,800	N/A	0	N/A	N/A	N/A	☐
5-Zone-5-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐
6-Zone-6-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐
7-Zone-7-Trm	Uncontrolled	1	N/A	N/A	1,900	N/A	0	N/A	N/A	N/A	☐

I1. WATER HEATER EQUIPMENT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
A. O. Smith HPTS-50 2**2	Electricity	Storage	1	50	5.86	kW	3.8	UEF	N/A	N/A	1	Heat Pump Split Water Heater	N/A

[1] Status: N - New, A - Altered, E - Existing

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

01	02	03	04	05	06
				Additional (Custom) Allowance	
Occupancy Type[1]	Conditioned Floor Area[2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Area Category Footnotes (Watts)	Area Category Footnotes (Watts)
Classroom, Lecture, or Training Vocational	7705	3852.5	0	0	0
Building Totals:	**7705**	**3852.5**	**0**	**0**	**0**

[1]See Table 140.6-C
[2]See NRCC-LTI--E for unconditioned spaces
[3]Lighting information for existing spaces modeled is not included in this table

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL

Building Level Controls

01	02
Mandatory Demand Response 110.12(c)	Shut-Off Controls 130.1(c) & 160.5(b)4C
Required	Required

Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per 130.1)

03	04	05	06	07	08	09
Area Description	Area Category Primary Function Area	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 Daylighting 130.1(d) & 160.5(b)4D	Secondary Daylighting 140.5(d) & 160.5(b)4D
Whole Building	All Other Space Types	Required	Required	Required	Required	Required

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Envelope	NRCI-ENV-E - Envelope (for all buildings)

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

Building Component	Form/Title
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems
	NRCI-SAB-E - Solar Water Heating, PV and Battery Storage Systems
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.
Indoor Lighting	NRCA-LTI-03-A - Automatic Daylight Controls.
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	RTU-1, RTU-2, RTU-3, RTU-4.1 & RTU4.2, RTU-5, RTU-6 and RTU-7.
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	RTU-1, RTU-2, RTU-3, RTU-4.1 & RTU4.2, RTU-5, RTU-6 and RTU-7.
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
	RTU-2, RTU-3, RTU-4.1 & RTU4.2, RTU-5, RTU-6 and RTU-7.
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.
	RTU-1, RTU-2, RTU-3, RTU-4.1 & RTU4.2, RTU-5, RTU-6 and RTU-7.
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	RTU-2, RTU-3, RTU-4.1 & RTU4.2, RTU-5, RTU-6 and RTU-7.

Inglewood Unified School District
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DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SHAHROKH SARAMI M-34968 EXP 6-30-26 MECHANICAL STATE OF CALIFORNIA

2023-IU002-002

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
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N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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

There are no Certificates of Verification applicable to this project

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 20 of 20)**

Documentation Author's Declaration Statement

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

Documentation Author Name:	Documentation Author Signature:
Company: HED	Signature Date:
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 understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name:	Responsible Designer Signature:	
Company: HED		
Address: 550 South Hope St., Suite 2500	Date Signed:	
City/State/Zip: Los Angeles, CA 90071	License #:	
Phone: 213.542.4578	Title:	Scope:
Responsible Designer Name: Sharo Saremi	Responsible Designer Signature:	
Company: HED		
Address: 550 South Hope St., Suite 2500	Date Signed:	
City/State/Zip: Los Angeles, CA 90071	License #:	
Phone: 213.542.4578	Title:	Scope:

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 1 of 6)
Project Address: 11710 S Cherry Ave	**Date Prepared:** 9/30/2024

A. GENERAL INFORMATION

01	Project Location (city)	Inglewood	04	Building Size (ft²)	7705
02	Occupancy Type	Nonresidential	05		< 10,000 ft²
03	Project Type	Newly constructed	06		Unitary or packaged equipment each serving one zone
			07	Climate Zone	8

B. PROJECT SCOPE

Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per 120.8. Table B is not editable by the user.

Commissioning Requirements per 120.8

01	Table F: Design Review Kickoff	120.8(d)1 and 120.8(d)2	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	120.8(b)	This requirement does not apply.
03	Table H: Basis of Design (BOD)	120.8(c)	This requirement does not apply.
04	Table I: Design Review	120.8(d) and 120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with >= 10,000 ft² of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	120.8(f)	This requirement does not apply.
06	Table K: Functional Performance Testing	120.8(g)	This requirement does not apply.
07	Table L: Documentation and Training	120.8(h)	This requirement does not apply.
08	Table M: Commissioning Report	120.8(i)	This requirement does not apply.

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 2 of 6)
	Date Prepared: 9/30/2024

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per 120.8. This table is not editable by the user. If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

01	02	03	04	05	06	07	08	09
Design Kickoff Review	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes	Yes							COMPLIES
10								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.

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 3 of 6)
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F. DESIGN REVIEW KICKOFF MEETING

This table indicates that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and demonstrates compliance with design review kickoff requirements per 120.8(d)2. This meeting should occur during the Schematic Design phase of the project.

Design Review Kickoff Meeting Details

01	Date of Design Review Kickoff Meeting	0001-01-01	
02	Meeting Attendees: (one person may play multiple roles)		
☐	Owner/Facility Manager:	☒ Design Reviewer(s)	Designer
☐	Project Manager:	☐ Design Architect/ Engineer(s):	
☐	Contractor:	☐ Certified Acceptance Test Tech(s):	
☐	Commissioning Provider:	☐ Energy/ T24 Part 6 Consultant:	

Design Reviewer Qualifications per Title 24 Part 1 Section 10-103(a)1

The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code.		Do the Design Reviewer(s) meet these qualifications?	
03	In addition, for buildings with >= 10,000 ft² but < 50,000², the design reviewer(s) shall be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect, or contractor	Yes: ●	No: ○
04	The design reviewer(s) for this project will be:	Designer	

Preliminary Construction Schedule

		Start Date	Completion Date
05	Schematic Design	0001-01-01	0001-01-01
06	Design Development	0001-01-01	0001-01-01
07	Construction Documents	0001-01-01	0001-01-01
08	Construction	0001-01-01	0001-01-01
09	Building Turnover	0001-01-01	0001-01-01
Project Goals Related to Energy Efficiency			
10	Operational Costs		
11	Desired Building Lifespan		
12	Equipment Lifecycle		
13	Project Energy Efficiency Goals		

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 4 of 6)
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F. DESIGN REVIEW KICKOFF MEETING

14	Envelope Goals
15	HVAC System Goals
16	Indoor Lighting System Goals
17	Outdoor Lighting System Goals
18	Water Heating System Goals
19	Equipment and System Specifications
20	Operations and Maintenance

G. OWNER'S PROJECT REQUIREMENTS (OPR)

This section does not apply to this project.

H. BASIS OF DESIGN (BOD)

This section does not apply to this project.

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST

This table is only completed if a design review document is not attached to permit application to demonstrate compliance with 120.8(b) and 120.8(e). For buildings with >= 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	●	○

J. COMMISSIONING PLAN

This section does not apply to this project.

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 5 of 6)
	Date Prepared: 9/30/2024

K. FUNCTIONAL PERFORMANCE TESTING

This section does not apply to this project.

L. DOCUMENTATION AND TRAINING

This section does not apply to this project.

M. COMMISSIONING REPORT

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no forms required for this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

STATE OF CALIFORNIA

Nonresidential Building Commissioning — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-CXR-E
Project Name: Bennett Kew	**Report Page:** (Page 6 of 6)
Project Address: 11710 S Cherry Ave	**Date Prepared:** 9/30/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company: HED	Signature Date:
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: HED	Date Signed: 2024-09-30
Address: 550 South Hope St., Suite 2500	License:
City/State/Zip: Los Angeles CA 90071	Phone: 213.542.4578

STATE OF CALIFORNIA

Solar And Battery — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SAB-E
Project Name: Bennett Kew	**Report Page:** (Page 1 of 4)
Project Address: 11710 S Cherry Ave	**Date Prepared:** 9/30/2024

This document is used to demonstrate compliance with prescriptive PV and battery requirements in 140.10/ 170.2 for nonresidential, multifamily and mixed-use buildings and prescriptive solar thermal requirements in 170.2(d)3C for multifamily and hotel/ motel occupancies. When PV/battery/solar thermal requirements don't apply or are traded using the performance approach, this document demonstrates compliance with mandatory solar readiness requirements in 110.10/ 160.8 for newly constructed buildings which are either multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with solar readiness in 110.10/ 160.8 for additions to nonresidential, multifamily or hotel/motel building types which add more than 2,000 ft² of roof area. Alterations, or additions of less than 2,000 ft² of roof area, are not required to comply with solar readiness, solar PV and battery requirements and do not need to complete this document.

A. GENERAL INFORMATION

01	Project Location (city)	Inglewood	04	Building Occupancies	All Other Occupancies
02	Climate Zone	8	05	Construction Type	New construction
03	Conditioned Floor Area (ft²)	7705	06	Number of Stories	Bldg <= 3 stories

B. PROJECT SCOPE

The compliance path the project is using to comply per 110.10(b)1B/ 140.10/ 170.2(g and h) is indicated below.

Compliance with Solar Photovoltaic (PV) and Battery Requirements in 140.10/ 170.2(g and h)

	01	
☐	Provided PV system and battery storage sized per 140.10/ 170.2 (g and h)	The project has included an installed PV system and battery storage system per requirements in 140.10/ 170.2(g and h) as documented in Table J.
☐	Exception to PV and Battery: Not enough Solar Access Roof Area	The total of all available Solar Access Roof Area(s) of the project site is less than three percent of the conditioned floor area as documented in Table J.
☐	Exception to PV and Battery: Required PV < 4kW	The required PV system size is less than 4 kW dc as documented in Table J..
☐	Exception to PV and Battery: No contiguous Solar Access Roof Area	The Solar Access Roof Area(s) of the project site contains less than 80 contiguous square feet as documented in Table J.
☐	Exception to PV and Battery: Can't meet snow load	The project has a roof design where the enforcement authority has verified it is not possible for the PV system, including panels, modules, components, supports, and attachments to the roof structure, to meet ASCE 7-16 Chapter 7, Snow Loads.
☐	Exception to PV and Battery: Multi-tenant without VNEM or Community Solar	The project is a multi-tenant building in an area where a load serving entity does not provide either a Virtual Net Metering (VNEM) or community solar program.
☒	The prescriptive PV/battery requirement has been traded off using the performance compliance approach as documented on the PRF Certificate of Compliance form.	

Inglewood Unified School District

401 S. Inglewood Ave.
Inglewood, CA 90301

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave.
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SHAHROKH SAREMI M-34968 EXP.6-30-26 MECHANICAL STATE OF CALIFORNIA

2023-IU002-002

T24 Sheets

M-902

Compliance with Solar Thermal Water Heating Requirements in 170.2(d)3C (Multifamily and hotel/ motel occupancies only)
01
☐ The project includes a hotel/motel or multifamily occupancy with a gas or propane central water-heating system (serves 2+ dwelling units) and includes a permanently installed domestic solar water-heating system to comply with 170.2(d)3C and Reference Residential Appendix RA4, as documented in Table H. Compliance meets Exception 2 to solar ready requirements in 110.10(b).

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance or see the applicable Table referenced below.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01		02		03		04		05		06		07	08	
Required Minimum Area (ft²)	<=	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	COMPLIES
(See Table F)				(See Tables G or J)				(See Table H)				(See Table I)		
	<=		OR		<=		OR		<=		OR			
				Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).										
Battery storage system design meets the minimum requirements in Joint Appendix JA12 and the minimum energy (kWh)/ power (kW) capacity per Table J.														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 is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ALLOCATED SOLAR ZONE

This section does not apply to this project.

G. PERMANENTLY INSTALLED SOLAR PV FOR SOLAR READY EXCEPTION

This section does not apply to this project.

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS

This section does not apply to this project.

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE FOR SOLAR READY EXCEPTION

This section does not apply to this project.

J. PHOTOVOLTAIC (PV) AND BATTERY SYSTEMS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included Table E. Additional Remarks and ExceptionalConditionMessageCCSABE += UserChangedSelectionInCI. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-SAB-01-E - Must be submitted for all buildings that must comply with solar readiness or PV/Battery requirements.

L. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company: HED	Signature Date:
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: HED	Date Signed: 2024-09-30
Address: 550 South Hope St., Suite 2500	License:
City/State/Zip: Los Angeles CA 90071	Phone: 213.542.4578

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SHAHROKH SARCEMI
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EXP.6-30-26
MECHANICAL
STATE OF CALIFORNIA

2023-IU002-002

T24 Sheets

M-903

MECHANICAL AND PLUMBING EQUIP. NOTES

1. FIELD COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO THE ROUGH-IN OF THE ELECTRICAL WORK FOR MECHANICAL EQUIPMENT.
2. ALL OVERCURRENT PROTECTIVE DEVICES AND FEEDER AMPACITIES FOR THE MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH APPROVED MECHANICAL SHOP DRAWINGS PRIOR TO ROUGH-IN OF THE ELECTRICAL WORK AND ORDERING OF MATERIALS FOR MECHANICAL WORK. ALL DISCREPANCIES SHALL BE BROUGHT UP TO THE ATTENTION OF THE ENGINEER AND ARCHITECT PRIOR TO ROUGH-IN OF ELECTRICAL WORK.
3. INCLUDE ALL COST FOR ANY REVISIONS IN MECHANICAL EQUIPMENT, OVERCURRENT PROTECTIVE DEVICES AND FEEDER AMPACITIES, CONTROL WIRING, RELAYS, OUTLETS, ETC., WHERE THE SPECIFIED MECHANICAL EQUIPMENT ARE SUBSTITUTED WITH EQUIPMENT WITH DIFFERENT ELECTRICAL REQUIREMENTS.
4. FURNISH AND INSTALL ALL LINE AND LOW VOLTAGE CONDUIT, CONDUCTORS, DEVICES, OUTLETS FOR HEATING, VENTILATING, AIR CONDITIONING AND PLUMBING EQUIPMENT PER MECHANICAL DRAWINGS AND SPECIFICATIONS.
5. PROVIDE 3/4" CONDUIT FROM EACH INDOOR FAN/COIL UNIT TO THE RELATED OUTDOOR UNIT ON THE ROOF FOR CONTROL WIRING. REFER TO MECHANICAL DRAWINGS.
6. PROVIDE DAISY CHAIN OF 3/4"CONDUITS UP TO THE ROOF AT EACH AC UNIT AND EXHAUST FAN (FOR EMS COMMUNICATION LINK CABLE). STUB UP AND FLASH AND CAP TWO CONDUITS AT EACH ROOF EQUIPMENT.THE CONDUIT BETWEEN UNITS SHALL BE BELOW THE ROOF AND CONTINUOUS WITH NO FITTINGS. (NOT REQUIRED AT OUTDOOR SPLIT SYSTEM UNITS). CONTINUE THE DAISY CHAIN OF 3/4"CONDUIT DOWN TO EACH INDOOR FAN COIL UNIT, TO THE ELECTRICAL ROOM, (STUB TWO CONDUITS AT EACH LOCATION) AND EXTEND TO A JUNCTION BOX IN THE CONTROL ROOM. REFER TO MECHANICAL DRAWINGS.

CALIFORNIA PLAN CHECK NOTES

1. ELECTRICAL EQUIPMENT SHALL BE LISTED BY A ELECTRICAL TESTING LABORATORY RECOGNIZED BY THE AUTHORITY HAVING JURISDICTION OR APPROVED BY THE DEPARTMENT.
2. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.
3. FUSES SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS.

CALIFORNIA EQUIPMENT ANCHORAGE NOTES

1. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2010 CBC, SECTION 1615A.1.20, AND 1615A.1.21 AND ASCE 7-05 SECTIONS 13.3, 13.4, 13.6, AND CHAPTER 6.
2. THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT TO BE DETAILED ON THE PLANS, AND THE PROJECT INSPECTOR WILL VERIFY THAT THESE ITEMS (EQUIPMENT) HAVE BEEN ANCHORED.
   A. EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
   B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH ASCE 7-05, SECTION 13.5.
   C. TEMPORARY OR MOVABLE EQUIPMENT WITH FLEXIBLE CONNECTION TO POWER OR UTILITIES.
   D. EQUIPMENT LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
   E. EQUIPMENT LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM WALL.
3. FOR THOSE ELEMENTS THAT DO NO REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER.
4. PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES: PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, AND 13.6.5.5 ITEM 6 RESPECTIVELY.
5. THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS WITH AN OPA#, SUCH AS MASON INDUSTRIES (OPA 349), OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.
6. COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM.
7. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACED LOADS.

APPLICABLE CODES

2022 CALIFORNIA BUILDING CODE (CBC), TITLE 24 C.C.R., PART 2 (2021 INTERNATIONAL BUILDING CODE AND 2021 CALIFORNIA AMENDMENTS AND 2022 L.A. CITY AMENDMENTS)

2022 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 C.C.R., PART 3 (2021 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA) AND 2021 CALIFORNIA AMENDMENTS AND 2022 L.A. CITY AMENDMENTS)

2022 CALIFORNIA ENERGY CODE (CEC), TITLE 24 C.C.R., PART 6

2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN) PART 11, TITLE 24 C.C.R.

2022 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 C.C.R., PART 12 TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS.

SCOPE OF WORK

BRING POWER FEED FROM EXISTING ELECTRICAL SERVICE TO A NEW 8,662 SF 1-STORY CLASSROOM BUILDING AND DISTRIBUTE THE POWER TO LIGHTING, HVAC, AND MISCENALEOUS LOADS.

LIGHTING CONTROL NOTES

1. MOTION SENSORS ARE TO BE WIRED DOWNSTREAM OF DAYLIGHTING CONTROLS AND LUMINAIRES.
2. PROVIDE QUANTITY AND TYPE OF SWITCHES NOTED ON PLAN.
3. UNLESS OTHERWISE SHOWN ON DRAWING, CIRCUIT ALL LUMINAIRES OF THE SAME TYPE IN A ROOM TO THE SAME SWITCH.
4. MOTION SENSORS AND PHOTOCELLS SHOWN ON PLANS ARE FOR SCHEMATIC PURPOSES ONLY. FINAL LAYOUT OF MOTION SENSORS AND PHOTOCELLS FOR THE DAYLIGHTING SYSTEM SHALL BE PROVIDED BY THE VENDORS OF SAID PRODUCT.
5. WALL SWITCH TYPE MOTION SENSORS SHALL BE SET TO "MANUAL-ON/AUTO-OFF" OPERATION. WHERE SUCH A SENSOR IS SHOWN IN A ROOM WITH AN EXTERIOR WINDOW, THE WALL SWITCH MOTION SENSOR SHALL INCLUDE AN INTEGRATED PHOTOCELL FOR DAYLIGHTING CONTROL.
6. CEILING MOUNTED OCCUPANCY SENSORS WITHIN ENCLOSED ROOMS MAY NOT HAVE BEEN SHOWN "CONNECTED" FOR DRAWING LEGIBILITY. CEILING MOUNTED OCCUPANCY SENSORS HAVE BEEN SHOWN "CONNECTED" WHERE NECESSARY TO DEFINE THE OVERALL AREA OF COVERAGE. (IE. CORRIDORS AND WAITING AREA).
7. WHERE MULTIPLE CEILING MOUNTED OCCUPANCY SENSORS ARE INDICATED WITHIN A ROOM, THEY SHALL BE INTERCONNECTED TO COMMON CONTROL.
8. CONNECT WALL SWITCH(S) DOWN STREAM OF AREA OCCUPANCY SENSOR OR POWER PACK CONTROL WITHIN A DESIGNATED AREA OR ROOM.
9. CONNECT ALL ROOM LIGHTING, INCLUDING FIXED MOUNTED TASK LIGHTING TO OCCUPANCY SENSOR(S) OR POWER PACK CONTROLLER(S), EXCEPT WHERE ALTERNATE METHOD OF AUTOMATIC CONTROL IS INDICATED (IE TIMER, PHOTOCELL OR PROGRAM SCHEDULED RELAY)
10. PROVIDE TWO CIRCUIT POWER PACK AND/OR ADDITIONAL SLAVE POWER PACK UNIT(S) WHERE NECESSARY FOR CONTROL OF MULTIPLE CIRCUITS, WITHIN A CONTROL ZONE OR FOR INTERCONNECTION TO THE BUILDING MANAGEMENT SYSTEM (WHERE INDICATED).
11. MOTION SENSORS IN CORRIDORS SHALL BE SET TO "AUTO-ON" OPERATION.
12. PROVIDE DIMMABLE LED DRIVERS. CONNECT DIMMABLE FIXTURES TO DAYLIGHTING SYSTEM WHERE SPECIFIED TO DO SO.
13. ALL LUMINAIRES NOT CONTROLLED BY MOTION SENSORS SHALL BE CONTROLLED BY THE BUILDINGS LIGHTING CONTROL SYSTEM. THIS SYSTEM SHALL PROVIDE AUTOMATIC SHUTOFF FOR ALL LUMINAIRES NOT CONTROLLED BY MOTION SENSORS BASED ON A SCHEDULED PROGRAM. THE SYSTEM SHALL BE WEB ENABLED, WITH BACKNET COMMUNICATIONS FOR CONNECTION TO THE BUILDING MANAGEMENT SYSTEM FOR TRENDING, AND NOTIFICATION OF OCCUPIED SPACE. SEE SPECIFICATION SECTIONS 260923 AND 265100 FOR LIGHTING CONTROL SYSTEM INFORMATION.
14. ALL CONTROLS AND ASSOCIATED COMPONENTS SHALL BE UL LISTED FOR THEIR USE.
15. OCCUPANCY SENSOR TIME DELAY SHALL BE COORDINATED WITH OWNER AND LIGHTING CONTROL VENDOR. TIME DELAY SHALL NOT BE LESS THAN 10 MINUTES AND SHALL NOT BE GREATER THAN 30 MINUTES.
16. ALL EXTERIOR AND SITE LUMINAIRES SHALL BE PHOTOCELL CONTROLLED. SEE CIRCUITING ON PLANS TO DETERMINE SPECIFIC CIRCUITS AND RELAYS CONTROLLED ASSOCIATED WITH EXTERIOR/SITE LIGHTING.
17. CONTRACTOR SHALL VERIFY DIMMING SWITCH COMPATIBILITY WITH SPECIFIED LUMINAIRES PRIOR TO ORDERING DIMMING SWITCHES AND LUMINAIRES.
18. THE CONTRACTOR OR LIGHTING CONTROL MANUFACTURER SHALL SUBMIT A NARRATIVE AND SHOP DRAWINGS DESCRIBING THE OPERATION OF THE SYSTEM AS PART OF THE SHOP DRAWING PROCESS. THIS NARRATIVE SHALL DESCRIBE TYPICAL ROOM FUNCTIONALITY FOR SIMILAR ROOMS, AND SHALL INDICATE MANUAL CONTROLS, AUTOMATIC CONTROLS, AND SCHEDULE/TIME DELAY INTERVALS. NARRATIVE SHOULD ACCOUNT FOR ALL ASPECTS OF THE LIGHTING CONTROL SYSTEM AS DESCRIBED IN THESE DRAWINGS.
19. LIGHTING CONTROL DEVICES SHOWN ON PLANS ARE TO ILLUSTRATE INTENT OF CONTROL AND AREA OF CONTROL. COMBINING MULTIPLE CONTROL DEVICES IN A SPACE SHOWN ON THE PLANS INTO A SINGLE DEVICE IS ACCEPTABLE PROVIDED THE FOLLOWING CONDITIONS ARE MET:
   A. ALL OF THE FUNCTIONALITY OF THE ORIGINAL SPECIFIED PRODUCT MUST BE PROVIDED.
   B. THE PROPOSED DEVICES ARE OF AN APPROVED LIGHTING CONTROL MANUFACTURE LISTED IN THE SPECIFICATIONS.
   C. THE CONTRACTOR MUST SUBMIT ALTERNATE DEVICE AND LAYOUT TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL/SHOP-DRAWING PROCESS.
   D. THE CONTRACTOR ADHERES TO ALL REQUIREMENTS LISTED IN THE SPECIFICATION RELATED TO SUBMITTING SUBSTITUTIONS.

DAYLIGHT CONTROL NOTES

1. ALL LUMINAIRES WITHIN 15 FEET OF A WINDOW AND 8 FEET OF A SKYLIGHT SHALL BE CONTROLLED BY A DAYLIGHTING SYSTEM.
2. COURTYARD SHALL BOTH BE CONTROLLED BY A DAYLIGHTING CONTROL SYSTEM. THE DAYLIGHTING SYSTEM SHALL MAINTAIN A MINIMUM LEVEL OF 15 FOOTCANDLES AT THE FIRST FLOOR DURING BUSINESS HOURS OF OPERATION. PROVIDE SENSORS AND CONTROLS FOR THREE (3) SEPARATE ZONES OF OPERATION.
3. PRIVATE AND OPEN OFFICES CONTROLLED BY A DAYLIGHTING CONTROL SYSTEM SHALL MAINTAIN A MINIMUM LEVEL OF 30 FOOTCANDLES AT 30" AFF.
4. DAYLIGHTING SYSTEM WAS DESIGNED BASED ON nLIGHT.
5. DAYLIGHTING SYSTEM SHALL BE FULLY DESIGNED BY ONE OF THE FOLLOWING VENDORS: nLIGHT, HUBBELL WIRING SYSTEMS, OR WATTSTOPPER. VENDOR SHALL PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION. DAYLIGHTING SENSORS SHOWN ON DRAWINGS ARE FOR SCHEMATIC PURPOSES ONLY. FINAL DESIGN FROM DAYLIGHTING SYSTEM VENDOR SHALL DEPEND ON TYPE OF SENSING SYSTEM (OPEN-LOOP OR CLOSED-LOOP), VENDOR SPECIFIC TECHNOLOGY, ETC.
6. DAYLIGHTING SYSTEM SHALL BE CAPABLE OF BEING OVERRIDDEN BY AUTOMATIC BUILDING LIGHTING SHUTOFF PROVIDED BY LIGHTING PANELS.
7. DAYLIGHTING SYSTEM SHALL BE CAPABLE OF BEING CONNECTED TO A BUILDING MANAGEMENT SYSTEM.
8. DAYLIGHTING SYSTEM SHALL PROVIDE DIMMING AND "ON/OFF" CONTROL FOR ASSOCIATED LUMINAIRES.
9. SEE ARCHITECTURAL DRAWINGS FOR GLASS LOCATIONS AND ARCHITECTURAL MATERIAL SYMBOL LIST.
10. SEE ARCHITECTURAL ELEVATIONS.
11. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING AND LUMINAIRE HEIGHT.
12. SEE ARCHITECTURAL SPECIFICATION FOR GLAZING SCHEDULE.
13. MANUFACTURER SHALL PROVIDE FULL COMMISSIONING OF DAYLIGHTING SYSTEM, INCLUDING (BUT NOT LIMITED TO) ADJUSTMENT OF DAYLIGHTING SETPOINTS, DEADBAND, AND SYSTEM PROGRAMMING.
14. LUMINAIRES IDENTIFIED AS BEING ON EMERGENCY POWER IN SPACES WITH DAYLIGHTING CONTROLS SHALL BE CONTROLLED BY THE DAYLIGHTING SYSTEM THRU AN EMERGENCY LIGHTING CONTROL UNIT. THE EMERGENCY LIGHTING CONTROL UNIT SHALL AUTOMATICALLY BYPASS THE DAYLIGHTING CONTROL SYSTEM IN THE EVENT OF A LOSS OF NORMAL POWER. SEE LIGHTING SYSTEM NOTES #5 ON SAME SHEET.

DEMOLITION NOTES

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN SHALL BE KEPT IN SERVICE AND BE PROTECTED. PROVIDE TEMPORARY SERVICE AS REQUIRED. ALL DOWN TIMES SHALL BE MINIMUM AND SHALL BE COORDINATED WITH THE BUILDING OWNER AND SHALL BE SUBJECT TO THEIR APPROVAL.

LIGHTING NOTES

1. LIGHT FIXTURES SHALL BE INDEPENDENTLY SUPPORTED.
2. INSTALL UNDERCABINET LIGHTING TIGHT TO BACK OF CABINET WITH LENS ORIENTED AWAY FROM WALL. DRILL OR NOTCH BACK OF CABINET (IF PROVIDE WITH A BACK VALANCE) AND PENETRATE WALL WITH HCF CABLE AND CONNECT TO UNDERCABINET FIXTURE SUCH THAT WIRING AND CONNECTOR ARE NOT VISIBLE.
3. COORDINATE EXACT LOCATIONS OF EXTERIOR BUILDING MOUNTED LIGHTING FIXTURES WITH FINAL ARCHITECTURAL BUILDING EXTERIOR ELEVATIONS WHICH INCLUDE FIXTURE POSITIONS.
4. SEE LIGHTING FIXTURE SCHEDULE FOR LUMINAIRE TYPES AND DESCRIPTIONS.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LUMINAIRES.
6. ALL EMERGENCY LIGHTING INSIDE THE BUILDING (EXCLUDING EXIT SIGNS) SHALL BE CONNECTED TO AN EMERGENCY CIRCUIT AND A NORMAL CIRCUIT VIA AN EMERGENCY LIGHTING CONTROL UNIT. THE EMERGENCY LIGHTING CONTROL UNIT SHALL ALLOW FOR THE EMERGENCY LUMINAIRES TO BE CONTROLLED WITH THE ADJACENT NORMAL LIGHTING. IN THE EVENT OF A LOSS OF POWER THE EMERGENCY LIGHTING CONTROL UNIT SHALL TRANSFER THE SELECTED LUMINAIRES TO EMERGENCY POWER AND SHALL OVERRIDE THE LOCAL SWITCH POSITION FORCING THE FIXTURE TO THE "ON" POSITION. THE EMERGENCY CIRCUIT USED SHALL BE LOCKED IN THE ON POSITION. IF ALL THE LUMINAIRES IN A ROOM ARE INDICATED TO BE ON EMERGENCY POWER, THEN NO NORMAL CIRCUIT SHALL BE NECESSARY.
7. NIGHT LIGHTS ARE DEFINED AS LUMINAIRES ON EMERGENCY POWER THAT ARE INTENDED TO OPERATE 24 HOURS/DAY, 7 DAYS/WEEK, 356 DAYS/YEAR. EMERGENCY LIGHTS ARE DEFINED AS LUMINAIRES ON EMERGENCY POWER THAT CAN BE CONTROLLED EITHER VIA MANUAL CONTROLS OR BY AUTOMATIC CONTROLS.
8. ALL EMERGENCY LIGHTS INSIDE AND OUTSIDE THE BUILDING (INCLUDING ALL EXIT SIGNS) SHALL BE CONNECTED TO EMERGENCY CIRCUITS. THE CIRCUITS USED SHALL BE LOCKED IN THE ON POSITION. LUMINAIRES DESIGNATED FOR EMERGENCY SHALL BE FED FROM CIRCUITS DEDICATED FOR EMERGENCY LIGHTING.
9. ALL LUMINAIRES MOUNTED IN LAY-IN CEILING SHALL BE FURNISHED WITH SAFETY T-BAR CLIPS AND MOUNTING HARDWARE AS NECESSARY TO ACCOMMODATE THE LAY-IN GRID TYPE BEING USED AT EACH FIXTURE LOCATION.
10. ELECTRICAL TRADES SHALL PROVIDE TO THE CEILING TILE INSTALLER APPROVED SHOP DRAWINGS FOR ALL FIXTURES REQUIRED TO BE CUT INTO THE LAY-IN CEILING TILES. ALL LOCATIONS SHALL BE COORDINATED WITH THE CEILING TILE MANUFACTURER.
11. UNLESS OTHERWISE SHOWN ON DRAWING, CIRCUIT ALL LUMINAIRES OF THE SAME TYPE IN A ROOM TO THE SAME SWITCH.
12. ALL FIXTURES AND ASSOCIATED COMPONENTS SHALL BE UL LISTED FOR THEIR USE.
13. PROVIDE EXIT SIGNS WITH DIRECTIONAL ARROWS AS INDICATED ON PLANS.
14. SWITCHES SHALL BE MOUNTED TO AVOID THE AREA OF THE DOOR SWING. SWITCHES SHALL CLEAR DOOR SWING BY 6" MINIMUM. COORDINATE WITH ARCHITECTURAL TRADES.
15. ALL SUSPENDED CONTINUOUS LINEAR RUNS OF LUMINAIRES, AND ALL SUSPENDED LUMINAIRES SHOWN ON PLANS AS BEING ORRIENTED IN ROWS, SHALL BE ALIGNED TO BE STRAIGHT, PLUB, AND LEVEL. CONTRACTOR SHALL MOCK UP ONE BAY OF LUMINAIRES FOR APPROVAL FROM ARCHITECT, ENGINEER AND OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF LUMINAIRES.
16. LED LUMINAIRES ARE TYPICALLY RATED FOR 50,000 HOURS OF OPERATION WITH 70% LUMEN MAINTENANCE (IE: LUMINAIRE PRODUCES 70% OF INITIAL LIGHT OUTPUT AT 50,000 HOURS). MAINTENANCE STAFF SHOULD PERIODICALLY TEST LIGHTING LEVELS TO ENSURE THAT SPACES ARE ADEQUATELY ILLUMINATED. SPACES SHOULD BE TESTED AT LEAST 5 YEARS AFTER OCCUPANCY OF SPACE, AND SUBSEQUENTLY TESTED EVERY 1 YEAR FOR LABORATORY AND AUTOPSY SPACES AND EVERY 2 YEARS FOR OTHER SPACES.
17. IT IS RECOMMENDED THAT THE OWNER PERIODICALLY PERFORM LIGHTING LEVEL EVALUATIONS IN THE IN ORDER TO VERIFY THAT THE PROPER AMOUNT OF LIGHT IS AVAILABLE. LED LUMINAIRES ARE TYPICALLY RATED FOR 50,000 HOURS OF OPERATION WITH 70% LUMEN MAINTENANCE (IE: LUMINAIRE PRODUCES 70% OF INITIAL LIGHT OUTPUT AT 50,000 HOURS). MAINTENANCE STAFF SHOULD PERIODICALLY TEST LIGHTING LEVELS TO ENSURE THAT SPACES ARE ADEQUATELY ILLUMINATED. SPACES SHOULD BE TESTED AT LEAST 5 YEARS AFTER OCCUPANCY OF SPACE, AND SUBSEQUENTLY TESTED EVERY 2-3 YEARS.
   A. FOR CORRIDORS, WALKWAYS, VESTIBULES AND ATRIUMS TESTS SHALL BE PERFORMED AT THE FLOOR. FOR OTHER AREAS, THE TEST SHALL BE PERFORMED AT DESK HEIGHT. TEST SHALL BE PERFORMED AT A LOCATION BETWEEN TWO LUMINAIRES, AND HALF WAY BETWEEN THE ROOM PERIMETER AND THE CENTER OF THE ROOM.
   B. READINGS GREATER THAN OR EQUAL TO THE FOLLOWING FOOTCANDLE LEVELS WILL INDICATE THAT THE SPACE HAS ADEQUATE LIGHTING:
      a. CLASSROOMS: 30-50 FC
      b. CORRIDORS, VESTIBULES, STAIRWAYS, LOBBIES, RESTROOMS: 10 F
      c. OTHER SPACES: 15 FC.

GENERAL NOTES

1. ELECTRICAL OUTLET BOXES INSTALLED IN RATED WALLS SHALL NOT BE LESS THAN 24" FROM OUTLETS IN THE OPPOSITE WALL SURFACE. BACK AND SIDE OF BOXES SHALL BE COMPLETELY WRAPPED BY LOWERY #10 PUTTY PADS, BOXES SHALL BE CAULKED AT THE PERIMETER OF THE BOX WHERE IT MATES WITH THE DRYWALL.
2. ALL OPENINGS AROUND CONDUITS PASSING THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC. SHALL BE PACKED AND SEALED TO CONFORM WITH THE FIRE RATING OF THE PENETRATED STRUCTURE.
3. THE MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS SHALL COORDINATE THEIR INSTALLATIONS PRIOR TO THE PERMANENT INSTALLATION OF ANY DUCTWORK, CONDUIT OR PIPING. UNLESS DECIDED BY THE GENERAL CONTRACTOR, DUCTWORK SHALL TAKE PRECEDENCE. COSTS TO CORRECT CONFLICTS SHALL BE NO COST TO THE OWNER.
4. ANY FEEDERS AND BRANCH CIRCUITS SHALL CARRY A GROUND WIRE, SIZED PER N.E.C ARTICLE 250.
5. FIELD VERIFY EXISTING CONDITIONS AND ACTUAL DIMENSIONS PRIOR TO START OF WORK.
6. THOROUGHLY COORDINATE ELECTRICAL WORK WITH OTHER TRADES TO AVOID PHYSICAL CONFLICTS AND CONFLICTS WITH WORK SEQUENCE.
7. REFER TO ARCHITECTURAL DRAWINGS FOR WALLS WITH SPECIAL WALL FINISHES AND MILLWORK. COORDINATE OVERALL WALL COVERING THICKNESS AND MILLWORK DEPTH AND PROVIDE PLASTER RING WITH APPROPRIATE DEPTH. COORDINATE CUTTING OF MILLWORK PANELS WITH MILLWORK TRADES AND INSTALL DEVICE COVERPLATES ON MILLWORK SURFACE.
8. COORDINATE WITH ARCHITECTURAL TRADES FOR WALLS TO BE PROVIDED WITH INSULATION FOR ACOUSTICAL PURPOSES.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED IN WALL OR CEILING CAVITY EXCEPT WHERE NOTED OTHERWISE ON THE DRAWINGS.
10. IN ALL AREAS WITH GYPSUM BOARD CEILINGS THE ELECTRICAL TRADES SHALL ROUTE CONDUIT AND POSITION PULL / JUNCTION BOXES TO ALLOW ACCESS THRU ACCESS PANELS BY ARCHITECTURAL TRADES, WHERE POSSIBLE. WHERE ADDITIONAL ACCESS PANELS ARE REQUIRED FOR ELECTRICAL EQUIPMENT, THE ELECTRICAL TRADES SHALL INCLUDE THE ACCESS PANEL IN THE BID. ACCESS PANEL SHALL BE INSTALLED BY THE CEILING INSTALLER. ADDITIONAL ACCESS PANEL LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.
11. MOUNTING HEIGHTS OF ELECTRICAL DEVICES ARE TO CENTER OF DEVICE UNLESS OTHERWISE NOTED.
12. IN GENERAL, ELECTRICAL DEVICES, WHICH ARE INDICATED ON THE PLAN MAY BE SCALED AND MOUNTED TO THE NEAREST STUD EXCEPT WHERE DIMENSIONED OR ADDITIONAL LAYOUT CRITERIA IS INDICATED AT CRITICAL LOCATIONS. DEVICES SHOWN ON ARCHITECTURAL ELEVATIONS SHALL BE POSITIONED AT THE LOCATIONS INDICATED (PROVIDE DOUBLE STUD ADJUSTABLE BRACKETS WHERE NECESSARY).
13. ELECTRICAL DEVICE OUTLETS SHALL NOT BE LOCATED BACK TO BACK WITHIN THE SAME STUD SPACE IN INTERIOR WALLS, WHICH ARE INSULATED. THE DEVICES IN ONE ROOM SHALL BE OFFSET TO THE NEXT STUD SPACE.
14. MULTI GANG DEVICES SHALL BE GANGED UNDER SINGLE MULTI GANG COVER PLATE.
15. WHERE ELECTRICAL DEVICES ARE INDICATED ON A COLUMN, THE DEVICE SHALL BE CENTERED ON THE COLUMN SURFACE
16. DEVICES SERVING WALL MOUNTED TV'S OR MONITORS SHALL BE LOCATED SUCH THAT THEY ARE NOT VISIBLE AND SHALL BE POSITIONED WITHIN THE MANUFACTURERS DESIGNATED AREA. VERIFY EXACT LOCATION WITH THE EQUIPMENT AND MOUNTING BRACKET AND COORDINATE WITH THE EQUIPMENT INSTALLER.
17. WHERE GFCI PROTECTION IS INDICATED, A GFCI TYPE RECEPTACLE SHALL BE PROVIDED AT EACH LOCATION. LOAD SIDE PROTECTION OF DOWN STREAM DEVICES WILL NOT BE ACCEPTABLE.
18. MINIMUM WIRE SIZE SHALL BE #12 AWG, BRANCH CIRCUITS OF 120 VOLTS EXCEEDING 75'-0", OR 277 VOLTS EXCEEDING 150'-0" IN LENGTH SHALL BE #10 AWG MINIMUM.
19. REFER TO ONE LINE DIAGRAM(S) FOR FEEDER CONDUIT AND WIRE SIZES.
20. ALL EMPTY CONDUITS SHALL BE DE-BURRED, CLEANED, TAGGED AND PROVIDED WITH A NYLON PULL STRING. PROVIDE CONDUIT CONNECTOR OR BUSHING ON END OF CONDUIT FOR ALL CONDUIT STUB OFFS.
21. ELECTRICAL LAYOUT AND DESIGN HAVE BEEN BASED ON PRELIMINARY INFORMATION FROM "DESIGN BASIS" MANUFACTURERS OF MAJOR EQUIPMENT. ELECTRICAL TRADES SHALL OBTAIN FINAL EQUIPMENT INSTALLATION INFORMATION FROM APPROVED SHOP DRAWINGS PRIOR TO SYSTEM INSTALLATION. WHERE SUBSTITUTION OF OTHER LISTED APPROVED MANUFACTURERS ARE PROVIDED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OR DESIGN REVISIONS FROM ALL DISCIPLINES OR TRADES NECESSARY TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
22. ELECTRICAL TRADES TO VERIFY DIRECT LINE HORIZONTAL DISTANCE OF RECEPTACLES TO EDGE OF SINK & PROVIDE GFCI DEVICE WHERE LOCATED WITHIN 6'-0".
23. ELECTRICAL TRADES SHALL PROVIDE 120VOLT CORD AND PLUG AT ALL FILM ILLUMINATORS. PROVIDE #14AWG 2 CONDUCTOR + GRD SJO CORD, 5-15P PLUG. PROVIDE 6FT CORD AND CUT TO LENGTH AND TERMINATE AT UNIT AS REQUIRED.
24. PROVIDE CONDUIT SLEEVES THRU WALLS WHICH EXTEND TO DECK AS REQUIRED FOR PENETRATIONS OF LOW VOLTAGE CABLING. MINIMUM CONDUIT SLEEVE SIZE SHALL BE 2". PROVIDE PRE-ENGINEERED FIRE RATED PASS THRU ASSEMBLIES AT PENETRATIONS THRU FIRE RATED WALLS. REFER TO SPECIFICATIONS FOR APPROVED LISTED MANUFACTURERS.
25. ELECTRICAL BRANCH CIRCUIT CONDUITS AND LOW VOLTAGE DEVICE CONDUIT STUBS WITH DEVICES LOCATED AT INTERIOR WALLS WITH GLASS ABOVE OR LOCATED AT BUILDING PERIMETER WALLS WITH GLASS ABOVE SHALL BE ROUTED THRU FLOOR TO CEILING SPACE BELOW OR ROUTED UNDERGROUND BELOW SLAB (AT FIRST FLOOR LOCATIONS). THIS IS DUE TO STRUCTURAL COMPONENTS PROHIBITING HORIZONTAL ROUTING. COORDINATE QUANTITY AND LOCATIONS WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
26. PROVIDE FIRESTOP PUTTY PADS AROUND THE BACK BOXES IN FIRE RATED WALLS TO MAINTAIN WALL FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS
27. REFER TO SPECIFICATION 01230 FOR DESCRIPTION OF ALTERNATES. PROVIDE ALTERNATE PRICING FOR ASSOCIATED ELECTRICAL WORK SCOPE(S).
28. ELECTRICAL CONTRACTOR TO COORDINATE FINAL EQUIPMENT AND PANEL NAMES FROM THE OWNER'S REPRESENTATIVE PRIOR TO IDENTIFICATION AND LABELING IN FIELD AND FABRICATION OF NAMEPLATES.
29. COORDINATE EXACT LOCATIONS OF EXTERIOR BUILDING MOUNTED LIGHTING FIXTURES WITH FINAL ARCHITECTURAL BUILDING EXTERIOR ELEVATIONS WHICH INCLUDE FIXTURE POSITIONS.
30. COORDINATE ELECTRICAL WORK SCOPE FOR HEAT TRACE BRANCH CIRCUITS WITH MECHANICAL TRADES. (IE. WIRING AND CONDUIT FROM MECHANICAL HEAT TRACE PANEL TO TERMINATION AT HEAT TRACE ELEMENT(S) AT PIPING IN CANOPIES)
31. PROVIDE SURGE PROTECTIVE DEVICE FOR ALL PANELS ON THE EMERGENCY SYSTEM.

ABBREVIATIONS - GENERAL ELECTRICAL

AC	ABOVE COUNTER
ACS	ACCESS CONTROL SYSTEM
AF	AMPERE FRAME
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
AP	AMPERE PLUG
ARF	ABOVE RAISED FLOOR
AS	AMPERE SWITCH
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BCC	BACKBONE COPPER CABLE
BKBD	BACKBOARD
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CAT	4-PAIR, UTP CABLE
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CD	CANDELA
CKT	CIRCUIT
CLG	CEILING OR CEILING MOUNTED
CLST	CLOSET
CMH	COMMUNICATIONS MAINTENANCE HOLE
COAX	COAXIAL
COMM	COMMUNICATIONS
CP	CONTROL PANEL
CRGB	COMPUTER ROOM GROUND BUS
CT	CABLE TRAY
CU	COPPER
CUH	CABINET UNIT HEATER
DC	DIRECT CURRENT
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANELBOARD
DWG	DRAWING
E	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EGB	ELECTRICAL GROUND BUS
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EMT	ELECTRIC METALLIC TUBING
ENL	EXISTING NEW LOCATION
EOR	ENGINEER OF RECORD
EQUIP	EQUIPMENT
ER	EQUIPMENT ROOM
ERMS	ENERGY REDUCTION MAINENANCE SWITCH
ESS	ELECTRONIC SAFETY & SECURITY
ETM	EXISTING TO MOVE
ETBR	EXISTING TO BE REMOVED
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPERES
FLR	FLOOR
FMT	FLEXIBLE METALLIC TUBING
FOC	FIBER OPTIC CABLE
FU	FUSE
GANN	GENERATOR ANNUNCIATOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GND	GROUND
HC	HORIZONTAL CROSS-CONNECT
HH	HANDHOLE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HTR	HEATER
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
IC	INTERMEDIATE CROSS-CONNECT
IDC	INSULATION DISPLACEMENT CONNECTOR
IDF	INTERMEDIATE DISTRIBUTION FRAME
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
INV	INVERTER
IMC	INTERMEDIATE METAL CONDUIT
IP	INTERNET PROTOCOL
IPP	ISOLATED POWER PANEL
JB	JUNCTION BOX
JC	JANITOR CLOSET
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LFACP	LOCAL FIRE ALARM CONTROL PANEL
LI	LONG TIME, INSTANTANEOUS
LP	LIGHTING PANELBOARD
LRA	LOCKED ROTOR AMPERE
LSI	LONG TIME, SHORT TIME, INSTANTANEOUS
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT
LTG	LIGHTING
MAX	MAXIMUM
MC	MAIN CROSS-CONNECT
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MGB	MAIN GROUND BUS
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUG ONLY
MM	MULTIMODE FIBER
MNS	MASS NOTIFICATION SYSTEM
MON	MONITOR
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NOT FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPENED
NTS	NOT TO SCALE
OFC	OPTICAL FIBER CABLE
OFOI	OWNER FURNISHED OWNER INSTALLED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OICF	OWNER INSTALLED CONTRACTOR FURNISHED
OS	OCCUPANCY SENSOR
OSP	OUTSIDE PLANT
P	POLE
PB	PULL BOX
PC	PHOTOCELL
PDP	POWER DISTRIBUTION PANELBOARD
PDU	POWER DISTRIBUTION UNIT
PH	PHASE
PL	PILOT LIGHT
PNL	PANEL
PON	PASSIVE OPTICAL NETWORK
PP	POWER PANELBOARD
PR	PAIR
PT	POKE-THRU
PTD	POWER TRANSFER DEVICE
PTZ	PAN, TILT, ZOOM
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER
R	RELOCATED
RECEPT	RECEPTACLE
REQMT	REQUIREMENT
RM	ROOM
RMC	RIGID METAL CONDUIT
RMS	ROOT MEAN SQUARE
RP	RECEPTACLE PANEL
RPP	REMOTE POWER PANEL
RPSS	RECEPTACLE PANEL WITH INTEGRAL SURGE SUPRESSION
RU	RACK UNIT
SAF	SUPPLY AIR FAN
SCTP	SCREENED TWISTED PAIR
SD	SMOKE DETECTOR
SF	SQUARE FEET
SM	SINGLEMODE FIBER
SPEC	SPECIFICATIONS
SPD	SURGE SUPPRESSION DEVICE
STD	STANDARD
STS	STATIC TRANSFER SWITCH
STP	SHIELDED TWISTED PAIR
SUB	SUBSTATION
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TBL	TABLE
TC	TIME CLOCK
TEL	TELEPHONE
TGB	TELECOM GROUNDING BUS BAR
TL	TWIST LOCK
TMGB	TELECOM MAIN GROUNDING BUS BAR
TR	TELECOM ROOM
TV	TELEVISION
TYP	TYPICAL
U/G	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES INC.
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
UV	UNIT VENTILATOR
V	VOLT
VA	VOLT AMPS
VAV	VARIABLE AIR VOLUME
VOIP	VOICE OVER INTERNET PROTOCOL
VSS	VIDEO SURVELLANCE SYSTEM
W	WATT
W/	WITH
WAP	WIRELESS ACCESS POINT
WG	WIRE GUARD
WH	WATER HEATER
WP	WATERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
ZSI	ZONE SELECTIVE INTERLOCK
3R	NEMA 3R ENCLOSURE
4X	NEMA 4X ENCLOSURE

SHEET INDEX

SHEET NUMBER	SHEET NAME
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Inglewood Unified School District

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No. E. 16734
Exp. 9-30-26
ELECTRICAL
STATE OF CALIFORNIA

2023-IU002-002

Electrical General Notes & Abbreviations

E-001

ONE-LINE SCHEMATIC SYMBOL LEGEND

- STRESS CONE
- POT HEAD
- GF — GROUND FAULT SENSOR AND RELAY
- END CAP
- EXISTING EQUIPMENT CONNECTION
- WYE
- LOAD CONNECTOR
- SPLICE
- 52 — MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
- DRAWOUT MEDIUM VOLTAGE STARTER
- GROUND CONNECTION - SYSTEM AND/OR EQUIPMENT
- 3-PHASE, 3-WIRE DELTA CONNECTION
- 3-PHASE, 4-WIRE WYE CONNECTION (GROUNDED NEUTRAL
- LOW VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER
- LOW VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER W/ CURRENT LIMITING FUSE
- FUSED CUT OUTS
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- 3 — LIGHTNING ARRESTOR & GROUNDING TO PROTECT ALL PHASES
- NETWORK PROTECTOR
- MO, EO — MOTOR / ELECTRIC OPERATOR FOR CIRCUIT BREAKERS OR SWITCHES
- CAPACITOR
- NO, NC — CONTACT: NORMALLY OPEN (NO), NORMALLY CLOSED (NC)
- LSIGZ — CIRCUIT BREAKER ONE-LINE DESIGNATIONS:
  AF = FRAME SIZE
  AT = TRIP SIZE
  AS = SWITCH SIZE OR SENSOR RATING (CIRCUIT BREAKER)
  L = LONG TIME
  S = SHORT TIME
  I = INSTANTANEOUS TRIP
  G = GROUND FAULT
  A = GROUND FAULT INDICATION/ALARM
  Z = ZONE SELECTING INTERLOCKING
- ST 120V — SHUNT TRIP
  120V - INDICATES COIL VOLTAGE
- THERMAL ELEMENT
- KZ — KIRK KEY INTERLOCK SYSTEM
  KZ = RELATED KIRK KEYS
- 3 — POTENTIAL TRANSFORMER
  3 = INDICATES QUANTITY
- 3, ? — POTENTIAL TRANSFORMER (FUSED)
  3 = INDICATES QUANTITY
- 3, 400-5A — CURRENT TRANSFORMER
  3 = INDICATES QUANTITY
  400-5A = INDICATES RATIO
- RESISTOR
- CM 12 — CUSTOMER METERING, MICROPROCESSOR-BASED
- MM — MULTIFUNCTIONAL METER
- MR — MULTIFUNCTIONAL RELAY
- UM — UTILITY RELAY
- VAR — VARMETER
- TRANSFORMER, DRY TYPE, UON
- POWER LINE REACTOR
- SPD XX — SURGE PROTECTIVE DEVICE
- PILOT LIGHT
  X = INDICATES COLOR
  R = RED
  G = GREEN
  Y = YELLOW
- SHIELDED CABLE
- GROUND
- FUSE
- XX — PANEL BOARD
- M, P, D — MONITOR AND PROTECTION DEVICES
- RECTIFIER (UPS)
- INVERTER (UPS)
- BATTERY
- STATIC SWITCH
- AUTOMATIC TRANSFER SWITCH
- AUTOMATIC TRANSFER SWITCH W/ MAINTENANCE BY-PASS

NOTE : 120V RECEPTACLES SHALL BE NEMA 6-20R RATED UNLESS OTHERWISE NOTED

- GENERATOR
- RECESSED CIRCUIT BREAKER SURFACED MOUNTED CIRCUIT BREAKER

TECHNOLOGY LEGEND

- TELEPHONE OUTLET
- FLOOR TELEPHONE OUTLET
- V2D — VOICE/DATA OUTLET
  # OF VOICE & # OF DATA OUTLETS. FOR EXAMPLE 1V2D = 1 VOICE, 2 DATA
- CLG — FLOOR DATA OUTLET
- CEILING DATA OUTLET
- MICROPHONE OUTLET
- CATV OUTLET
- TV OUTLET
- VOLUME CONTROL
- DOOR BELL
- DOOR BUZZER
- DOOR CHIME
- DOOR SIGNAL
- PUSHBUTTON
- ELECTRIC STRIKE
- MAGNETIC LOCK
- COMBINATION LOCK
- DOOR CONTACT
- CR — CARD READER
- SECURITY KEYPAD
- MD — MOTION DETECTOR
- NURSE CALL EMERG STATION
- NURSE CALL CODE BLUE STATION
- NURSE CALL DUTY STATION
- NURSE CALL STAFF STATION
- NURSE CALL PATIENT
- NURSE CALL DOME LIGHT (1 COLOR)
- NURSE CALL DOME LIGHT (2 COLORS)

OUTLET LEGEND

- SINGLE RECEPT
- DUPLEX RECEPT
- 48" — (DESIGNATES SPECIFIC MOUNTING HEIGHT) DUPLEX RECEPT
- GFI — GFI DUPLEX RECEPT
- WP GFI — GFI WEATHERPROOF RECEPT
- CONTROLLED DUPLEX RECEPT
- DUPLEX RECEPT ON EMERG CIRCUIT
- DUPLEX RECEPT ON UPS CIRCUIT
- FLOOR DUPLEX RECEPT
- CEILING DUPLEX RECEPT
- DOUBLE DUPLEX RECEPT
- DOUBLE DUPLEX RECEPT ON EMERGENCY CIRCUIT
- 240V RECEPTACLE
- RECEPT ON CORD REEL
- SPECIAL RECEPTACLE
- J — JUNCTION BOX
- FLOOR JUNCTION BOX
- J CLG — CEILING JUNCTION BOX
- WIRE MOLD

NOTE : 120V RECEPTACLES SHALL BE NEMA 6-20R RATED UNLESS OTHERWISE NOTED

MOTOR LEGEND

- COMB MOTOR STARTER (FUSED)
- SAFETY DISC SW (NON-FUSED)
- SAFETY DISC SW (FUSED)
- RELAY
- PUSH BUTTON
- P — POWER POLE (OPEN OFFICE STYLE)
- SURGERY SERVICE COLUMN
- STATIC GROUND RECEPTACLE
- UTILITY SERVICE POWER POLE
- XX-1 — MOTOR
  XX-1 — IDENTITY, SEE SCH
- EXISTING TO REMAIN XX-1
- RELOCATED XX-1
- DEMOLISHED XX-1
- TRANSFORMER
- BUS DUCT W/ PLUG IN DISCONNECT
- CABLE TAP BOX

LIGHTING LEGEND

- LIGHTING FIXTURES, TYPICAL, RECTANGULAR FILLED CIRCLES INDICATE RECESSED, OPEN CIRCLES INDICATE SURFACE DIAGONAL LINE INDICATES LENSED OUTER DOTS INDICATE SUSPENDED
- LIGHTING FIXTURES, TYPICAL, ROUND CENTER DOT INDICATES PENDANT DIAGONAL LINE INDICATES LENSED CHEVRON INDICATES WALL WASH
- WALL-MOUNTED FIXTURES, TYPICAL
- STRIP FIXTURE
- DIRECTIONAL LIGHT, TRACK FLOOD
- LINEAR LIGHT, TAPE LIGHT
- EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, INTEGRAL BATTERY
- EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, REMOTE BATTERY
- EMERGENCY LIGHTING UNIT, WALL-MOUNTED, INTEGRAL BATTERY
- EMERGENCY LIGHTING UNIT, WALL-MOUNTED, REMOTE BATTERY
- EXIT LIGHT, CEILING-MOUNTED, SHADING AND ARROWS INDICATE FACES AND DIRECTION
- EXIT LIGHT, WALL-MOUNTED, SHADING AND ARROWS INDICATE FACES AND DIRECTION
- EXIT/ELU COMBO
- POLE/AREA LIGHTS
- POST-TOP AREA LIGHT
- BOLLARD LIGHT
- DIAGONAL HATCH INDICATES LIGHT ON A CRITICAL CIRCUIT
- SOLID HATCH INDICATES LIGHT ON AN EMERGENCY OR LIFE SAFETY CIRCUIT

SWITCH AND SENSORS LEGEND

- SINGLE POLE SWITCH
- 3 — 3-WAY SWITCH
- 4 — 4-WAY SWITCH
- K — KEYED SWITCH
- SWITCH W/ PILOT
- D — DIMMER SWITCH
- OCCUPANCY SENSOR
- OS — OCCUPANCY SENSOR W/ MANUAL SWITCH
- OD — OCCUPANCY SENSOR W/ DIMMER SWITCH
- OCCUPANCY SENSOR
- T — TIMER SWITCH
- TD — TIME DELAY SWITCH
- TC — TIME CONTROL SWITCH
- LV — LOW VOLTAGE SWITCH
- LS — LIGHT LEVEL SENSOR
- PHOTOCELL

MEP COMPONENT ANCHORAGE NOTES:

ALL MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS.

THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BARCED TO MEET THE FORCE AND DISPLACEMENTS REQUIREMENTS PRESCRIBED IN 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30:

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

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCE NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR HUNG FROM A WALL.

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

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES:

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO COMPLY WITH THE FORCES DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTIONS 1617A..1.24, 1617A.1.25 AND 1616A.1.26.

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

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

MP ☐ MD ☐ PP ☐ E ☒ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH SPECIFIC NOTES AND DETAILS.

MP ☐ MD ☐ PP ☐ E ☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #_____

THREE PHASE TRANSFORMERS (COPPER)

THREE PHASE TRANSFORMERS (COPPER)					
XFMR ID	480V, PRIMARY (Δ) 3PH, 3W	208Y/120 SECONDARY 3PH, 4W	GROUNDING ELECTRODE CONNECTIONS (COPPER) NEC TABLE 250.66	kVA RATING	BONDING CONDUCTOR (COPPER) NEC 250.102(C)(1)
	OC PROT	OC PROT			
T9	20A	30A	1#8 - 3/4"C, EA	9	#8
T15	30A	50A	1#8 - 3/4"C, EA	15	#8
T30	60A	100A	1#8 - 3/4"C, EA	30	#8
T45	80A	150A	1#8 - 3/4"C, EA	45	#8
T75	150A	250A	1#6 - 3/4"C, EA	75	#6
T112.5	200A	400A	1#4 - 3/4"C, EA	112.5	#4
T150	225A	500A	1#2 - 3/4"C, EA	150	#2
T225	400A	800A	1#1/0 - 1"C, EA	225	1/0
T300	600A	1000A	1#2/0 - 1"C, EA	300	2/0

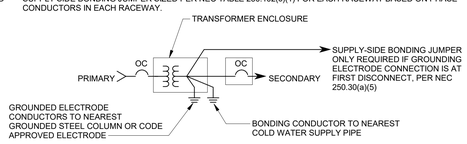
TRANSFORMER NOTES:

TA OVERCURRENT PROTECTIVE DEVICE (OC) CAN BE A CIRCUIT BREAKER OR FUSE AS REQUIRED BY DESIGN

TB PROVIDE TYPE AND MINIMUM SIZE OF RACEWAY OR CABLE AS INDICATED IN SPECIFICATIONS OR ON THE DRAWINGS.

TC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC TABLE 250.66

TD SUPPLY SIDE BONDING JUMPER SIZED PER NEC TABLE 250.102(c)(1) FOR EACH RACEWAY BASED ON PHASE CONDUCTORS IN EACH RACEWAY.

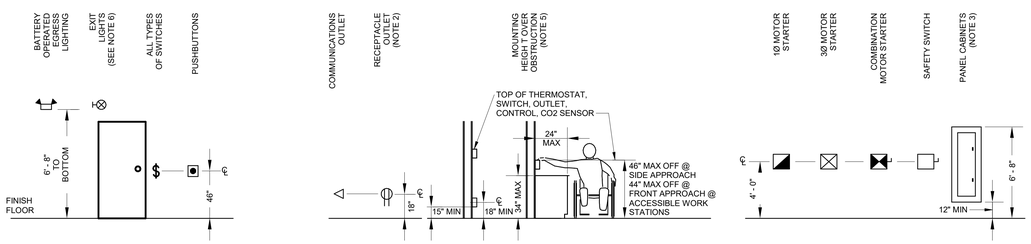


VOLTAGE DROP CHART (COPPER)			
120V CIRCUITS CONDUCTOR SIZE / MAX LENGTH			
LOAD UP TO	CONDUCTOR #12	SIZE #10	MAX LENGTH #8
800 VA	155 FT	245 FT	390 FT
1000 VA	125 FT	195 FT	310 FT
1200 VA	105 FT	165 FT	260 FT
1400 VA	90 FT	140 FT	220 FT
1600 VA	80 FT	125 FT	195 FT
1800 VA	70 FT	110 FT	175 FT
277V CIRCUITS CONDUCTOR SIZE / MAX LENGTH			
2000 VA	330 FT	525 FT	830 FT
2500 VA	265 FT	420 FT	665 FT
3000 VA	220 FT	350 FT	555 FT
3500 VA	190 FT	300 FT	475 FT
4000 VA	165 FT	260 FT	415 FT

VOLTAGE DROP NOTE:

VA. BASED ON 3% VOLTAGE DROP FOR BRANCH CIRCUITS AND 2% ON FEEDER CIRCUITS, THE LOAD IN VOLT-AMPS, AND THE CIRCUIT LENGTH IN FEET TO CENTER OF LOAD, ADJUST SIZE OF BRANCH CIRCUIT CONDUCTORS AS INDICATED ON THE VOLTAGE DROP CHART.

MOUNTING HEIGHTS



MOUNTING HEIGHT NOTES

1. MOUNTING HEIGHTS ARE TYPICAL, UNLESS OTHERWISE INDICATED ON ARCHITECTURAL OR ELECTRICAL DRAWINGS.
2. RECEPTACLES MOUNTING HEIGHTS IN UNFINISHED AREAS SHALL BE 36 INCHES ABOVE FINISH FLOOR TO CENTERLINE OF OUTLET BOX.
3. WHERE REQUIRED, 12" MINIMUM SHALL BE MAINTAINED BETWEEN THE FLOOR AND BOTTOM OF PANELBOARD. PANEL SHALL BE ADJUSTED AS NECESSARY TO ACHIEVE THE 12" FROM THE FLOOR. ALL PANELS SHALL HAVE OPERATING HANDLES OF SWITCHES AND CIRCUIT BREAKERS, WHEN IN THE HIGHEST POSITION, NO MORE THAN 6' - 7" ABOVE FINISH FLOOR.
4. COORDINATE ADDITIONAL MOUNTING REQUIREMENTS WITH ARCHITECTURAL TRADES.
5. ELECTRICAL OUTLETS, SWITCHES, AND SIMILAR CONTROLS SHALL BE MOUNTED A MAXIMUM OF 48" ABOVE FINISHED FLOOR, MEASURED TO THE TOP OF THE ELECTRICAL BOX RATHER THAN THE CENTERLINE. THE MINIMUM MOUNTING HEIGHT FOR SWITCHES AND OUTLETS IS 15" ABOVE FINISHED FLOOR, MEASURED TO THE BOTTOM OF THE ELECTRICAL BOX RATHER THAN THE CENTER LINE. (CBC SECTION 1117B.6.5)
6. FOR BRACKET EXIT SIGNS, MOUNT 6'-8" TO BOTTOM OF LUMINAIRE FOR CEILINGS UP TO 9'-0" AFF. MOUNT AT 8'-0" TO BOTTOM FOR CEILINGS HIGHER THAN 9'-0" AFF. FOR RECESSED EXIT SIGNS, WHEN ABOVE DOOR LOCATE MIDWAY BETWEEN TOP OF DOOR FRAME AND CEILING IF CEILING HEIGHT IS 8'-0" AFF OR 9'-0" AFF. FOR HIGHER CEILINGS, MOUNT 12" ABOVE DOOR.

Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave
Inglewood, CA 90303

△	Date	Issued For
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DSA A# 03-124773 FILE # 19-48

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REGISTERED PROFESSIONAL ENGINEER SEAN RANI AHMADI No. E 16734 Exp. 9-30-26 ELECTRICAL STATE OF CALIFORNIA

2023-IU002-002

Electrical Legends

E-002

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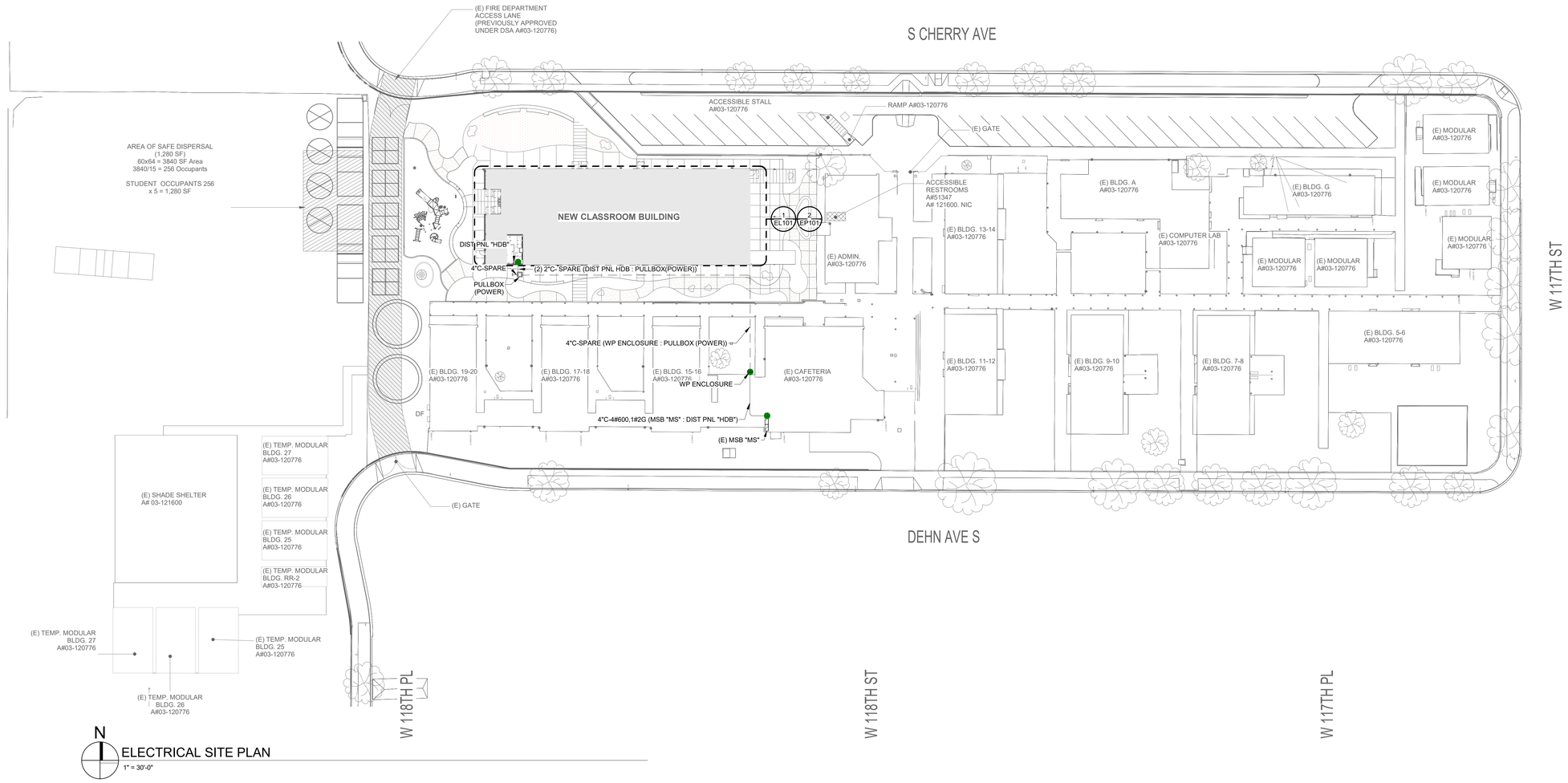
GENERAL NOTES:

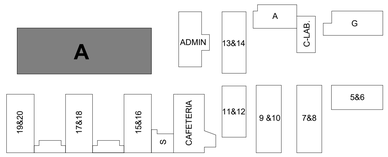
1. SAWCUT EXISTING SURFACES AS REQUIRED TO INSTALL UNDERGROUND CONDUIT/CONDUCTORS. PATCH AND REPAIR SURFACES AFTER INSTALLATION TO MATCH EXISTING CONDITIONS.
2. PAINT ALL NEW EXTERIOR CONDUIT, CONDUCTORS, AND BOXES TO MATCH BUILDING SURFACES.
3. ALL PENETRATIONS SHALL BE PATCHED AND/OR SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY AND RATING OF THE WALL OR STRUCTURE.
4. REFER TO SAFE DISPERSAL AREA PATH LIGHTING PLAN AND FIRE ALARM SITE PLAN FOR ADDITIONAL TRENCHING REQUIRED.
5. BURIAL DEPTHS SHALL COMPLY WITH CEC TABLE 300.5.
6. CONNECT ALL EXTERIOR LIGHTING TO LIGHTING CONTROL PANEL WITH ASTRONOMIC TIME CLOCK.
7. REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL ELECTRICAL FEEDERS INFORMATION.
8. REFER TO STRUCTURAL DRAWINGS FOR LIGHT POLE MOUNTING INFORMATION.



ELECTRICAL SITE PLAN

1" = 30'-0"

KEY PLAN



Inglewood Unified School District

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REGISTERED PROFESSIONAL ENGINEER SEAN RANJ AIMI No. E 16734 Exp. 9-30-26 ELECTRICAL STATE OF CALIFORNIA

2023-IU002-002

Electrical Site Plan

ES101

Autodesk Docs://2023-IU002-002_IUSD Bennett-Kew P-8 Academy/2023-IU002-002_Elec_HED.rvt

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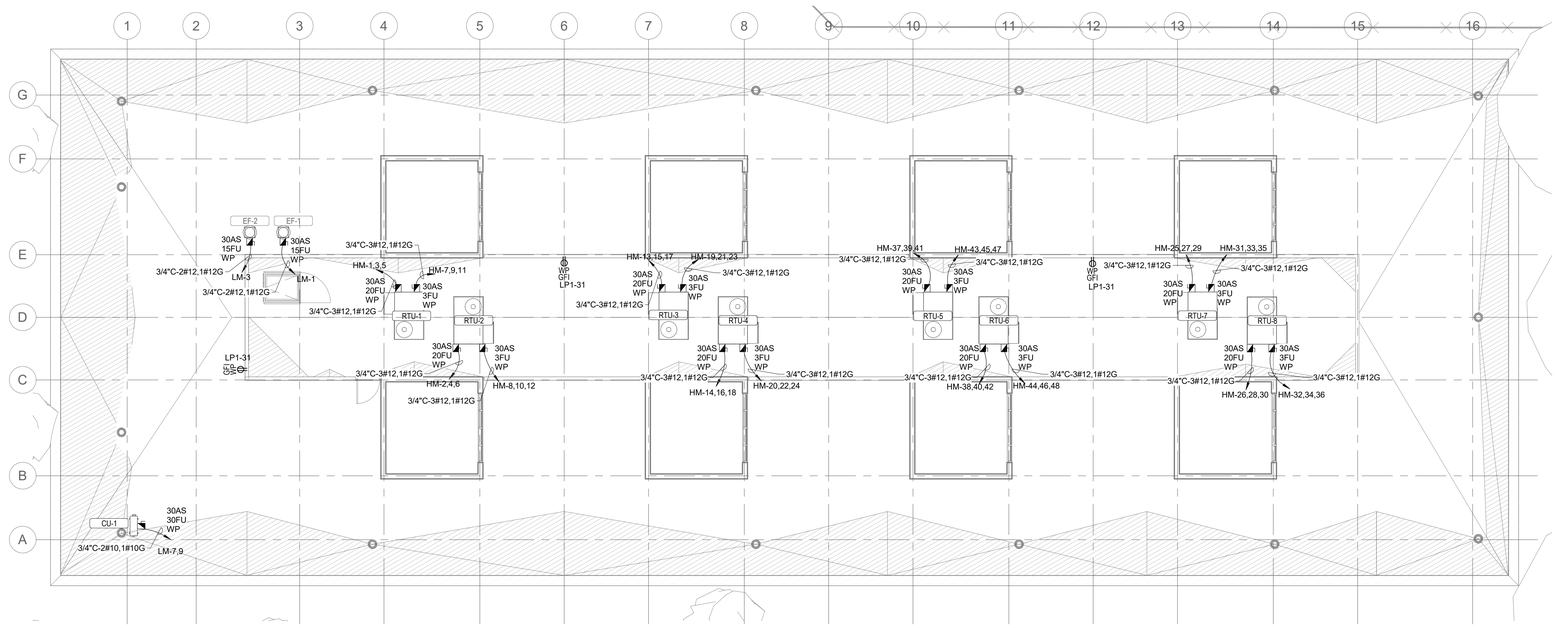
ELECTRICAL EQUIPMENT SCHEDULE			
EQUIPMENT	WEIGHT (LBS)	REFERENCE DETAIL (DETAIL #/ SHEET)	REFERENCE CALCULATIONS (PAGE)
DIST PNL HDB	639	9/S-008	PAGE 200
DIST PNL LDB	155	8/S-008	PAGE 200
PNL HL	100	8/S-008	PAGE 211
PNL HM	100	8/S-008	PAGE 211
PNL LP1	140	8/S-008	PAGE 211
PNL LM	140	8/S-008	PAGE 211
XFMR T3	770	4/S-003	PAGE 188
LIGHTING INVERTER	245	8/S-008	PAGE 211
FIRE ALARM PANELS	41	8/S-008	PAGE 211

POWER SHEET NOTES:

1. SEE DRAWING E-001 FOR GENERAL NOTES.
2. SEE DRAWING E-002 FOR ELECTRICAL SYMBOL LEGEND AND TYPICAL MOUNTING HEIGHT INFORMATION.
3. SEE ARCHITECTURAL PLANS AND DETAILS FOR DIMENSIONAL INFORMATION REGARDING PLACEMENT OF EQUIPMENT AND DEVICES. SEE GENERAL NOTES ON E-001 FOR MORE INFORMATION.
4. HOMERUNS SHOWN WITH MULTIPLE CIRCUITS SHALL HAVE DEDICATED NEUTRALS.
5. ALL OPENINGS AROUND CONDUITS PASSING THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC. SHALL BE PACKED AND SEALED TO CONFORM WITH THE FIRE RATING OF THE PENETRATED STRUCTURE.
6. REFER TO STRUCTURAL DRAWINGS FOR ELECTRICAL EQUIPMENT MOUNTING INFORMATION.
7. VERIFY FUSE SIZES WITH MECHANICAL EQUIPMENT MANUFACTURER AND NOTIFY EOR IF CONDITIONS DIFFER.

KEYED NOTES

1. REFER TO PV DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION.
2. MECHANICAL EQUIPMENT POWERED FROM UNIT ON ROOF. PROVIDE CONDUIT/CONDUCTORS AS REQUIRED PER MANUFACTURER INSTRUCTIONS.
3. COORDINATE DEVICE MOUNTING HEIGHT AND FINAL LOCATION WITH TECHNOLOGY DRAWINGS AND DISTRICT'S IT TEAM.
4. COORDINATE FINAL EQUIPMENT LOCATION WITH LANDSCAPE DRAWINGS.



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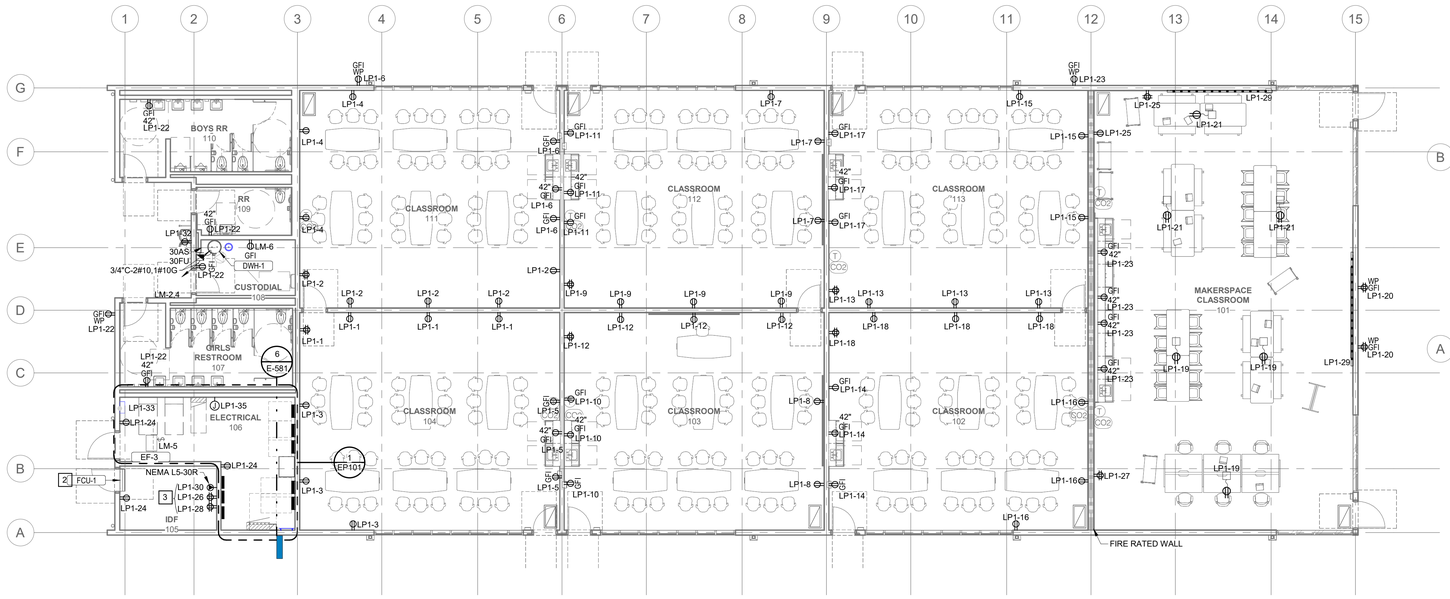
POWER PLAN - ROOF

1/8" = 1'-0"



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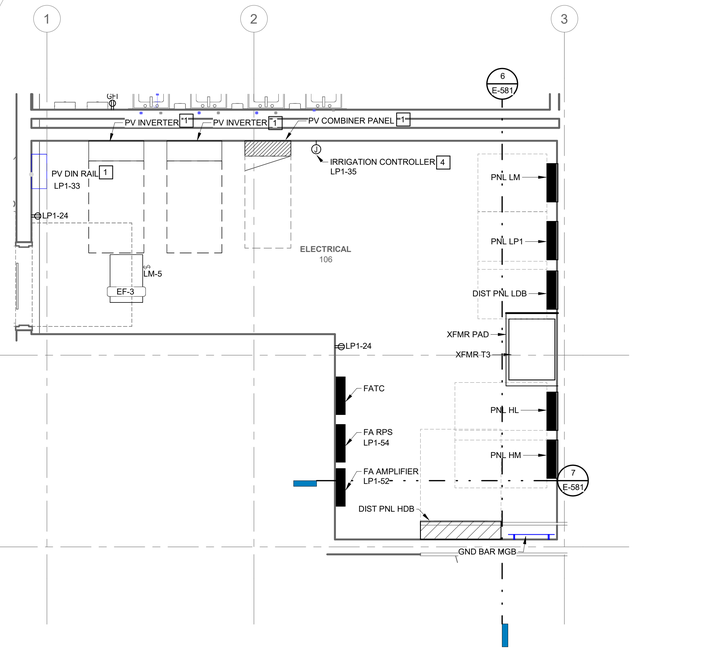
POWER PLAN

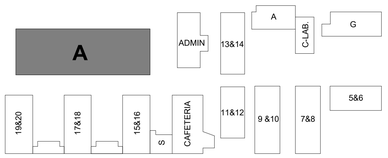
1/8" = 1'-0"



1 ELECTRICAL ROOM - ENLARGED

3/8" = 1'-0"

KEY PLAN



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2023-IU002-002

Power Plan

EP101

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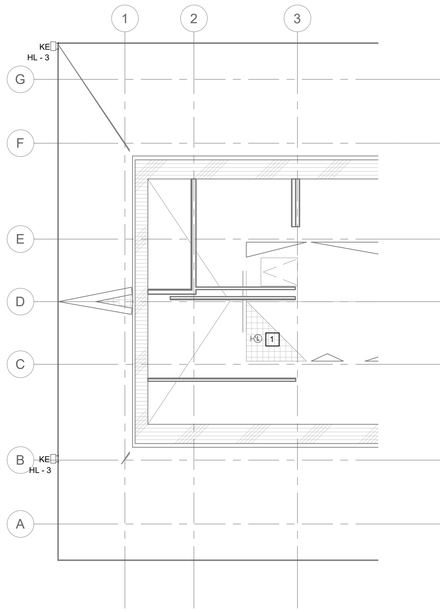
LIGHTING FIXTURE SCHEDULE

TYPE	CONSTRUCTION DESCRIPTION	CONSTRUCTION MOUNTING	LIGHT SOURCE LAMP	LIGHT SOURCE LUMENS DOWN	LIGHT SOURCE LUMENS UP	LIGHT SOURCE CCT	ELECTRICAL DIMMING	ELECTRICAL VOLT	ELECTRICAL WATTS	ELECTRICAL W/ft	ELECTRICAL EMERGENCY COMPONENT	PRODUCT MFR	PRODUCT MODEL	NOTES	WEIGHT (LBS)
AE	18 FT LINEAR PENDANT MOUNT INDIRECT/DIRECT	SUSPENDED	LED	6752 lm	6576 lm	4000 K	0-10V	277 V	<varies>	6.81	BATTERY	FINELITE	HP-X-P-ID-S-S-840-TG-F-277-SC-FC1%-FA50-LGD18W-SW	TWO 9FT SECTION. EMERGENCY BATTERY PACK. EM ILLUMINATED SECTION HIGHLITED IN LIGHTING PLAN.	41.4
B	8 FT LINEAR SURFACE MOUNT INDIRECT/DIRECT	SURFACE WALL HORIZONTAL	LED	3424 lm	3000 lm	4000 K	0-10V	277 V	55 W		--	FINELITE	HP-4-WM-ID-8-S-S-840-TG-F-96LG-277-SC-FC1%-MB-FE-SW	--	27.2
C	12 FT LINEAR SURFACE ARM MOUNTED WALL WASH DIRECT LUMINAIRE	SURFACE ARM WALL HORIZONTAL	LED	4584 lm	0 lm	4000 K	0-10V	277 V	82 W		--	FINELITE	HP-4-AM-WWD-S-840-TG-96LG-277-SC-FC1%-AM24-FE-SW	MOUNT AT 7' 6" AFF	40.8
DE	20 FT LINEAR PENDANT MOUNT INDIRECT/DIRECT LUMINAIRE	SUSPENDED	LED	11816 lm	11508 lm	4000 K	0-10V	277 V	136 W	6.81	BATTERY	FINELITE	HP-X-P-ID-S-S-840-TG-F-277-SC-FC1%-FA50-LGD18W-SW	TWO 10FT SECTION. EMERGENCY BATTERY PACK. EM ILLUMINATED SECTION HIGHLITED IN LIGHTING PLAN.	46
EXIT	EXIT SIGN	SURFACE WALL	LED	0 lm	0 lm	0 K	--	277 V	5 W		BATTERY	WILLIAMS	EXIT/EL-SF-G-CP-AN-EM-SDT-D	--	5
F	1'x4' RECESSED BACKLIT FLAT PANEL	RECESSED	LED	4700 lm	0 lm	4000 K	0-10V	277 V	40 W		--	WILLIAMS	BP-1-4-LS4700-80-CS4000K-DFK1248W-DIM-UNV	--	14
FE	1'x4' RECESSED BACKLIT FLAT PANEL	RECESSED	LED	4700 lm	0 lm	4000 K	0-10V	277 V	40 W		BATTERY	WILLIAMS	BP-1-4-LS4700-80-CS4000K-DFK1248W-DIM-UNV-RM20EKIT CEC	EMERGENCY BATTERY BACKUP	14
G	4 FT SURFACE MOUNT LED STRIP LIGHT.	SURFACE	LED	4100 lm	0 lm	4000 K	0-10V	277 V	28 W		--	WILLIAMS	FS-4-LS4100-8-CS4000K-DIM-UNV	--	8
GE	4 FT SURFACE MOUNT LED STRIP LIGHT.	SURFACE	LED	4100 lm	0 lm	4000 K	0-10V	277 V	28 W		BATTERY	WILLIAMS	FS-4-LS4100-8-CS4000K-DIM-UNV-EM10WKIT	--	8
H	UNDERCABINET EDGE LIGHT	SURFACE	LED	930 lm	0 lm	4000 K	0-10V	277 V	18 W		--	SSL	UNLE-3-4K-WH-MCE-SC UE BK WH-UN50I-DIM	PROVIDE POWER SUPPLY AND ACCESSORIES PER MANUFACTURER INSTRUCTIONS	1
IE	4" RECESSED DOWNLIGHT	RECESSED	LED	800 lm	0 lm	5000 K	0-10V	277 V	10 W		INVERTER	WILLIAMS	4RCD LS800-9-CS5000K-SS-DIM-UNV	--	1
J	6" RECESSED DOWNLIGHT	RECESSED	LED	2200 lm	0 lm	5000 K	0-10V	277 V	19 W		--	WILLIAMS	6RCD LS2200-9-CS5000K-SS-DIM-UNV	--	1.4
JE	6" RECESSED DOWNLIGHT	RECESSED	LED	2200 lm	0 lm	5000 K	0-10V	277 V	19 W		INVERTER	WILLIAMS	6RCD LS2200-9-CS5000K-SS-DIM-UNV	--	1.4
KE	EXTERIOR FLOOD LIGHT	SURFACE	LED	3000 lm	0 lm	5000 K	LED DRIVER	277 V	19 W		INVERTER	LITHONIA	ESXF1-3000L-5000K-277V-KNUCKLE & MONTING PLATE	TILT FIXTURE AT 45 DEGREES. PROVIDE MOUNTING ACCESSORIES AS REQUIRED.	3
LE	POLE LIGHT	ROUND POLE	LED	7653 lm	0 lm	5000 K	LED DRIVER	277 V	51 W		INVERTER	LITHONIA	DSX1-LED-P1-50K-80CRI-T2M-MVOLT-DDBXD	--	34
ME	POLE LIGHT	ROUND POLE	LED	10172 lm	0 lm	5000 K	LED DRIVER	277 V	68 W		INVERTER	LITHONIA	DSX1-LED-P2-50K-80CRI-TFTM-MVOLT-DDBXD	--	34
POLE	ROUND STRAIGHT STEEL POLE											LITHONIA	25FT DARK BRONZE POLE	MOUNTING AND OPTIONS AS REQUIRED. TOTAL 25' AFG. REFER TO MOUNTING DETAIL 16 SHEET S-003.	

LIGHTING CONTROLS SEQUENCE OF OPERATIONS SCHEDULE

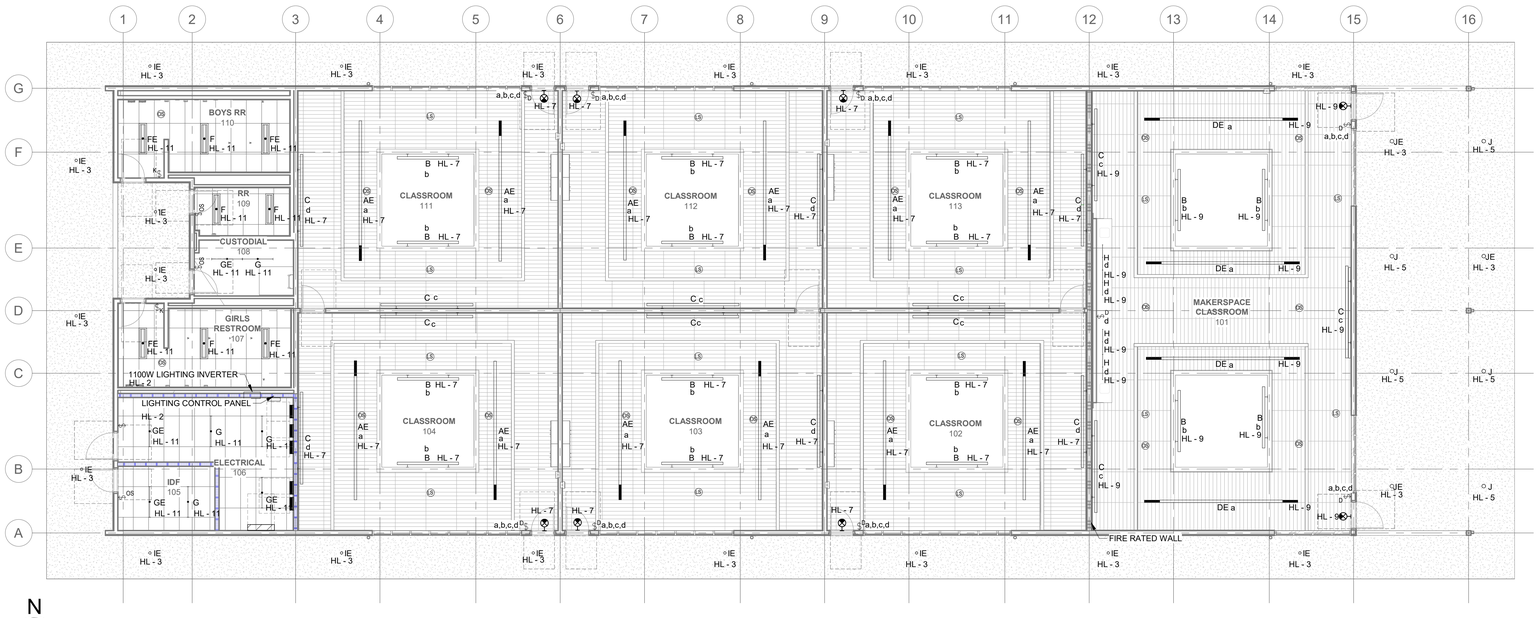
LOCATION NAME	LOCATION NUMBER	OPERATION
MAKERSPACE CLASSROOM	101	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING & 1-POLE SWITCH FOR UNDERCABINET LIGHT, DEMAND RESPONSE
CLASSROOM	102	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE.
CLASSROOM	103	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE
CLASSROOM	104	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE
IDF	105	VACANCY MODE ON/OFF SENSOR SWITCH, DEMAND RESPONSE
ELECTRICAL	106	ON/OFF SWITCH, DEMAND RESPONSE
GIRLS RESTROOM	107	AUTO-ON PDT OCCUPANCY SENSOR, KEYED ON/OFF SWITCH, DEMAND RESPONSE
CUSTODIAL	108	AUTO ON/OFF SENSOR SWITCH, DEMAND RESPONSE
RR	109	VACANCY MODE ON/OFF SENSOR SWITCH, DEMAND RESPONSE
BOYS RR	110	AUTO-ON PDT OCCUPANCY SENSOR, KEYED ON/OFF SWITCH, DEMAND RESPONSE
CLASSROOM	111	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE
CLASSROOM	112	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE
CLASSROOM	113	DIMMING, VACANCY MODE SENSORS, AUTOMATIC DAYLIGHT, 4-POLE SWITCH FOR SPACE LIGHTING, DEMAND RESPONSE



N

LIGHTING PLAN - ROOF

1/8" = 1'-0"



N

LIGHTING PLAN

1/8" = 1'-0"

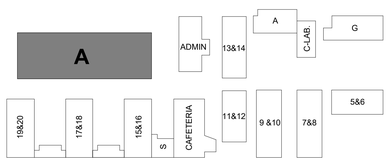
LIGHTING SHEET NOTES:

1. SEE DRAWING E-001 FOR GENERAL, LIGHTING CONTROLS, LIGHTING, AND DAYLIGHT NOTES.
2. SEE DRAWING E-002 FOR ELECTRICAL SYMBOL LEGEND AND TYPICAL MOUNTING HEIGHT INFORMATION.
3. ALL OPENINGS AROUND CONDUITS PASSING THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC. SHALL BE PACKED AND SEALED TO CONFORM WITH THE FIRE RATING OF THE PENETRATED STRUCTURE.
4. LIGHTING CONTROL PANEL SHALL HAVE AN ASTRONOMIC TIME CLOCK AND DEMAND RESPONSE CAPABILITIES. LIGHTING CONTROL PANEL MODEL SHALL BE nLight ARP WITH nLIGHT ECLYPSE SYSTEM CONTROLLER OR EQUAL.
5. CONNECT ALL EXTERIOR LIGHTING TO LIGHTING CONTROL PANEL WITH ASTRONOMIC TIME CLOCK.
6. EXTERIOR EMERGENCY LIGHTING SHALL BE CONNECTED TO LIGHTING INVERTER. REFER TO LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
7. PROVIDE AND INSTALL ALL NECESSARY LIGHTING CONTROL DEVICES AND ASSOCIATED CONTROL CONDUCTORS PER MANUFACTURER INSTRUCTIONS. ALL CABLES SHALL BE INSTALLED INSIDE CONDUIT.

KEYED NOTES

1 CONNECT PHOTOCELL TO LIGHTING CONTROL PANEL USING 3/4"C-CAT5E CABLE PER LIGHTING CONTROL PANEL MANUFACTURER INSTRUCTIONS.

KEY PLAN



Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

HED
550 South Hope Street
Suite 2500
Los Angeles, California
90071 USA

(213) 542-4500

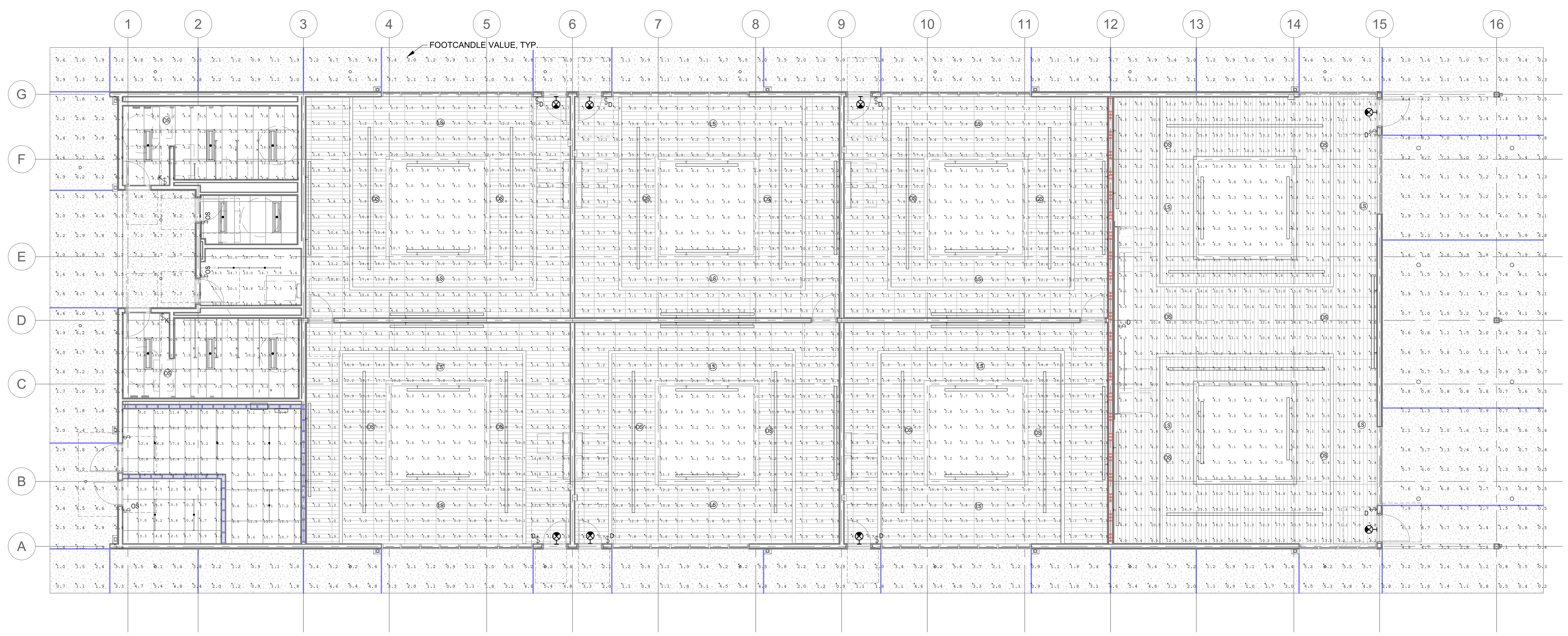
WWW.HED.DESIGN

REGISTERED PROFESSIONAL ENGINEER SEAN BANI-ASHA No. E. 16734 Exp. 9-30-26 ELECTRICAL STATE OF CALIFORNIA

2023-IU002-002

Lighting Plan

EL101

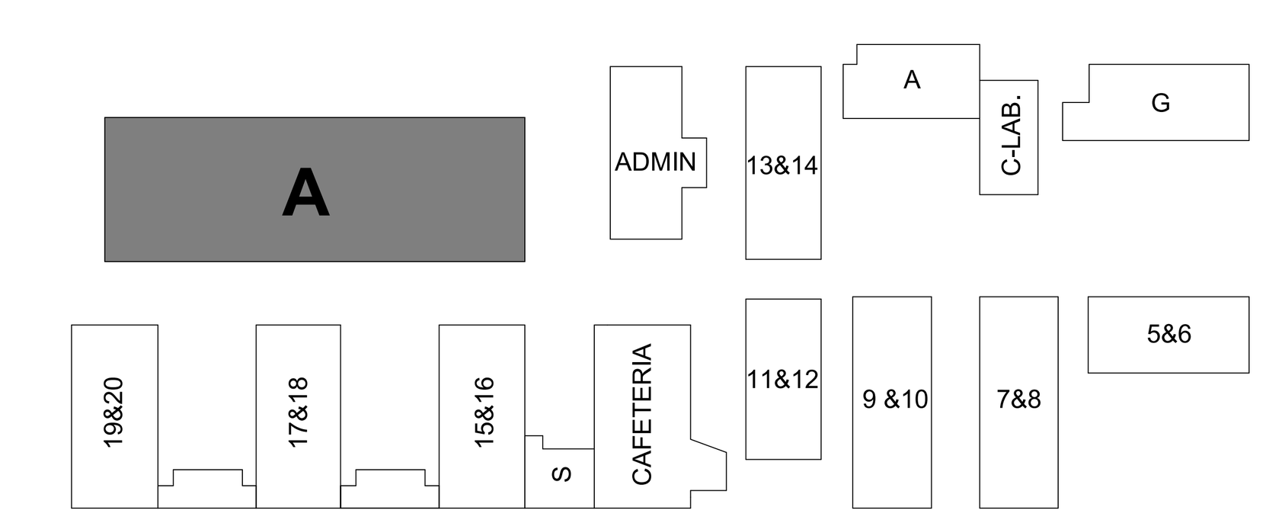


N

LIGHTING PLAN - EM PHOTOMETRICS

1/8" = 1'-0"

KEY PLAN



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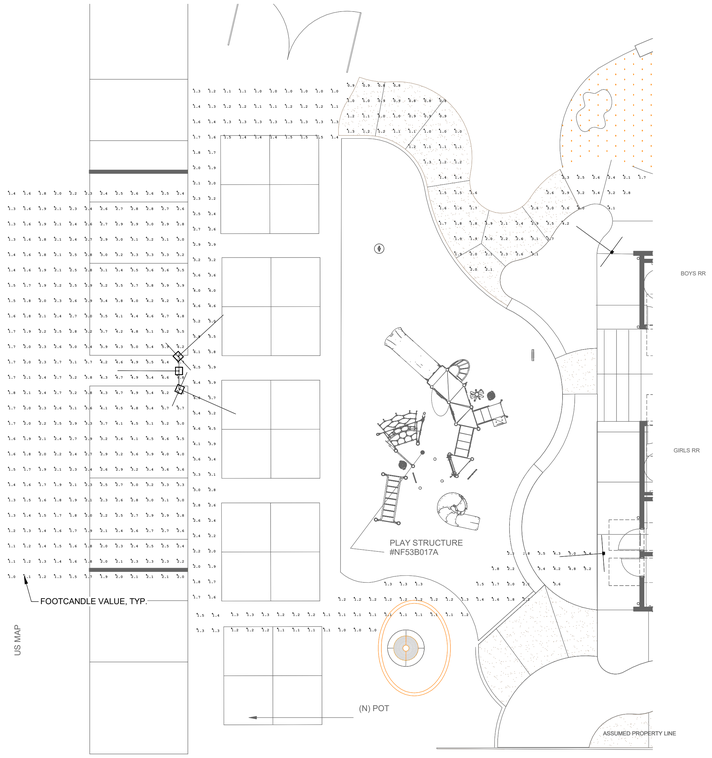
2023-IU002-002

Emergency Photometrics Plan

EL102

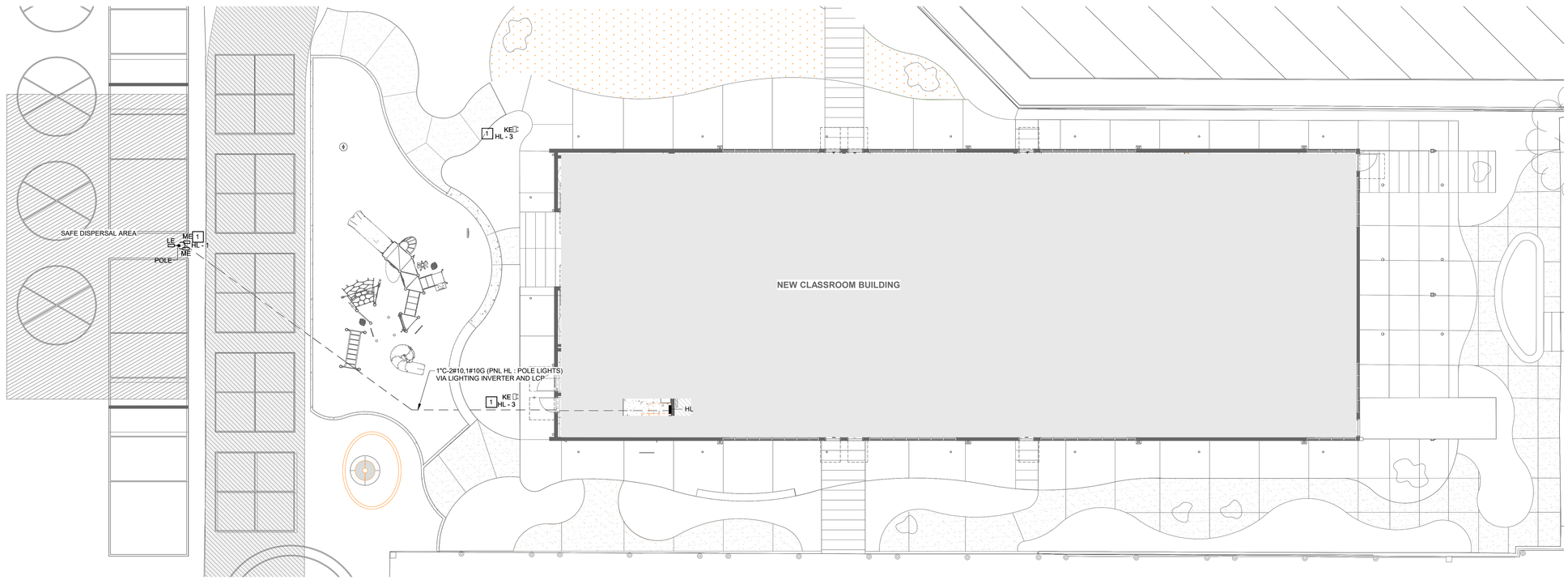


N

SAFE DISPERSAL AREA SITE PHOTOMETRICS PLAN

1" = 10'-0"

(18)



N

SAFE DISPERSAL AREA SITE LIGHTING PLAN

1" = 10'-0"

GENERAL NOTES:

1. SAWCUT EXISTING SURFACES AS REQUIRED TO INSTALL UNDERGROUND CONDUIT/CONDUCTORS. PATCH AND REPAIR SURFACES AFTER INSTALLATION TO MATCH EXISTING CONDITIONS.
2. PAINT ALL NEW EXTERIOR CONDUIT, CONDUCTORS, AND BOXES TO MATCH BUILDING SURFACES.
3. ALL PENETRATIONS SHALL BE PATCHED AND/OR SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY AND RATING OF THE WALL OR STRUCTURE.
4. REFER TO SAFE DISPERSAL AREA PATH LIGHTING PLAN AND FIRE ALARM SITE PLAN FOR ADDITIONAL TRENCHING REQUIRED.
5. BURIAL DEPTHS SHALL COMPLY WITH CEC TABLE 300.5.
6. CONNECT ALL EXTERIOR LIGHTING TO LIGHTING CONTROL PANEL WITH ASTRONOMIC TIME CLOCK.
7. REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL ELECTRICAL FEEDERS INFORMATION.
8. REFER TO STRUCTURAL DRAWINGS FOR LIGHT POLE MOUNTING INFORMATION.

KEYED NOTES

1 LIGHT FIXTURES SHALL BE CONNECTED TO THE CIRCUIT INDICATED VIA LIGHTING INVERTER LOCATED IN THE ELECTRICAL ROOM.

Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

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Inglewood, CA 90303

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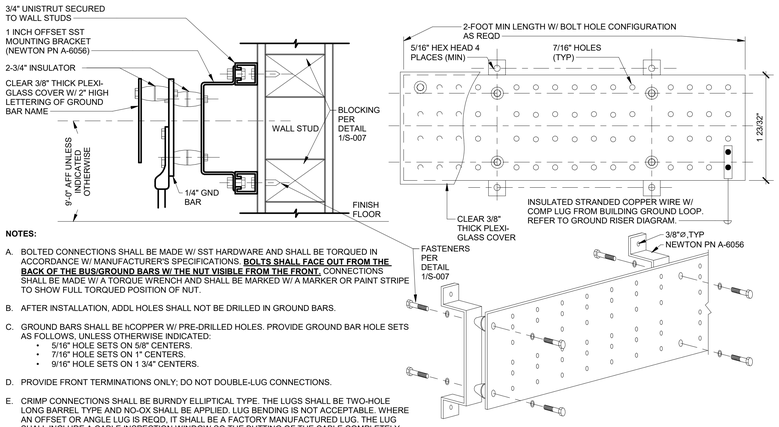
REGISTERED PROFESSIONAL ENGINEER
SEAN DANIEL ALLEN
No. E 16734
Exp. 9-30-26
ELECTRICAL
STATE OF CALIFORNIA

2023-IU002-002

Safe Disperal Area Path Lighting Plan

EL103



NOTES:

A. BOLTED CONNECTIONS SHALL BE MADE W/ SST HARDWARE AND SHALL BE TORQUED IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS. **BOLTS SHALL FACE OUT FROM THE BACK OF THE BUS/GROUND BARS W/ THE NUT VISIBLE FROM THE FRONT.** CONNECTIONS SHALL BE MADE W/ A TORQUE WRENCH AND SHALL BE MARKED W/ A MARKER OR PAINT STRIPE TO SHOW FULL TORQUED POSITION OF NUT.

B. AFTER INSTALLATION, ADDL HOLES SHALL NOT BE DRILLED IN GROUND BARS.

C. GROUND BARS SHALL BE hCOPPER W/ PRE-DRILLED HOLES. PROVIDE GROUND BAR HOLE SETS AS FOLLOWS, UNLESS OTHERWISE INDICATED:
- 5/16" HOLE SETS ON 5/8" CENTERS.
- 7/16" HOLE SETS ON 1" CENTERS.
- 9/16" HOLE SETS ON 1 3/4" CENTERS.

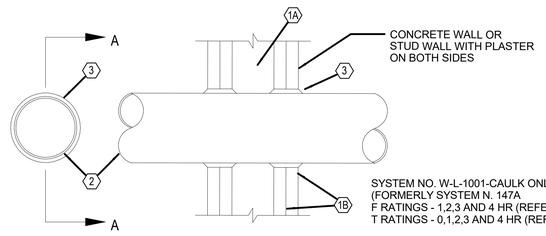
D. PROVIDE FRONT TERMINATIONS ONLY; DO NOT DOUBLE-LUG CONNECTIONS.

E. CRIMP CONNECTIONS SHALL BE BURNDY ELLIPTICAL TYPE. THE LUGS SHALL BE TWO-HOLE LONG BARREL TYPE AND NO-OX SHALL BE APPLIED. LUG BENDING IS NOT ACCEPTABLE. WHERE AN OFFSET OR ANGLE LUG IS REQD, IT SHALL BE A FACTORY MANUFACTURED LUG. THE LUG SHALL INCLUDE A CABLE INSPECTION WINDOW SO THE BUTTING OF THE CABLE COMPLETELY INTO THE LUG IS VISIBLE. CABLE LUGS SHALL BE COVERED W/ CLEAR HEAT SHRINK W/ A COLORED TAPE BAND AND LABEL APPLIED ON THE INSULATION PRIOR TO HEAT SHRINK. THE HEAT SHRINK SHALL NOT COVER THE INSPECTION WINDOW.

F. BUS BAR TERMINATION SURFACES SHALL BE BURNISHED W/ NON-METALLIC PAD AND COATED W/ NO-OX.

G. PROVIDE PLEXI-GLASS COVER AND STANDOFFS.

8 TYPICAL GROUND BAR
NOT TO SCALE



SECTION A-A

1. Wall assembly - the 1,2,3 or 4 hr. fire-rated gypsum wallboard/ stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 series wall or partition designs in the U.L. Fire Resistance Directory and shall include the following features:

   A. Studs-Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) steel channel studs. Wood studs to consist of nominal 2 by 4 in. lumber spaced 16 in. O.C. with nominal 2 by 4 in. lumber end plates and cross braces. Steel studs to be minimum 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. O.C.

   B.

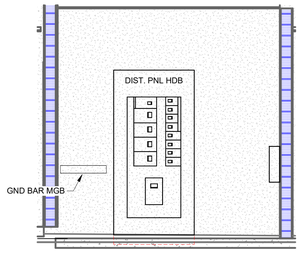
2. Pipe or Conduit - Nom. 12 in. dia. (or smaller) Schedule 10 or (heavier) steel pipe, nom. 6 in. dia. (or smaller) steel conduit, nom. 4 in. dia. (or smaller) steel Electrical metallic Tubing of Type L (or heavier) copper tubing or nom. 1in. dia. (or smaller) flexible steel conduit. When copper pipe or flexible steel conduit is used, max. F Rating of firestop system (item 3) is 2 hr. Steel pipes or conduits larger then nom 4 in. dia. may only be used in walls constructed using steel channel studs. A max of one pipe or conduit is permitted in the firestop wall constructed using steel channels studs. A max of one pipe or conduit is permitted in the rigidly supported on both sides of wall assembly.

3. Fill, Void or Cavity Material* - Caulk** - Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min. 1/4 in. dia. bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on boths sides of wall assembly. The hourly F rating of the firestop system is dependent upon the hourly fire rating of wall assembly in which is installed as shown in the following table. The hourly T rating of the fire stop system is dependent upon the type or size of the pipe or conduit and the hourly fire ratings of the wall assembly in which is installed, as tabulated below:

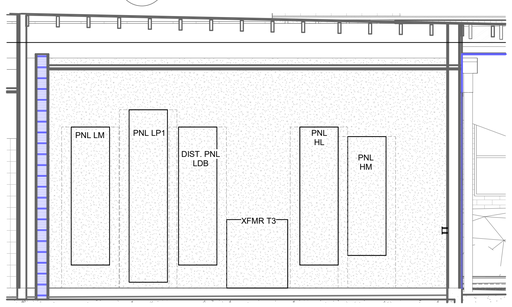
MAX PIPE OR CONDUIT DIAMETER, IN.	FIRESTOP ANNULAR SPACE, IN.	F RATING, HR.	T RATING, HR.
1	0 TO 3/16	1 OR 2	0+, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

\+ When copper pipe is used, T rating is 0 hour.
* FIRESTOP TESTED UP TO 4 HOURS IN ACCORDANCE WITH ASTM E 814 (UL 1479). FIRE RESISTANCE TESTED FOR STATIC CONSTRUCTION JOINT SYSTEMS IN ACCORDANCE WITH ASTM E 1966 (UL 2079)
** Mining & Mfg. Co. - Types CP-25 S/L, CP-25 N/S, CP-25 WB, CP-25 WB+.
** 3M COMPANY - CP 25WB + caulk or FB-3000 WT sealant.

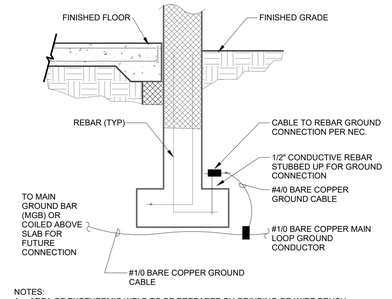
9 PENETRATION FIRESTOP SYSTEM
NOT TO SCALE



7 ELECTRICAL ROOM EQUIPMENT ELEVATION 2
3/8" = 1'-0"

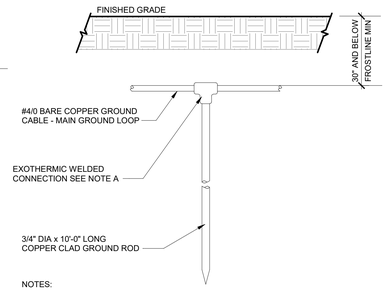


6 ELECTRICAL ROOM EQUIPMENT ELEVATION 1
3/8" = 1'-0"



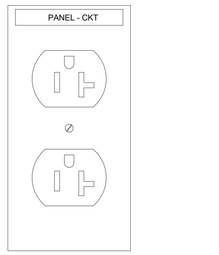
NOTES:
A. AREA OF EXOTHERMIC WELD TO BE PREPARED BY GRINDING OR WIRE BRUSH CLEANING.
B. ALL UNDERGROUND EXOTHERMIC WELDED CONNECTIONS AND EXPOSED REBAR SHALL BE COMPLETELY COVERED W/ CARBOMASTIC 615MC OR APPROVED EQUAL FOR CORROSION PROTECTION PER NEC250.68(C)(3).
C. COORDINATE REBAR DETAIL AND LOCATIONS W/ STRUCTURAL ENGINEER. LOCATE GROUND CONNECTION AT EACH SERVICE PER ELECTRICAL CODE.

5 FOUNDATION REBAR UNDER GROUND CONNECTION
12" = 1'-0"



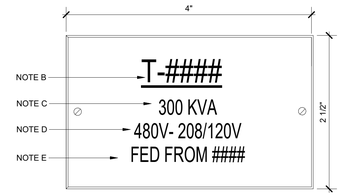
NOTES:
A. AREA OF EXOTHERMIC WELD TO BE PREPARED BY GRINDING OR WIRE BRUSH CLEANING

4 GROUND ROD
NOT TO SCALE



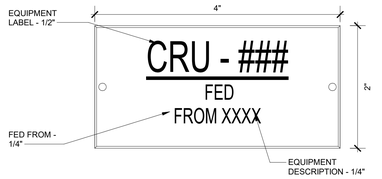
NOTES:
A. TEXT IS 1/8" HIGH (4MM) NORMAL WIDTH AND STYLE, BLACK LETTERING ON CLEAR BACKGROUND
B. ENGRAVED NAMEPLATE OR EXTRA STRENGTH LAMINATED TZ TAPE BY P-TOUCH OR APPROVED EQUIVALENT
C. INSTALL GROUND PIN OF VERTICALLY MOUNTED RECEPTACLE UP, AND ON HORIZONTALLY MOUNTED RECEPTACLES TO THE LEFT.
D.

3 IDENTIFICATION - OUTLET
NOT TO SCALE

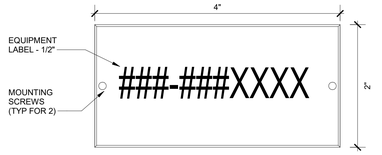


NOTES:
A. TYPICAL FOR ALL TRANSFORMERS.
B. REPLACE #### W/ ACTUAL EQUIPMENT NUMBER.
C. INDICATE TRANSFORMER POWER RATING.
D. INDICATE TRANSFORMER VOLTAGE RATING.
E. REPLACE XXXX W/ PANEL NUMBER / CIRCUIT NUMBER.

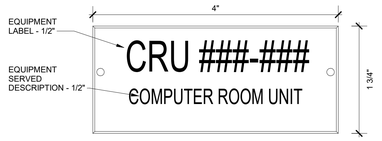
2 TYPICAL TRANSFORMER NAMEPLATE
NOT TO SCALE



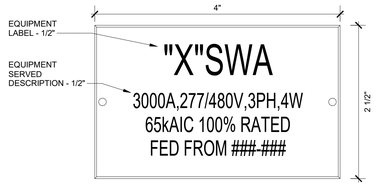
TYPICAL EQUIPMENT NAMEPLATE
SCALE: NTS
A. TYPICAL AT EQUIPMENT, REMOTE DEVICES, DISCONNECTS, ETC.
B. REPLACE ###-### W/ ACTUAL EQUIPMENT NUMBER.
C. REPLACE XXXX W/ PANEL NUMBER AND CIRCUIT NUMBER.



TYPICAL SMALL BREAKER NAMEPLATE
SCALE: NTS
A. TYPICAL AT SINGLE POLE CB ON DISTRIBUTION SWITCHBOARDS, DISTRIBUTION PANEL, ETC.
B. REPLACE ###-### W/ ACTUAL EQUIPMENT IDENTIFICATION TAG
C. REPLACE XXXX W/ CIRCUIT NUMBER
D. EXAMPLE: FCU - 3, CKT #4
E. INDIVIDUAL CB NAMEPLATES NOT REQD ON 250A OR LESS PANELBOARDS W/ TYPE WRITTEN CIRCUIT DIRECTORIES WHEN CBs HAVE INDIVIDUAL CIRCUIT NUMBERS INDICATED ADJACENT TO CB.



TYPICAL LARGE BREAKER NAMEPLATE
SCALE: NTS
A. TYPICAL NAME PLATE AT 2 OR 3 POLE CB ON SWITCHBOARD, PANEL, ETC.
B. REPLACE ###-### W/ ACTUAL EQUIPMENT NUMBER.
C. REPLACE XXXX W/ CIRCUIT PANEL NUMBER.



TYPICAL DISTRIBUTION EQUIPMENT NAMEPLATE
SCALE: NTS
A. TYPICAL FOR EACH OF SWITCHBOARD, PANELBOARD, ETC.
B. NAMEPLATE SIZE TO BE DETERMINED BY TEXT REQUIREMENTS. NOMINAL SIZES INDICATED.
C. REPLACE SAMPLE TEXT W/ ACTUAL EQUIPMENT RATINGS.

1 EQUIPMENT TAGS
NOT TO SCALE

Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

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2023-IU002-002

Electrical Details

E-581

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

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: Bennett-Kew P-8 Academy	**Report Page:** (Page 1 of 9)
Project Address:	**Date Prepared:** 2024-10-02T00:09:53-04:00

A. GENERAL INFORMATION

01	Project Location (city)	Inglewood	04	Total Conditioned Floor Area (ft²)	8,662
02	Climate Zone	8	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1
● Classroom					

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 (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Complete Building Method	8662	N/A	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
Total Area of Work (ft²)	8662			

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 2 of 9)
	Date Prepared: 2024-10-02T00:09:53-04:00

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	5,211				=	5,211	≥ 4,858		=	4858	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.

Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 228491-1024-0007 Report Generated: 2024-10-01 21:09:55

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 3 of 9)
	Date Prepared: 2024-10-02T00:09:53-04:00

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
A & AE	Linear Pendant Fixture	No	NA	123	Mfr. Spec	12	No	1,476	☐	☐
B	Linear Surface Mount	No	NA	55	Mfr. Spec	16	No	880	☐	☐
C	Linear Wall Wash	No	NA	82	Mfr. Spec	15	No	1,230	☐	☐
DE	Linear Pendant Fixture	No	NA	164	Mfr. Spec	4	No	656	☐	☐
F & FE	Recessed Flat Panel	No	NA	40	Mfr. Spec	8	No	320	☐	☐
G & GE	Surface Mount Strip	No	NA	28	Mfr. Spec	8	No	224	☐	☐
H	Undercabinet Light	No	NA	18	Mfr. Spec	4	No	72	☐	☐
					Total Designed Watts: CONDITIONED SPACES			4,858		

[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.

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 228491-1024-0007 Report Generated: 2024-10-01 21:09:55

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 4 of 9)
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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	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	☐	☐
Required >= 4,000W subject to multilevel	See Area/Space Level Controls		

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
Makerspace classroom 101	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	Yes	☐	☐
Classroom 102	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
Classroom 103	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
Classroom 104	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
Classroom 111	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
Classroom 112	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
Classroom 113	School or Classroom	Readily Accessible	Multilevel Switch	Occupancy Sensor	Included	Included	No	☐	☐
IDF 105	School or Classroom	Auth. Personnel	NA: General Ltg <= 0.5W/SF	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 5 of 9)
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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Electrical 106	School or Classroom	Auth. Personnel	NA: General Ltg <= 0.5W/SF	NA: Elec. equip. rm	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Girls Restroom 107	School or Classroom	Auth. Personnel	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Custodial 108	School or Classroom	Auth. Personnel	Multilevel Switch	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Restroom 109	School or Classroom	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Boys Restroom 110	School or Classroom	Auth. Personnel	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐

13
Plan Sheet Showing Daylit Zones:
EL101

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/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Makerspace classroom 101	School or Classroom	0.6	1,932	1,159.2	No	No
Classroom 102	School or Classroom	0.6	963	577.8	No	No
Classroom 103	School or Classroom	0.6	963	577.8	No	No
Classroom 104	School or Classroom	0.6	963	577.8	No	No
Classroom 111	School or Classroom	0.6	963	577.8	No	No
Classroom 112	School or Classroom	0.6	963	577.8	No	No
Classroom 113	School or Classroom	0.6	963	577.8	No	No

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 6 of 9)
	Date Prepared: 2024-10-02T00:09:53-04:00

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

IDF 105	School or Classroom	0.6	97	58.2	No	No
Electrical 106	School or Classroom	0.6	287	172.2	No	No
Girls Restroom 107	School or Classroom	0.6	204	122.4	No	No
Custodial 108	School or Classroom	0.6	98	58.8	No	No
Restroom 109	School or Classroom	0.6	85	51	No	No
Boys Restroom 110	School or Classroom	0.6	204	122.4	No	No
		TOTALS:	8,685	5,211	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

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.

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 7 of 9)
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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.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

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

Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 228491-1024-0007 Report Generated: 2024-10-01 21:09:55

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 8 of 9)
	Date Prepared: 2024-10-02T00:09:53-04:00

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Makerspace classroom 101; Classroom 102; Classroom 103; Classroom 104; Classroom 111; Classroom 112; Classroom 113; IDF 105; Girls Restroom 107; Custodial 108; Restroom 109; Boys Restroom 110
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Makerspace classroom 101; Classroom 102; Classroom 103; Classroom 104; Classroom 111; Classroom 112; Classroom 113
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Makerspace classroom 101; Classroom 102; Classroom 103; Classroom 104; Classroom 111; Classroom 112; Classroom 113; IDF 105; Electrical 106; Girls Restroom 107; Custodial 108; Restroom 109; Boys Restroom 110

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 9 of 9)
Project Address:	**Date Prepared:** 2024-10-02T00:09:53-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Felipe Carvalho	Documentation Author Signature:
Company: HED	Signature Date: 10/01/2024
Address: 550 S Hope St # 2500	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Los Angeles/CA/90071	Phone: (213) 802-0766

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: Sean Bani	Responsible Designer Signature:
Company: HED	Date Signed: 10/01/2024
Address: 550 S Hope St # 2500	License: E16734
City/State/Zip: Los Angeles/CA/90071	Phone: (213) 542-4618

Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 228491-1024-0007 Report Generated: 2024-10-01 21:09:55

Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

HED
550 South Hope Street
Suite 2500
Los Angeles, California
90071 USA

(213) 542-4500

WWW.HED.DESIGN

REGISTERED PROFESSIONAL ENGINEER SEAN BANI No. E 16734 Exp. 9-30-26 ELECTRICAL STATE OF CALIFORNIA

2023-IU002-002

Interior Lighting Title 24 Documents

E-582

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor 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)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 1 of 8)
Project Address:	**Date Prepared:** 2024-10-02T00:21:08-04:00

A. GENERAL INFORMATION

01	Project Location (city)	Inglewood	04	Total Illuminated Hardscape Area (ft²)	8140
02	Climate Zone	8			
03	Outdoor Lighting Zone per Title 24 Part 1	10.114 or as designated by Authority Having Jurisdiction (AHJ):			
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
• Classroom					

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6		
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	Yes	No
03	04	05	
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method	
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 2 of 8)
	Date Prepared: 2024-10-02T00:21:08-04:00

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. 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.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv | **Compliance Results**

01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
703.34	+	---	+	---	+	---	+	---	OR	---	=	703.34	≥	567	COMPLIES
										Shielding Compliance (See Table G for Details)					COMPLIES
										Controls Compliance (See Table H 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.

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 3 of 8)
	Date Prepared: 2024-10-02T00:21:08-04:00

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1,2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
IE	Recessed Downlight	☐ Linear	10	Mfr. Spec	19	New	☐	190	NA: < 6200 lumens	☐	☐
J & JE	Recessed Downlight	☐ Linear	19	Mfr. Spec	8	New	☐	152	NA: < 6200 lumens	☐	☐
KE	Flood Light	☐ Linear	19	Mfr. Spec	2	New	☐	38	NA: < 6200 lumens	☐	☐
LE	Pole Light	☐ Linear	51	Mfr. Spec	1	New	☐	51	Provided	☐	☐
ME	Pole Light	☐ Linear	68	Mfr. Spec	2	New	☐	136	Provided	☐	☐
							Total Design Watts:	567			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
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G. SHIELDING REQUIREMENTS (BUG)

This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Shielding Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.

01	02	03	04	05	06	07	08	09	10	11	12	
		Backlight Rating[2]			Uplight Rating[2]			Glare Rating (Lumens)[2]			Field Inspector	
Name or Item Tag	Complete Luminaire Description	Mounting Height[1]	Max Allowable Backlight Rating[3]	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating[3]	Uplight Rating Per Design	Mounting Height[1]	Max Allowable Glare Rating[3]	Glare Rating Per Design	Pass	Fail
LE	Pole Light	2 MH from property line	No Limit	B1	Area Lighting	U0	U0	> 2 MH from property line	G3	G3	☐	☐
ME	Pole Light	2 MH from property line	No Limit	B2	Area Lighting	U0	U0	> 2 MH from property line	G3	G3	☐	☐

[1] *FOOTNOTES: Mounting Height is labeled MH in this table.*
[2] *Authority Having Jurisdiction may ask for Luminaire cut sheets or other documentation to confirm luminaire type, uplight ratings and glare ratings used for compliance per 130.2(b)/ 160.5(c)*
[3] *BUG ratings with a lower number than the 'Max Allowable' are compliant. Ex. If Max Allowable is Bug Rating B4, then B0, B1, B2 and B3 are all compliant.*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 5 of 8)
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H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
Exterior: "IE"	Astronomical Timer	Provided	NA: Each Luminaire <= 40 Watts	☐	☐
Exterior: "J & JE"	Astronomical Timer	Provided	NA: Facade, etc. <24 ft	☐	☐
Exterior: "KE"	Astronomical Timer	Provided	NA: Each Luminaire <= 40 Watts	☐	☐
Exterior: "LE"	Astronomical Timer	Provided	NA: >=24 ft	☐	☐
Exterior: "ME"	Astronomical Timer	Provided	NA: >=24 ft	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 6 of 8)
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I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

01					
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	
"Use it or lose it" Allowance (select all that apply)					

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Exterior	8140	0.021	170.94	1412	0.2	282.4	453.34
						Initial Wattage Allowance for Entire Site (Watts):	250
						Instances of Initial Wattage Allowance (LZ 0 only)[1]	
						Total General Hardscape Allowance (Watts):	703.34

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
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M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

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

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	Exterior: "IE"; Exterior: "J & JE"; Exterior: "KE"; Exterior: "LE"; Exterior: "ME"

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Bennett-Kew P-8 Academy	**Report Page:** (Page 8 of 8)
Project Address:	**Date Prepared:** 2024-10-02T00:21:08-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Felipe Carvalho	Documentation Author Signature:
Company: HED	Signature Date: 10/01/2024
Address: 550 S Hope St # 2500	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Los Angeles/CA/90071	Phone: (213) 802-0766

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: Sean Bani	Responsible Designer Signature:
Company: HED	Date Signed: 10/01/2024
Address: 550 S Hope St # 2500	License: E16734
City/State/Zip: Los Angeles/CA/90071	Phone: (213) 542-4618

Inglewood Unified School District

IUSD Bennett-Kew P-8 Academy

11710 S Cherry Ave
Inglewood, CA 90303

△	Date	Issued For
1	11/5/2024	DSA SUBMITTAL

DSA A# 03-124773 FILE # 19-48

HED
550 South Hope Street
Suite 2500
Los Angeles, California
90071 USA

(213) 542-4500

WWW.HED.DESIGN

REGISTERED PROFESSIONAL ENGINEER
SEAN BANI-ARDEN
No. E 16734
Exp. 9-30-26
ELECTRICAL
STATE OF CALIFORNIA

2023-IU002-002

Exterior Lighting Title 24 Documents

E-583