



**CAMPUS HVAC  
 SYSTEM UPGRADE**

**Horace Mann  
 Elementary School**  
 2710 Niles St Bakersfield, CA 93306  
 Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA  
 ARCHITECT, C-19670



CONSULTANT



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

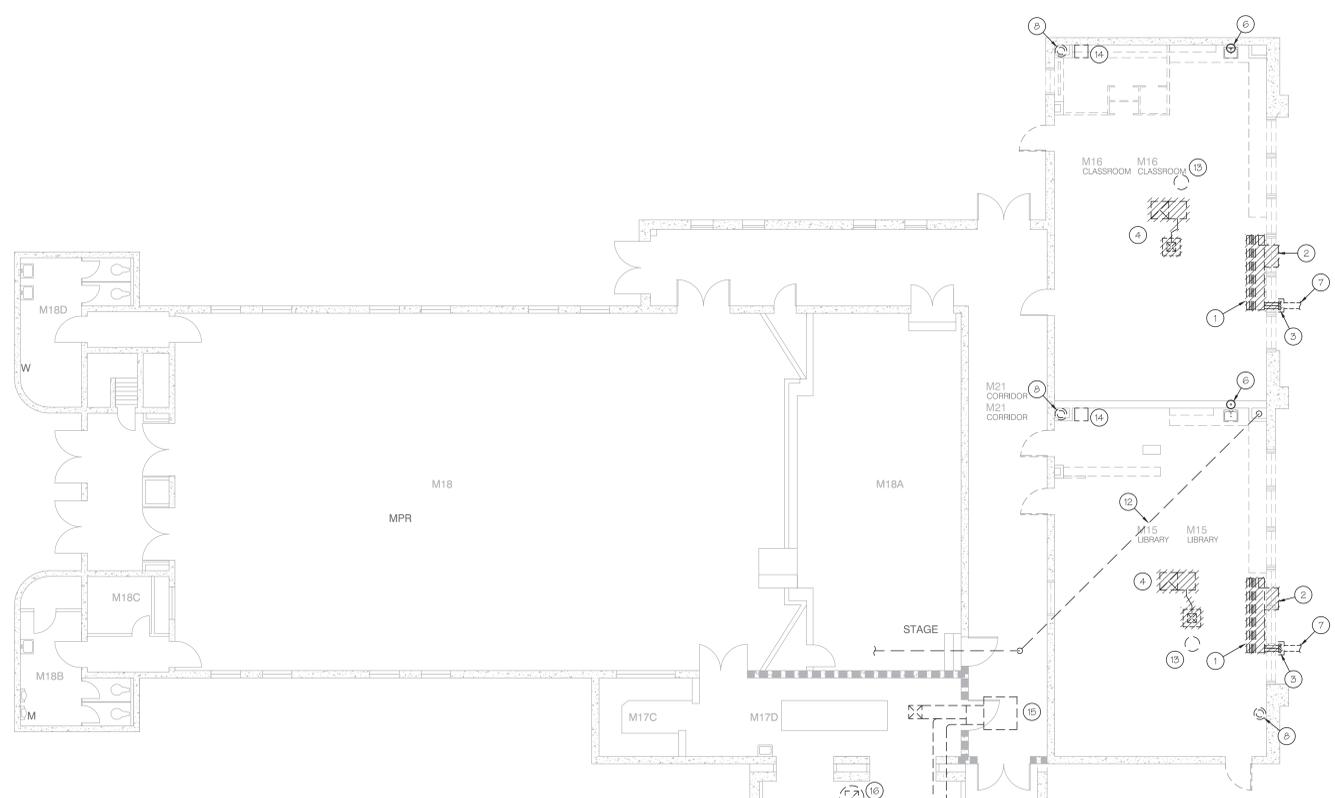
**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

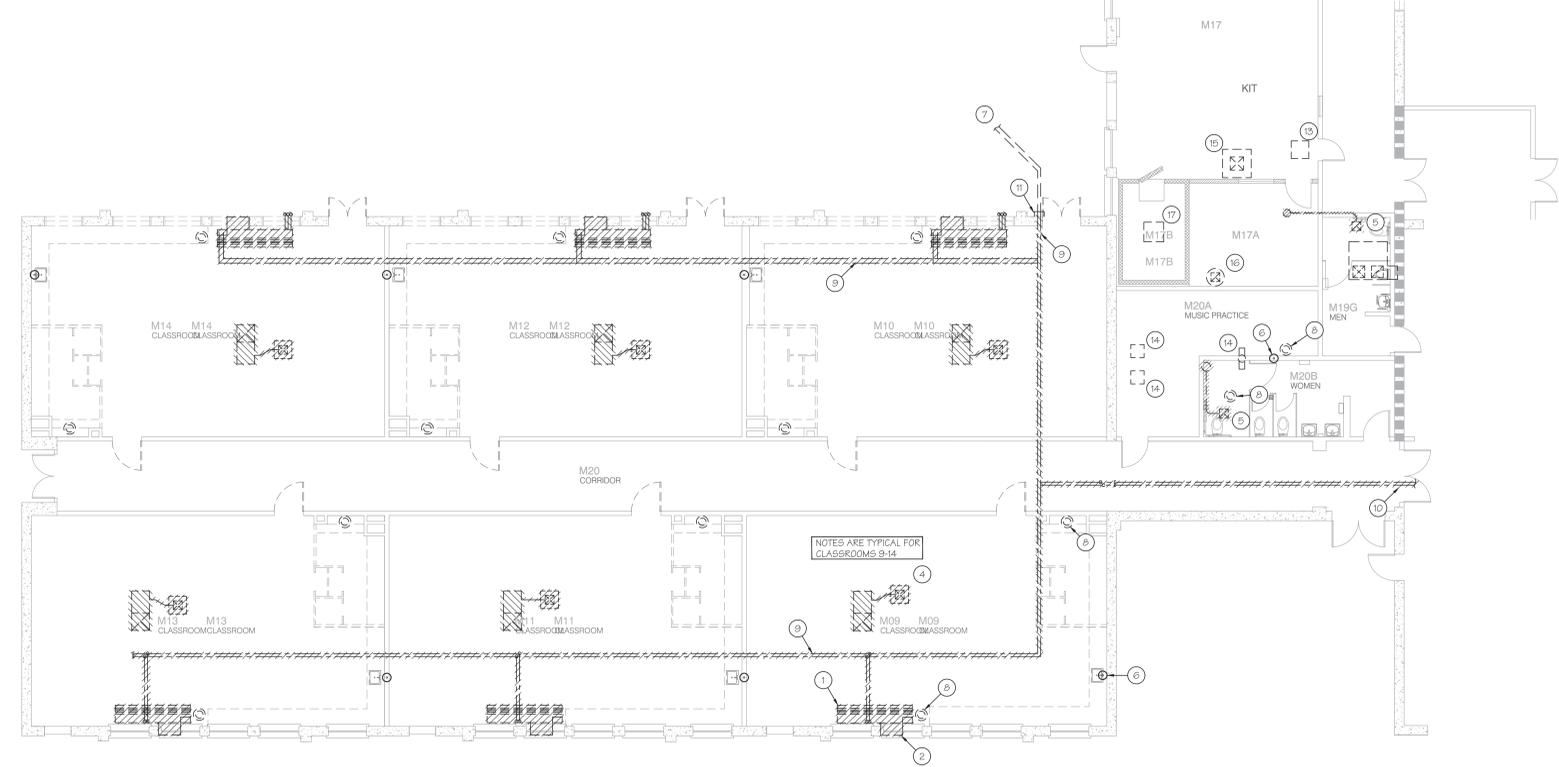
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MECHANICAL DEMOLITION  
 PLAN - BUILDING M-1 & M-2

**M2.10**



**MECHANICAL DEMOLITION FLOOR PLAN - BUILDING M-1**  
 SCALE: 1/8"=1'-0"



**MECHANICAL DEMOLITION FLOOR PLAN - BUILDING M-2**  
 SCALE: 1/8"=1'-0"

- DEMOLITION KEY NOTES:**
- 1 REMOVE EXISTING FLOOR MOUNTED UNIT VENTILATOR, ALL RELATED MECHANICAL PIPING, CONDENSATE PIPING, CONTROLS, SUPPORTS, ANCHORAGE, ETC. PATCH EXISTING SURFACES TO MATCH EXISTING.
  - 2 REMOVE EXISTING OUTSIDE AIR LOUVERS. INFILL / PATCH WALL TO MATCH EXISTING.
  - 3 REMOVE EXISTING HYDRONIC AND CONDENSATE PIPING AND EXTERIOR CHASE. REMOVE PIPING TO 12" BELOW GRADE. CAP PIPING AND ABANDON IN PLACE.
  - 4 REMOVE EXISTING GRAVITY RELIEF VENT, ROOF CURB, DUCTWORK, RELIEF GRILLE, ETC.
  - 5 REMOVE EXISTING EXHAUST FAN, DUCTWORK, ETC.
  - 6 EXISTING WASTE VENT, TYPICAL. CONFIRM EXACT LOCATION IN FIELD.
  - 7 ABANDON IN PLACE BELOW GRADE SITE HYDRONIC PIPING.
  - 8 ABANDONED FURNACE FLUE, TYPICAL. CONFIRM QUANTITY AND LOCATION IN FIELD. REMOVE ANY AND ALL FLUES AS REQUIRED TO INSTALL NEW HVAC UNITS, AND ALL FLUES WITHIN 10'-0" OF ANY OUTSIDE AIR INTAKE. DEMO TO BELOW ROOF AND PATCH TO MATCH EXISTING.
  - 9 DEMO ALL HYDRONIC PIPING ABOVE ROOF, PIPE SUPPORTS, PIPE DROPS THRU ROOF, ROOF JACK, ETC. PATCH / WEATHERPROOF ROOF TO MATCH EXISTING.
  - 10 DEMO HYDRONIC PIPE THRU PARAPET WALL AND PATCH / WEATHERPROOF WALL TO MATCH EXISTING.
  - 11 REMOVE EXISTING EXTERIOR PIPE CHASE, HYDRONIC PIPE RISERS ON WALL, ANCHORAGE, PATCH AND SEAL PIPE OPENINGS IN PARAPET WALL TO MATCH EXISTING. DEMO PIPING TO 12" BELOW GRADE AND CAP.
  - 12 EXISTING EVAPORATIVE COOLER DRAIN PIPING TO REMAIN.
  - 13 EXISTING ROOF VENT TO REMAIN.
  - 14 EXISTING ABANDONED MECHANICAL VENT TO REMAIN.
  - 15 EXISTING ROOFTOP EVAPORATIVE COOLER TO REMAIN.
  - 16 EXISTING ROOF EXHAUST FAN TO REMAIN.
  - 17 EXISTING COLD BOX CONDENSER TO REMAIN.

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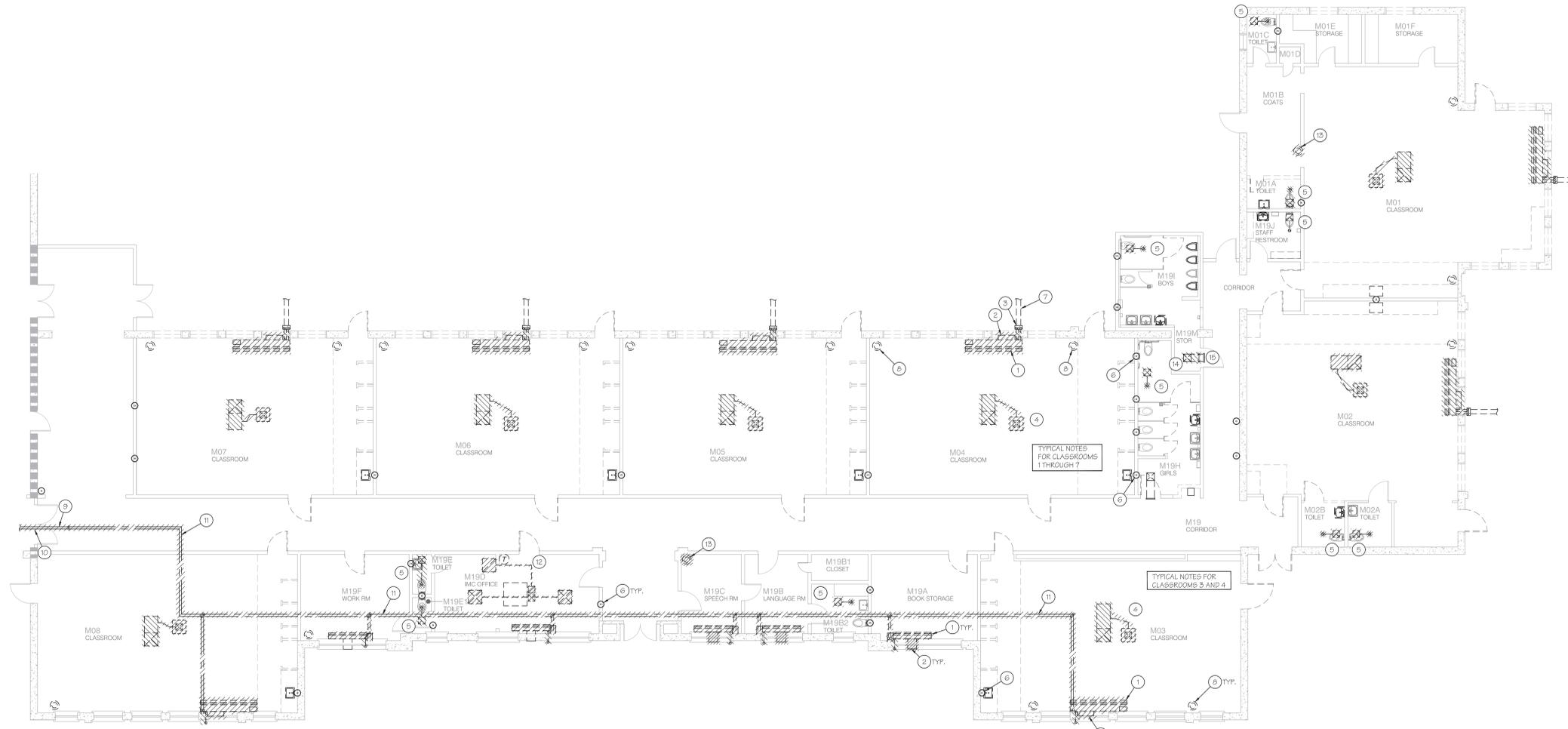
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MECHANICAL DEMOLITION  
 PLAN - BUILDING M-3

**M2.11**



- DEMOLITION KEY NOTES:**
- 1 REMOVE EXISTING FLOOR MOUNTED UNIT VENTILATOR, ALL RELATED MECHANICAL PIPING, CONDENSATE PIPING, CONTROLS, SUPPORTS, ANCHORAGE, ETC. PATCH EXISTING SURFACES TO MATCH EXISTING.
  - 2 REMOVE EXISTING OUTSIDE AIR LOUVERS. INFILL / PATCH WALL TO MATCH EXISTING.
  - 3 REMOVE EXISTING HYDRONIC AND CONDENSATE PIPING AND EXTERIOR CHASE. REMOVE PIPING TO 12" BELOW GRADE. CAP PIPING AND ABANDON IN PLACE.
  - 4 REMOVE EXISTING GRAVITY RELIEF VENT, ROOF CURB, DUCTWORK, RELIEF GRILLE, ETC.
  - 5 REMOVE EXISTING EXHAUST FAN, DUCTWORK, ETC.
  - 6 EXISTING WASTE VENT. TYPICAL. CONFIRM EXACT LOCATION IN FIELD.
  - 7 ABANDON IN PLACE BELOW GRADE SITE HYDRONIC PIPING.
  - 8 ABANDONED FURNACE FLUE, TYPICAL. CONFIRM QUANTITY AND LOCATION IN FIELD. REMOVE ANY AND ALL FLUES AS REQUIRED TO INSTALL NEW HVAC UNITS, AND ALL FLUES WITHIN 10'-0" OF ANY OUTSIDE AIR INTAKE. DEMO TO BELOW ROOF AND PATCH TO MATCH EXISTING.
  - 9 DEMO ALL HYDRONIC PIPING ABOVE ROOF. PIPE SUPPORTS, PIPE DROPS THRU ROOF, ROOF JACK, ETC. PATCH / WEATHERPROOF ROOF TO MATCH EXISTING.
  - 10 DEMO HYDRONIC PIPE THRU PARAPET WALL AND PATCH / WEATHERPROOF WALL TO MATCH EXISTING.
  - 11 DEMO ALL HYDRONIC PIPING BELOW ROOF, PIPE SUPPORTS, ETC.
  - 12 REMOVE EXISTING ROOFTOP PACKAGED AC UNIT, DUCTWORK, GRILLES, CONDENSATE DRAIN, CONTROLS, ETC. DEMO GAS BACK TO ROOF JACK AND CAP.
  - 13 REMOVE THIS FLUE ASSEMBLY AS REQUIRED TO INSTALL NEW ROOF MOUNTED AC UNIT. SEE M3.11
  - 14 DEMO CEILING TRANSFER GRILLE AND PARTIAL DEMO OF 14"x8" TRANSFER DUCT BACK TO P.O.C. NOTED.
  - 15 RETAIN TRANSFER GRILLE FOR RE-USE.



**MECHANICAL DEMO FLOOR PLAN - BUILDING M-3**

SCALE: 1/8"=1'-0"



**BASKIN  
 MECHANICAL  
 ENGINEERS**

175 Fulton Street  
 Fresno, CA 93721  
 Tel: (559) 237-0376  
 Job: 22014  
 Plt: 10-19-23

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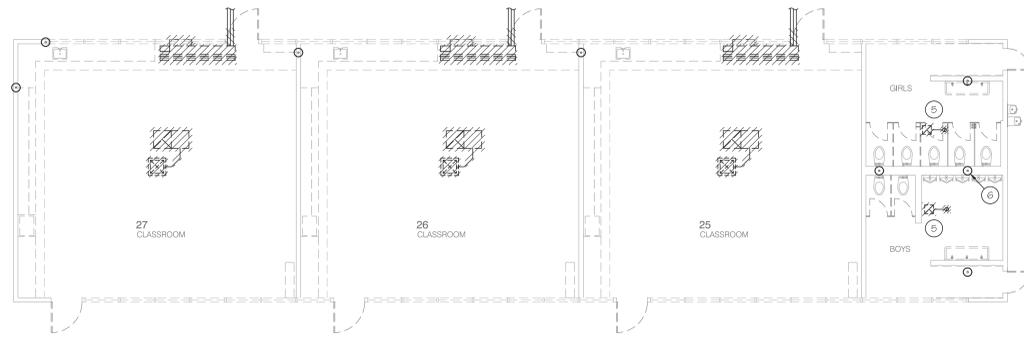
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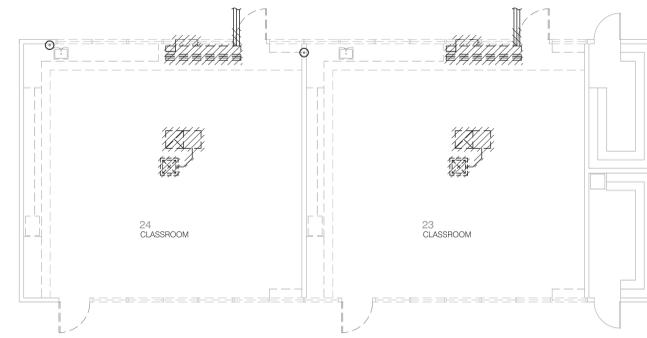
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MECHANICAL DEMOLITION  
 PLAN - B,C,D,E

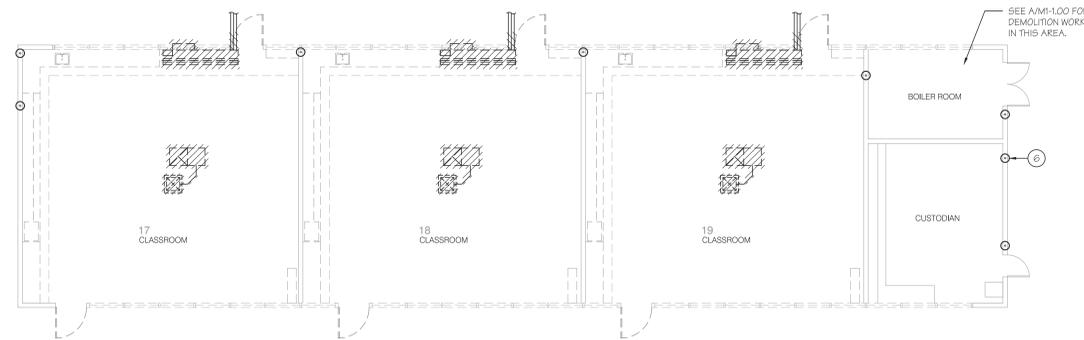
**M2.12**



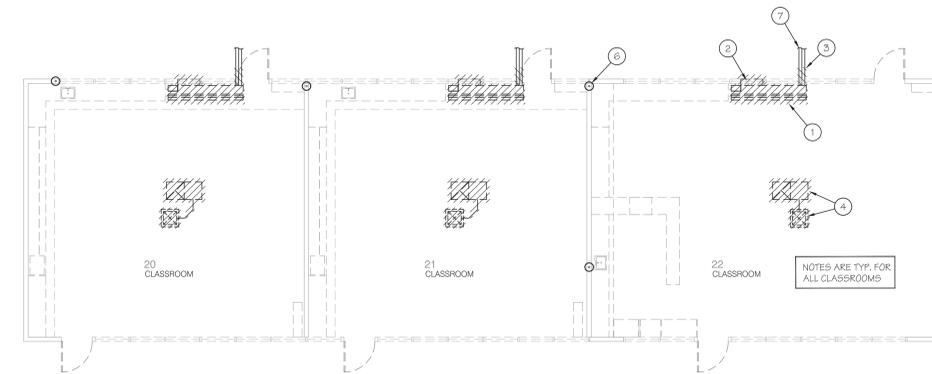
**MECHANICAL DEMOLITION FLOOR PLAN-BLDG B**  
 SCALE: 1/8"=1'-0"



**MECHANICAL DEMOLITION FLOOR PLAN-BLDG C**  
 SCALE: 1/8"=1'-0"



**MECHANICAL DEMOLITION FLOOR PLAN-BLDG D**  
 SCALE: 1/8"=1'-0"



**MECHANICAL DEMOLITION FLOOR PLAN-BLDG E**  
 SCALE: 1/8"=1'-0"

- Demolition Key Notes:**
- 1 Remove existing floor mounted unit ventilator, all related mechanical piping, condensate piping, controls, supports, anchorages, etc. Patch existing surfaces to match existing.
  - 2 Remove existing outside air louvers. Infill / patch wall to match existing.
  - 3 Remove existing hydronic and condensate piping and exterior chase. Remove piping to 12" below grade. Cap piping and abandon in place.
  - 4 Remove existing gravity relief vents, roof curb, ductwork, relief grille, etc.
  - 5 Remove existing exhaust fan, ductwork, etc.
  - 6 Existing waste vent, typical. Confirm exact location in field.
  - 7 Abandon in place below grade site hydronic piping.



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DSA File No	154
DSA No	03-122671

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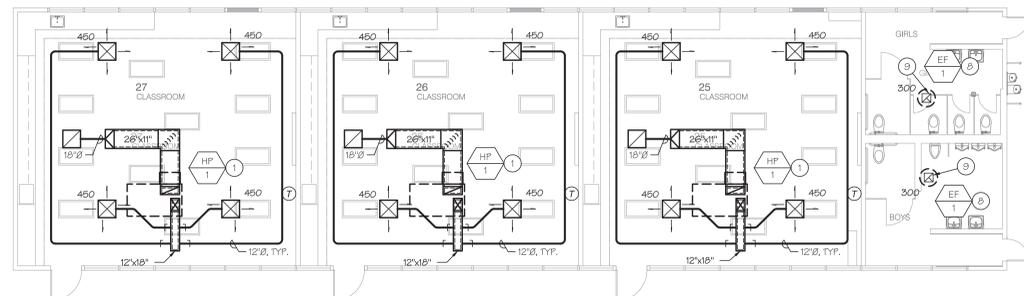
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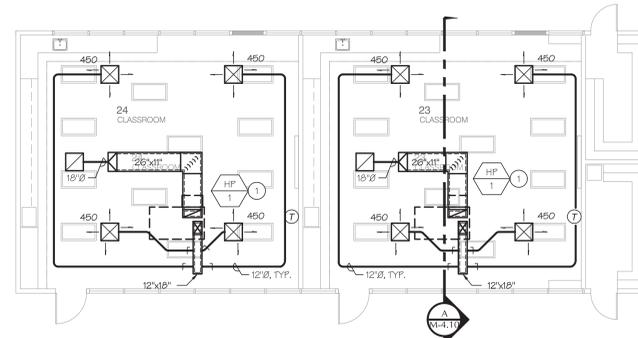
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MECHANICAL PLAN -  
 BUILDING B,C,D,E

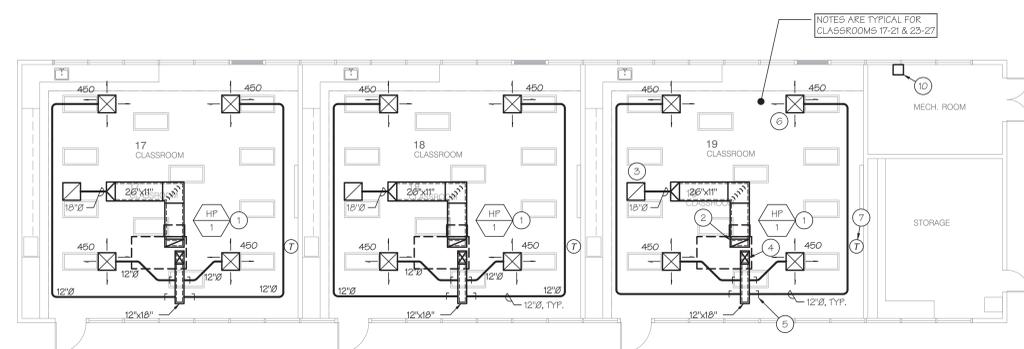
**M2.22**



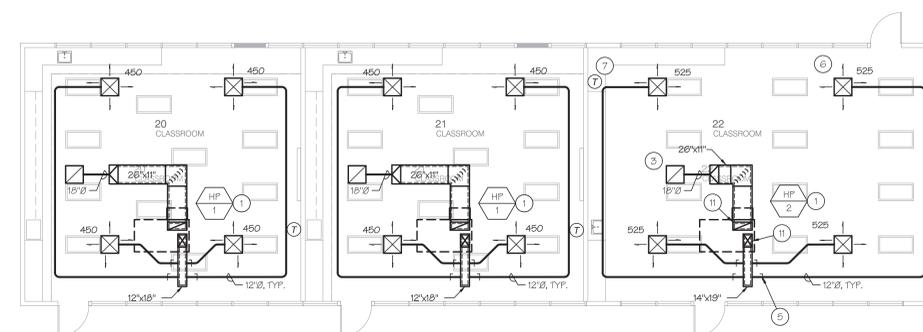
**MECHANICAL FLOOR PLAN-BLDG B**  
 SCALE: 1/8"=1'-0"



**MECHANICAL FLOOR PLAN-BLDG C**  
 SCALE: 1/8"=1'-0"



**MECHANICAL FLOOR PLAN-BLDG D**  
 SCALE: 1/8"=1'-0"



**MECHANICAL FLOOR PLAN-BLDG E**  
 SCALE: 1/8"=1'-0"

- MECHANICAL FLOOR PLAN KEYNOTES:**
- ROOF MOUNTED HP UNIT. SEE MECHANICAL ROOF PLAN. LOCATE UNIT SO THAT DUCT DROPS EXTEND THRU ROOF BETWEEN ROOF TRUSSES AT 24" O.C. DO NOT CUT ANY ROOF FRAMING.
  - 26" X 11" RETURN AIR RISER WITH 1" LINER, 26" X 13" NET, ELBOW W/ TURNING VANES AT BOTTOM OF RISER PER DETAIL CM-4.11.
  - CR-1 TYPICAL.
  - 12" X 18" SUPPLY AIR DROP WITH 1" LINER, 14" X 20" NET, ELBOW W/ TURNING VANES AT BOTTOM OF RISER PER DETAIL CM-4.11.
  - BRANCH DUCT TAKE-OFF, W/ SPIN-IN AND VOLUME DAMPERS, TYP.
  - CD-1 TYPICAL. SEE DETAIL AIM-4.11.
  - T-STAT LOCATION TYPICAL. CLASSROOMS USE PELICAN TS250 WITH CO2 SENSOR AND DEMAND CONTROL VENTILATION. SEE DETAIL D/M-4.11.
  - ROOF MOUNTED EXHAUST FAN. SEE MECHANICAL ROOF PLAN.
  - 10" X 10" EXHAUST DUCT DROP WITH 1" LINER, 16" X 21" NET, WITH CE-1, 12" X 12" EXHAUST GRILLE.
  - PELICAN WIRELESS GATEWAY W/ 15' PLUG CONNECTED TO WALL OUTLET AND CONN. TO LOCAL ROUTER. PROVIDE WALL MTD. BRACKET. SEE DETAILS DAE/M-4.11.
  - 14" X 19" SUPPLY DROP W/ 1" LINER, 16" X 21" NET, ELBOW W/ TURNING VANES AT BOTTOM OF RISER PER DETAIL CM-4.11.

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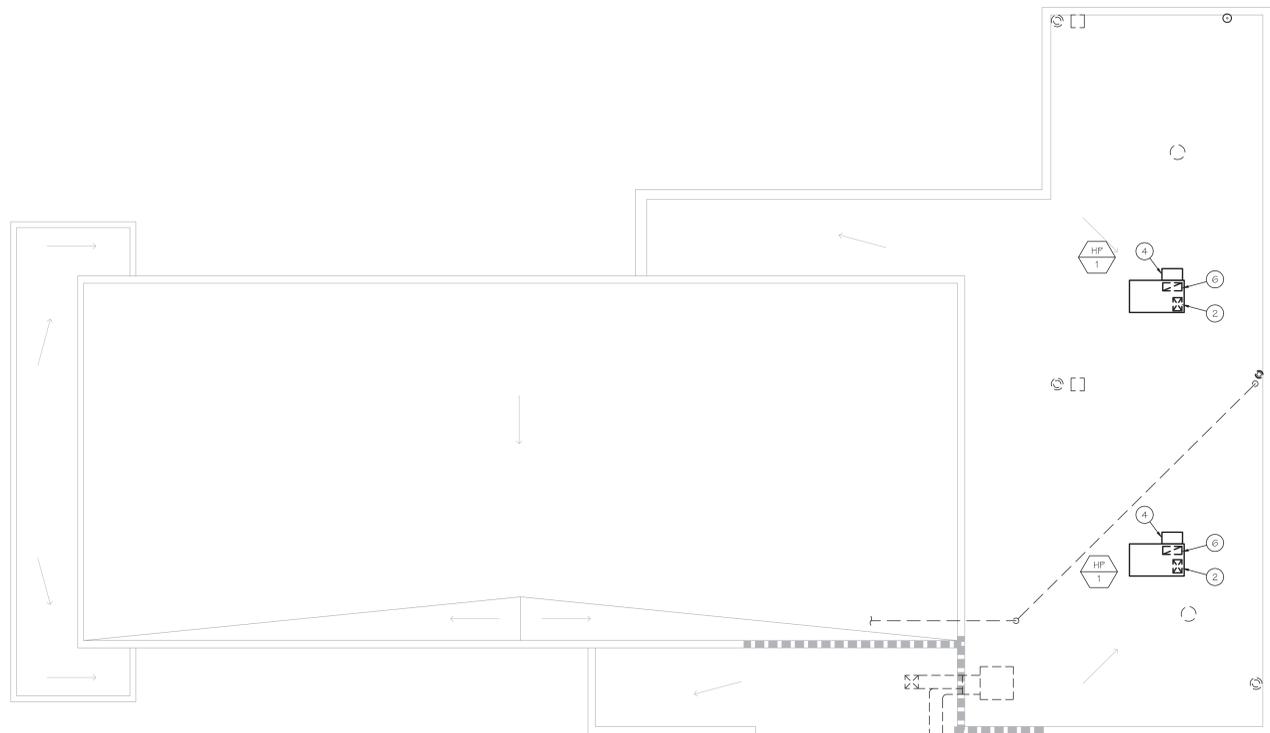
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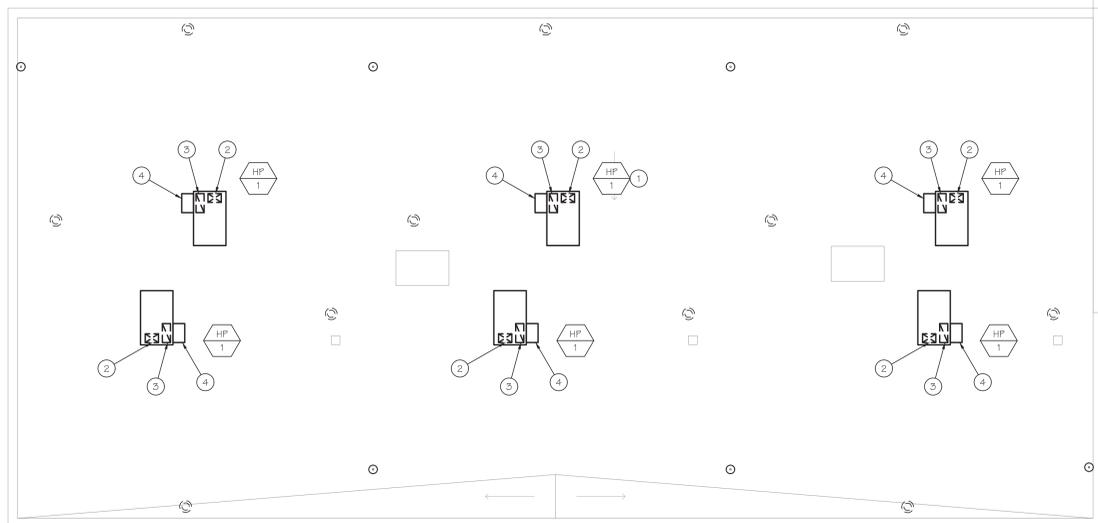
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MECHANICAL ROOF PLAN -  
 BUILDING M-1 & M-2

**M3.10**



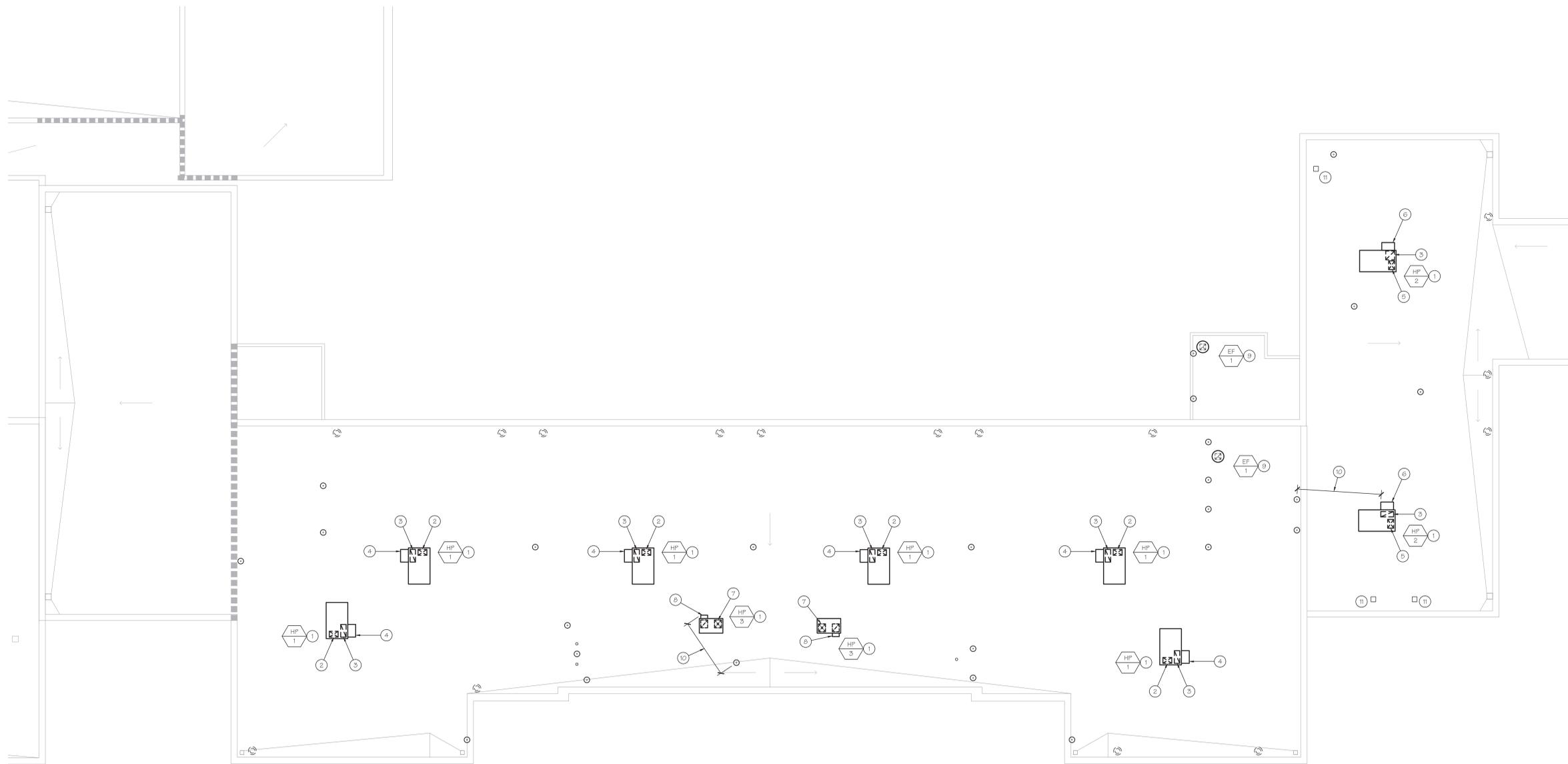
**MECHANICAL ROOF PLAN BLDG M-1**  
 SCALE: 1/8"=1'-0"



**MECHANICAL ROOF PLAN BLDG M-2**  
 SCALE: 1/8"=1'-0"

- MECHANICAL ROOF PLAN KEYNOTES:**
- ROOF MOUNTED HP UNIT. SEE MECHANICAL ROOF PLAN. LOCATE UNIT SO THAT DUCT DROPS EXTEND THRU ROOF BETWEEN ROOF TRUSSES AT 24" O.C. DO NOT CUT ANY ROOF FRAMING. SEE DETAIL F/M-4.10. FOR ANCHORAGE.
  - 12" X 18" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 14" X 20" NET.
  - 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 13" NET.
  - ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 150 CFM WITH DEMAND CONTROL VENTILATION OVERSIDE TO 400 CFM.
  - NEW ROOF MOUNTED EXHAUST FAN WITH 10" X 10" LINED EXHAUST RISER THRU ROOF, 12" X 12" NET. COORDINATE EXACT LOCATION SO THAT EX. FAN IS A MIN. 10'-0" FROM OUTSIDE AIR INTAKE. SEE DETAIL G/M-4.11. FOR ANCHORAGE.
  - TRANSITION R.A. DUCT WITHIN CURB SPAGE TO 18" X 18" w/ 1" LINER, 20" X 20" NET, AS REQ'D. TO EXTEND DUCT THRU ROOF BETWEEN ROOF TRUSSES AT 24" O.C.





 **MECHANICAL ROOF PLAN BLDG M-3**  
SCALE: 1/8"=1'-0"

- MECHANICAL ROOF PLAN KEYNOTES:**
- 1 NEW ROOF MOUNTED HP UNIT. SEE ANCHORAGE DETAIL F/M4.10. LOCATE UNIT SO THAT DUCT DROPS EXTEND THRU ROOF BETWEEN ROOF TRUSS AT 24" O.C. DO NOT CUT ANY ROOF FRAMING.
  - 2 12" X 18" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 14" X 20" NET.
  - 3 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 15" NET.
  - 4 ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 150 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 400 CFM.
  - 5 14" X 19" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 16" X 21" NET.
  - 6 ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 200 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 500 CFM.
  - 7 12" X 14" SUPPLY AND RETURN DUCTS THRU ROOF WITH 1" LINER, 14" X 16" NET.
  - 8 MOTORIZED OUTSIDE AIR DAMPER. SET TO 150 CFM.
  - 9 NEW ROOF MOUNTED EXHAUST FAN WITH 10" X 10" LINED EXHAUST RISER THRU ROOF, 12" X 12" NET. SEE DETAIL G/M4.11. FOR ANCHORAGE.
  - 10 MAINTAIN A MIN. 10'-0" BETWEEN O.A. INTAKE AT A.C. UNIT AND VENT RISER LOC., TYP. OFFSET ANY CONFLICTING VENT LOCATION BELOW ROOF AND RISE THRU ROOF W/ NEW ROOF JACK, TYP. CONFIRM EXACT LOCATIONS OF (E) VENTS IN FIELD.
  - 11 CEILING EX. FAN VENT CAP LOCATION, TYP.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122671 INC:  
REVIEWED FOR:  
SS  FLS  ACS   
DATE: 11/08/2023



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MECHANICAL ROOF PLAN - BUILDING M-3

**M3.11**

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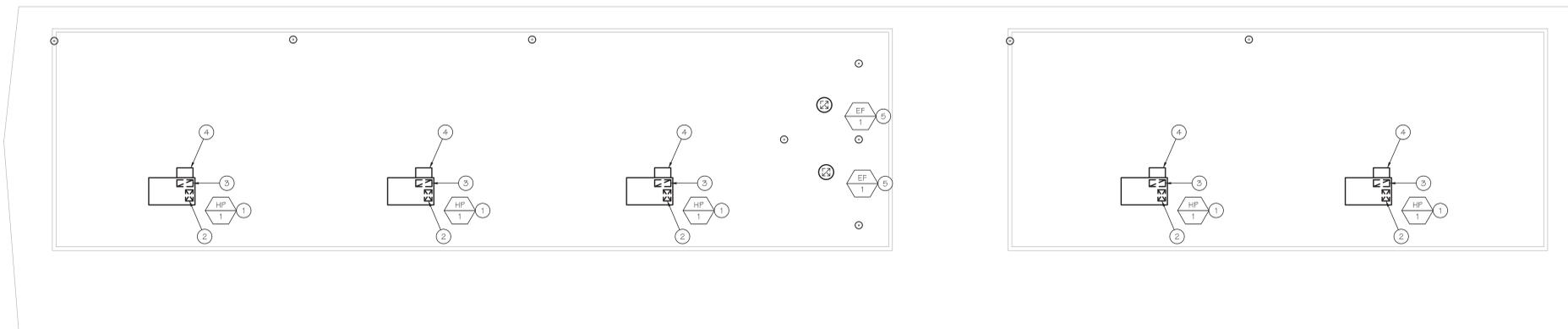
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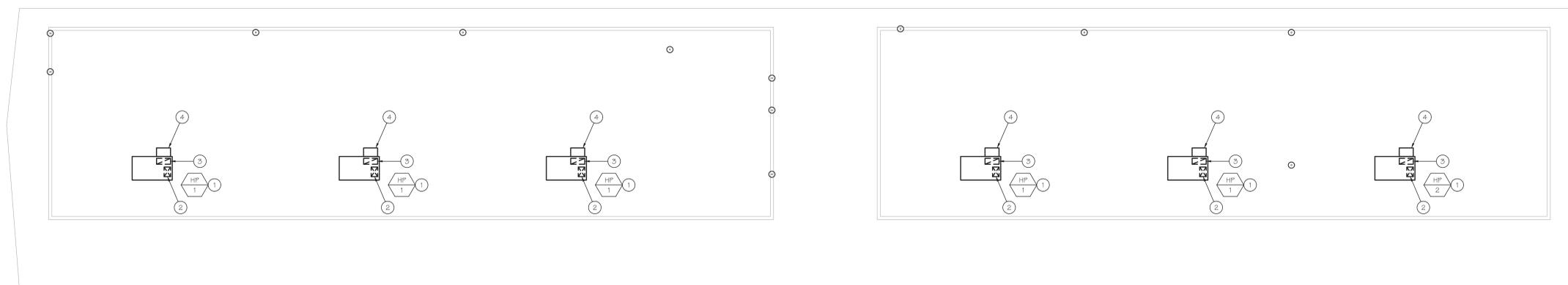
**MECHANICAL ROOF PLAN-BLDG B**

SCALE: 1/8"=1'-0"



**MECHANICAL ROOF PLAN-BLDG C**

SCALE: 1/8"=1'-0"



**MECHANICAL ROOF PLAN-BLDG D**

SCALE: 1/8"=1'-0"



**MECHANICAL ROOF PLAN-BLDG E**

SCALE: 1/8"=1'-0"

- MECHANICAL ROOF PLAN KEYNOTES:**
- ① ROOF MOUNTED HP UNIT. SEE ANCHORAGE DETAIL F/M4.10. SEE MECHANICAL ROOF PLAN. LOCATE UNIT SO THAT DUCT DROPS EXTEND THRU ROOF BETWEEN ROOF TRUSSES AT 24" O.C. DO NOT CUT ANY ROOF FRAMING.
  - ② 12" X 18" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 14" X 20" NET.
  - ③ 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 13" NET.
  - ④ ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 150 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 400 CFM.
  - ⑤ NEW ROOF MOUNTED EXHAUST FAN WITH 10"x10" LINED EXHAUST RISER THRU ROOF, 12"x12" NET. SEE ANCHORAGE DETAIL G/M4.11.

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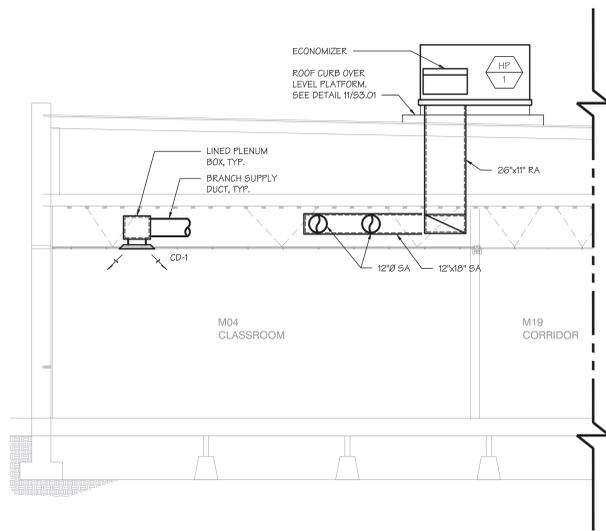
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MECHANICAL ROOF PLAN -  
 BUILDING B,C,D,E

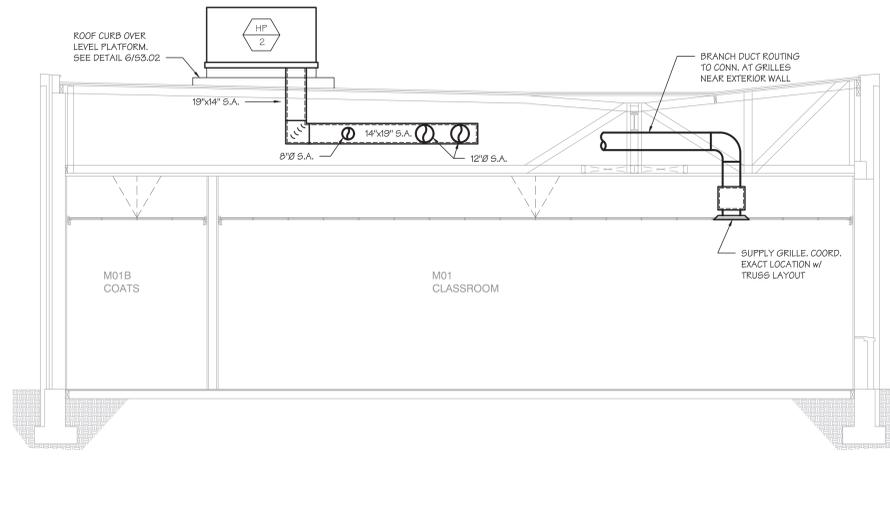
**M3.12**



MECHANICAL SECTION BUILDING M-3 CLASSROOM 4

SCALE: 1/4"=1'-0"

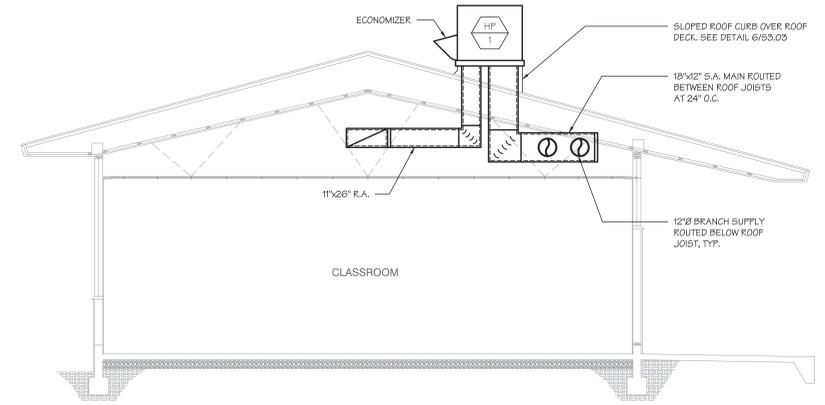
E



MECHANICAL SECTION BUILDING M-3 CLASSROOM 1

SCALE: 1/4"=1'-0"

D



MECHANICAL SECTION BUILDING C CLASSROOM 23

SCALE: 1/4"=1'-0"

A

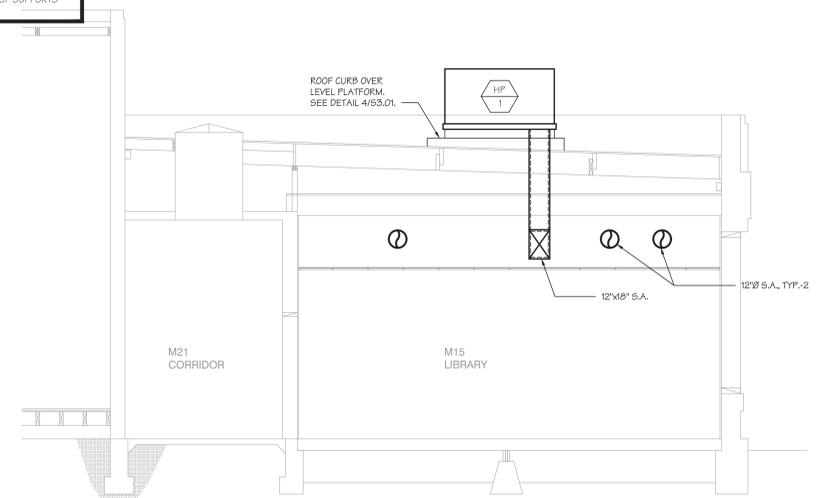
**MicroMetl** Date: \_\_\_\_\_ Weight: 105lbs (US) 47.63kg (Metric) Part Number: CRBW-SRT12HA-1411  
 Submitted to: \_\_\_\_\_ Approved by: \_\_\_\_\_ Notes: \_\_\_\_\_

Welded Structurally Calculated Curb - 14 Inches Tall Non Insulated Full Perimeter Welded Structurally Calculated Curb Curb, California State Standard, Standard Seismic Criteria, "Structurally" Stamped By A Professional Engineer, Without Pitch, Insulated Deck Pan If Applicable, Includes Wood Nailer & Hold Down Brackets. Meets Seismic Requirements for 2022 CBC & 2021 IBC. Wind Design Criteria: 60 Foot Tall Building Maximum, Exposure C, 155 MPH - 3 Second Gust Speed, Risk Category III & IV.

**MicroMetl Corporation**  
 3434 Truxtun Avenue, Suite 240, Bakersfield, CA 93301  
 Tel: 661.327.1690 Fax: 661.327.7204  
 www.aparchitects.net

(HP-1,HP-2) TON UNIT CURB 843 lb. MAX UNIT WT.

GENERAL NOTE:  
 UNITS SHALL BE FIELD LOCATED AND DUCTS TRANSITIONED AS REQ'D. TO PASS THRU ROOF W/O CUTTING EXISTING STRUCTURAL ROOF SUPPORTS



MECHANICAL SECTION BUILDING M-1 LIBRARY

SCALE: 1/4"=1'-0"

B

**MicroMetl** Date: \_\_\_\_\_ Weight: 64lbs (US) 29.03kg (Metric) Part Number: CRBW-SPPSMHA-141H  
 Submitted to: \_\_\_\_\_ Approved by: \_\_\_\_\_ Notes: \_\_\_\_\_

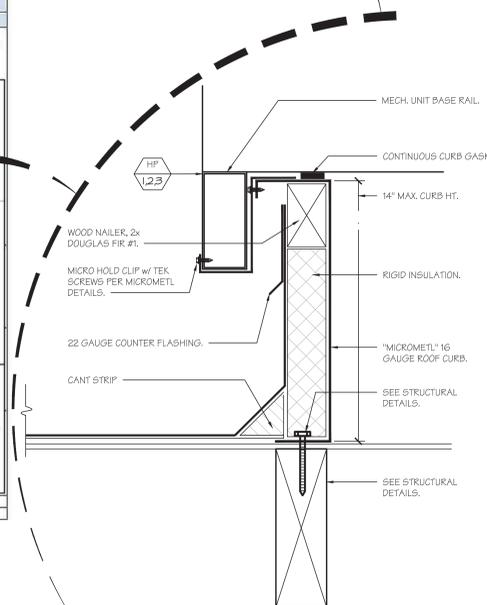
Welded Structurally Calculated Curb - 14 Inches Tall Non Insulated Full Perimeter Welded Structurally Calculated Curb Curb, California State Standard, Standard Seismic Criteria, "Structurally" Stamped By A Professional Engineer, Without Pitch, Insulated Deck Pan If Applicable, Includes Wood Nailer & Hold Down Brackets. Meets Seismic Requirements for 2022 CBC & 2021 IBC. Wind Design Criteria: 60 Foot Tall Building Maximum, Exposure C, 155 MPH - 3 Second Gust Speed, Risk Category III & IV.

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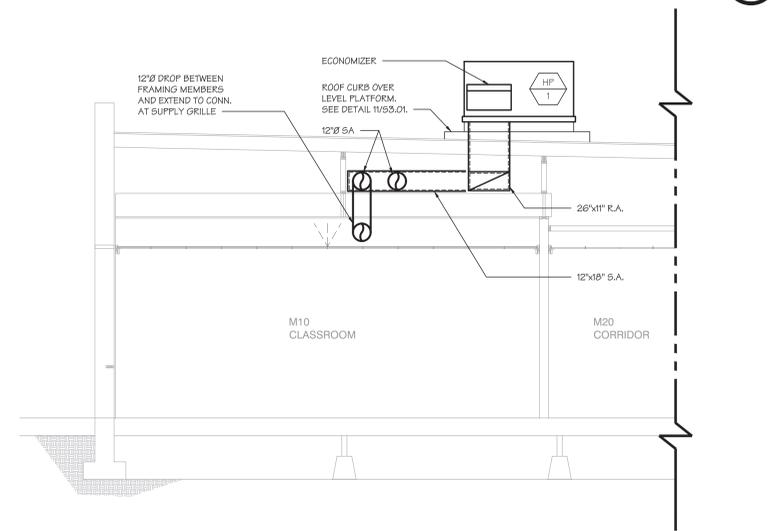
(HP-3) 2.5 TON UNIT CURB 371 lb. MAX UNIT WT.

UNIT ANCHORAGE

SCALE: N.T.S.



F



MECHANICAL SECTION BUILDING M-2 CLASSROOM 10

SCALE: 1/4"=1'-0"

C

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 03-122671 INC.  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 11/08/2023

**ap**  
 architects

3434 Truxtun Avenue, Suite 240  
 Bakersfield, California, 93301  
 tel: 661.327.1690 fax: 661.327.7204  
 web: www.aparchitects.net

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann  
 Elementary School

2710 Nites St, Bakersfield, CA 93306  
 Bakersfield City School District

ARCHITECT

LICENSED ARCHITECT  
 JAMES PATRICK FOGARTY  
 No. C-19670  
 R.E.N.  
 11-30-26  
 STATE OF CALIFORNIA

JAMES PATRICK FOGARTY, AIA  
 ARCHITECT, C-19670

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER  
 No. M2857  
 11-30-24  
 MECHANICAL  
 STATE OF CALIFORNIA

PROJECT INFO

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

REVISIONS

No	Date	Item
1	00.00.08	DESCRIPTION

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF AP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF AP ARCHITECTS. WRITTEN SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS SHALL BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION. © COPYRIGHT 10.31.23 10.31.23

MECHANICAL SECTIONS

M4.10

**bme** BASKIN MECHANICAL ENGINEERS  
 175 Fulton Street  
 Fresno, CA 93721  
 Tel: (559) 237-0376  
 Job: 22014  
 Plt: 10-19-23

**CAMPUS HVAC  
 SYSTEM UPGRADE**

**Horace Mann  
 Elementary School**  
 2710 Niles St Bakersfield, CA 93306  
 Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA  
 ARCHITECT, C-19670



CONSULTANT



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-4
DSA No	03-122671

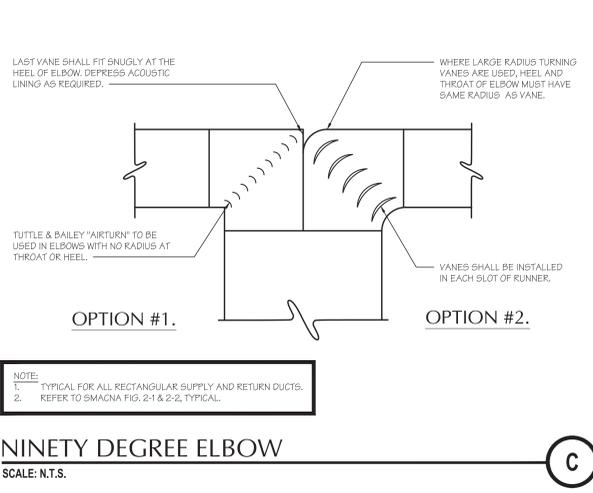
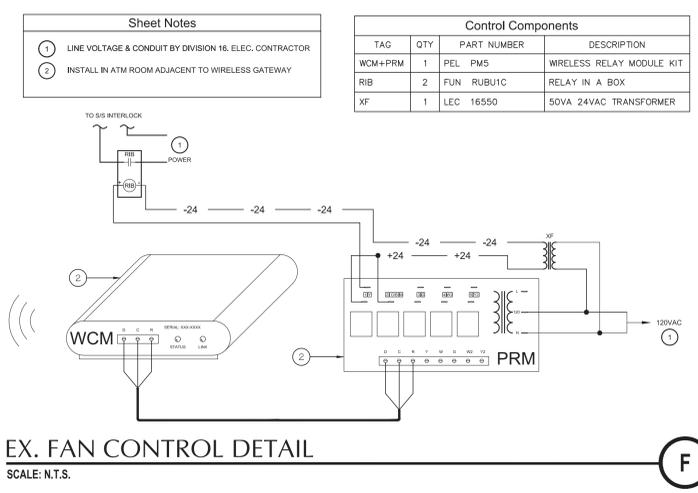
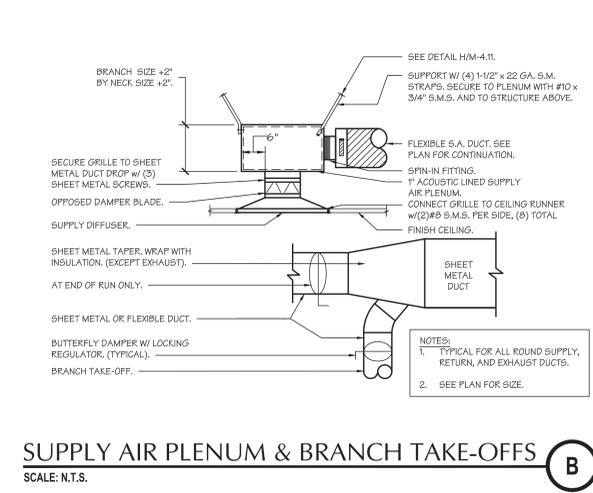
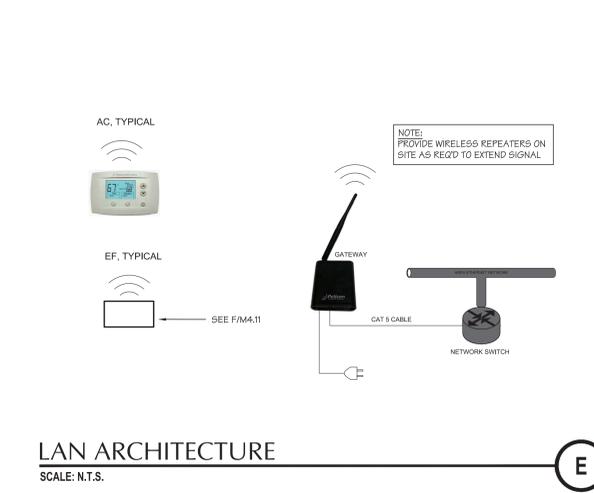
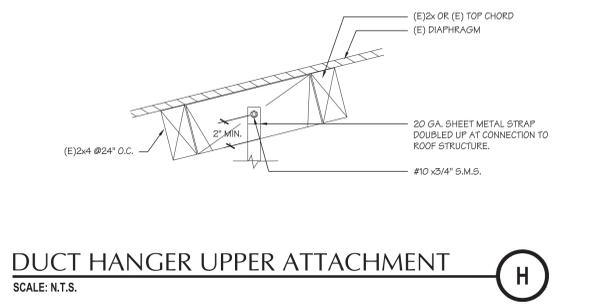
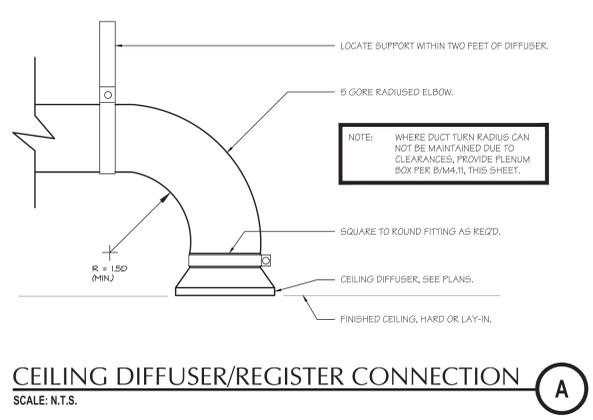
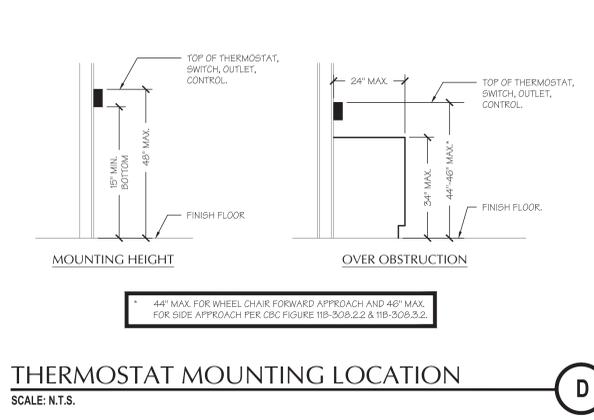
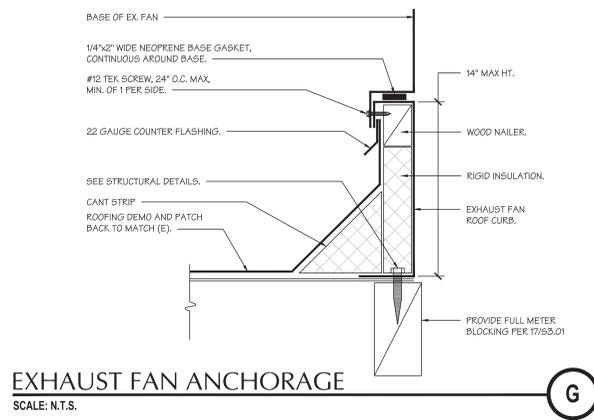
**REVISIONS**

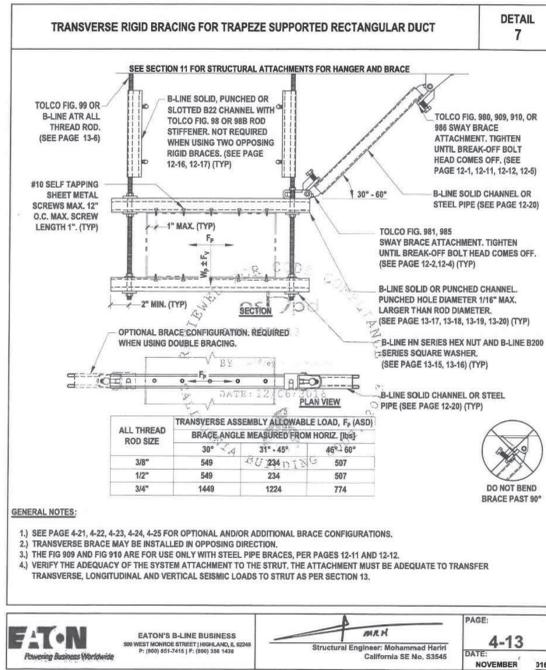
No	Date	Item
1	00.00.08	DESCRIPTION

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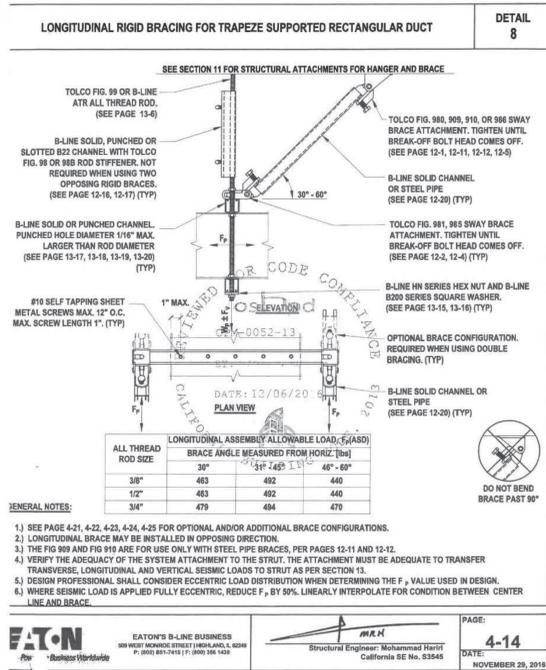
MECHANICAL DETAILS

**M4.11**

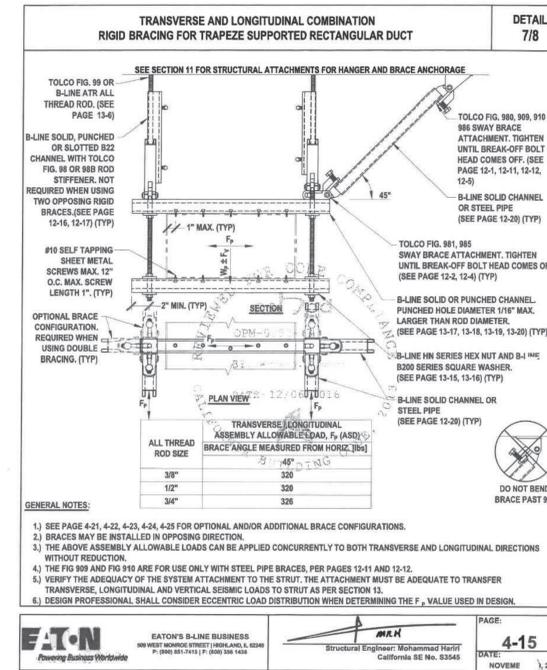




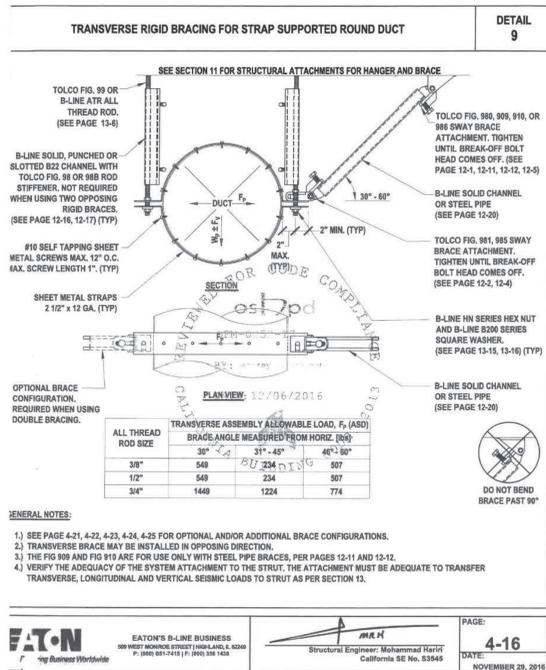
TRANSVERSE RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT  
SCALE: N.T.S.



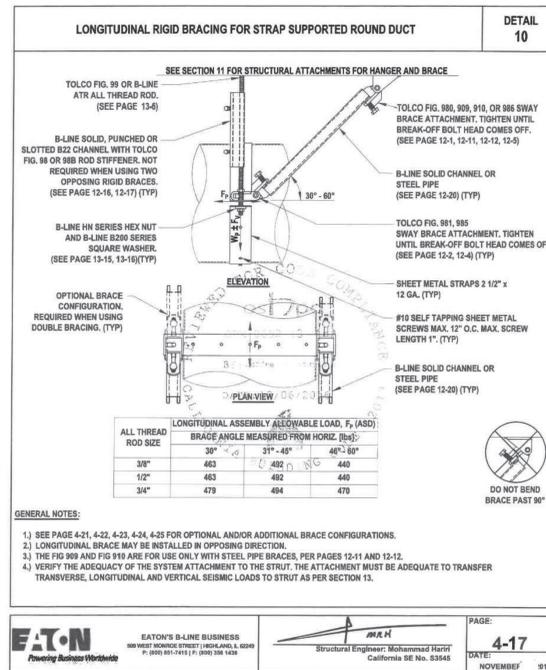
LONGITUDINAL RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT  
SCALE: N.T.S.



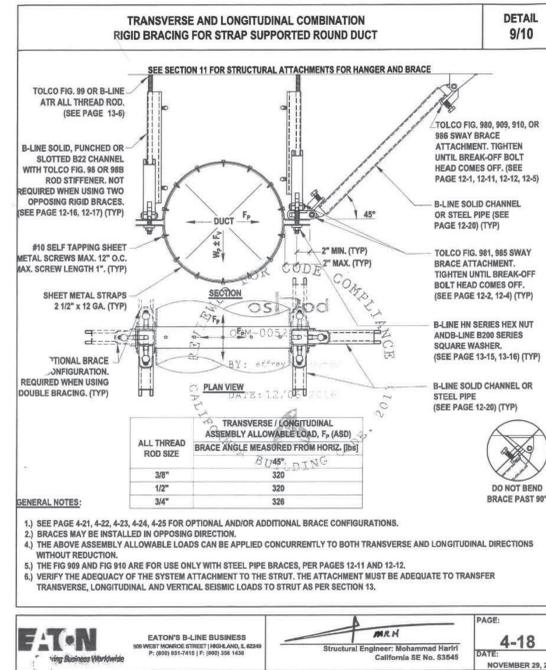
TRANSVERSE & LONGITUDINAL COMBINATION RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT  
SCALE: N.T.S.



TRANSVERSE RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT  
SCALE: N.T.S.



LONGITUDINAL RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT  
SCALE: N.T.S.



TRANSVERSE & LONGITUDINAL COMBINATION RIGID BRACING FOR STRAP SUPPORTED ROUND DUCT  
SCALE: N.T.S.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122671 INC.  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 11/08/2023



3434 Truxtun Avenue, Suite 240  
Bakersfield, California 93301  
tel: 661.327.1690 fax: 661.327.7204  
web: www.aparchitects.net

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School  
2710 Niles St, Bakersfield, CA 93306  
Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA  
ARCHITECT, C-19670

CONSULTANT



PROJECT INFO

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

REVISIONS

No	Date	Item
Δ	00.00.08	DESCRIPTION

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DUCT BRACING DETAILS

M4.12



175 Fulton Street  
Fresno, CA 93721  
Tel: (559) 237-0376  
Job: 22014  
Plt: 10-19-23

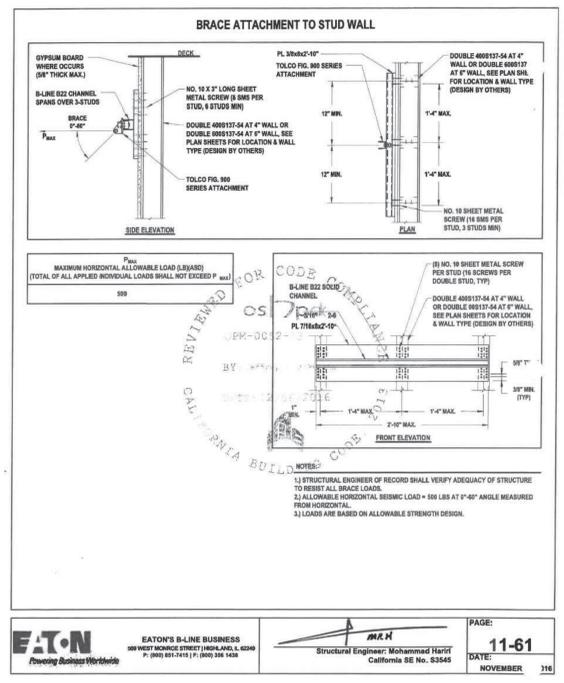
**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

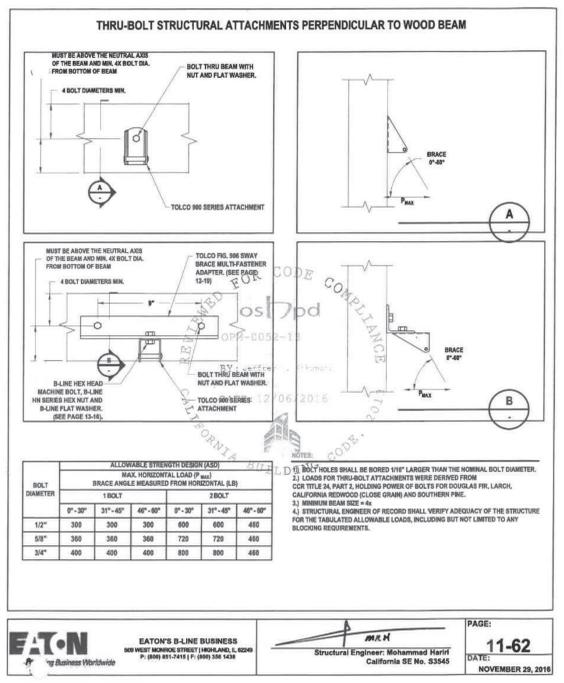
**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

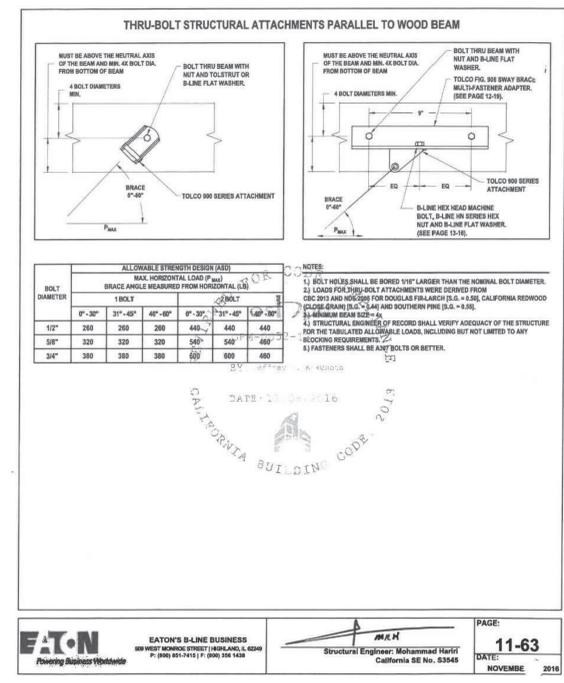
THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF AP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF AP ARCHITECTS. WRITTEN SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS SHALL BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION. © COPYRIGHT



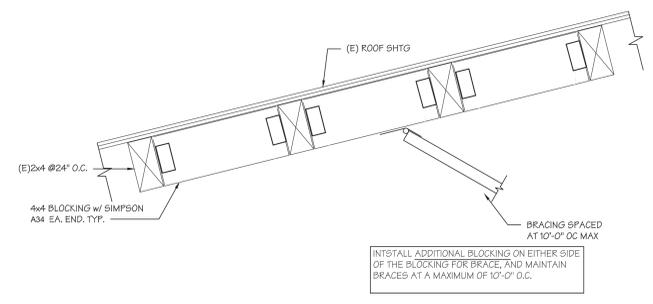
**BRACE ATTACHMENT TO STUD WALL**  
SCALE: N.T.S.



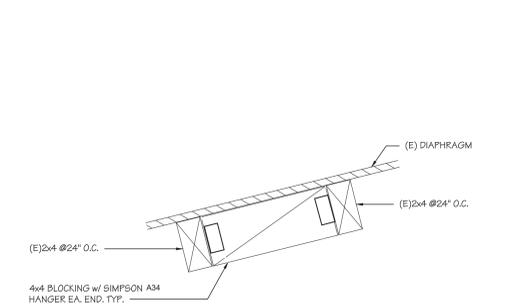
**THRU-BOLT STRUCTURAL ATTACHMENTS PERPENDICULAR TO WOOD BEAM**  
SCALE: N.T.S.



**THRU-BOLT STRUCTURAL ATTACHMENTS PARALLEL TO WOOD BEAM**  
SCALE: N.T.S.



**BLOCKING FOR BRACE CONN.**  
SCALE: N.T.S.



**BLOCKING FOR HANGER CONN.**  
SCALE: N.T.S.



3434 Truxtun Avenue, Suite 240 Bakersfield, California, 93301 tel: 661.327.1690 fax: 661.327.7204 web: www.oiparchitects.net

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School 2710 Niles St, Bakersfield, CA, 93306 Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA ARCHITECT, G-19670

CONSULTANT



PROJECT INFO

Table with Project No, Date, DSA File No, DSA No

REVISIONS

Table with No, Date, Item, DESCRIPTION

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF OIP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF OIP ARCHITECTS.

10.31.23.10.30

TITLE 24

M5.10



BASKIN MECHANICAL ENGINEERS 175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 22014 PIt: 10-19-23

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

A. GENERAL INFORMATION table with 7 rows and 4 columns: Project Location, CA Zip Code, Climate Zone, Total Conditioned Floor Area, Total Unconditioned Floor Area, Total # of Stories, Total # of dwelling units

B. PROJECT SUMMARY

Table Instructions: 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 permit application.

Table with 4 columns: Building Components Complying via Performance, Performance checkbox, Building Components Complying Prescriptively, Prescriptive checkbox

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft²-yr)

COMPLIES table with 4 columns: Energy Component, Standard Design (TDV), Proposed Design (TDV), Compliance Margin (TDV)¹

ENERGY STANDARDS COMPLIANCE TOTAL 419.84 272.53 147.31 (35.1%)

Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS²

Table with 4 columns: Miscellaneous Energy Component, Standard Design (TDV), Proposed Design (TDV), Compliance Margin (TDV)¹

COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS 492.58 345.27 147.3 (29.9%)

Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

Table with 4 columns: North-Facing, East-Facing, South-Facing, West-Facing, Total

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).

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

Table with 10 columns: Surface Name, Surface Type, Area (ft²), Framing Type, Cavity R-Value, Continuous R-Value, Units, Value, Description of Assembly Layers

Status: N - New, A - Altered, E - Existing

G5. FENESTRATION ASSEMBLY SUMMARY

Table with 9 columns: Fenestration Assembly Name / Tag or I.D., Fenestration Type / Product Type / Frame Type, Certification Method, Assembly Method, Area ft², Overall U-factor, Overall SHGC, Overall VT

Status: N - New, A - Altered, E - Existing

G6. OVERHANG DETAILS

Table with 6 columns: Fenestration Tag/ID, Orientation, Depth(ft), Height from Bottom of Sill to Overhang(ft), Right Extent(ft), Left Extent(ft)

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

H5. PUMPS

This Section Does Not Apply

H6. SYSTEM SPECIAL FEATURES

Table with 4 columns: System Name, Equipment Type, Window Interlocks per §140.4(n), Other Special Features and Controls

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.

H7. NONRESIDENTIAL VENTILATION

Table with 7 columns: Zone Name, Ventilation Function, # of people, Supply OA CFM, Exhaust CFM, Conditioned Area (sf), DCV or Occupant Sensor Controls, or Both

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

Table with 13 columns: System ID, Zone Name, System Type, Qty, Heating, Cooling, Design, Min., Min. Ratio, Power, Power Units, Cycles, VSD

H10. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY

This Section Does Not Apply

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

Table with 6 columns: Occupancy Type¹, Conditioned Floor Area² (ft²), Installed Lighting Power (Watts), Lighting Control Credits (Watts), Area Category Footnotes (Watts), Tailored Method (Watts)

Notes: ¹ See Table 140.6-C, ² See NRCC-01-01-E for unconditioned spaces, ³ Lighting information for existing spaces modeled is not included in the table

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

C3. ENERGY USE SUMMARY

Table with 7 columns: Energy Component, Standard Design Site (MWh), Proposed Design Site (MWh), Margin (MWh), Standard Design Site (MBtu), Proposed Design Site (MBtu), Margin (MBtu)

D. EXCEPTIONAL CONDITIONS

The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

E. HERS VERIFICATION

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

Table with 12 columns: 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

Status: N - New, A - Altered, E - Existing

H2. FAN SYSTEMS SUMMARY

Table with 14 columns: Name or Item Tag, Qty, Design OA CFM, CFM, Modeling Method, Power, Power Units, Control, CFM, Modeling Method, Power, Power Units, Control, Status

Status: N - New, A - Altered, E - Existing

H3. EXHAUST FAN SUMMARY

This Section Does Not Apply

H4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld B, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann B.cibd19x

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS

Table with 10 columns: Area Description, Area Category Primary Function Area, Area Controls §130.1(a), Multi-Level Controls §130.1(b), Shut-Off Controls §130.1(c), Primary Daylighting §130.1(d), Secondary Daylighting §140.5(d)

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name:	Horace Mann School Bld B	NRCC-PRF-01-E	Page 10 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	15:57, Thu, Sep 01, 2022
Input File Name:	Horace Mann B.cibd15x		

**L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION**

Table Instructions: Selections shall be made by Documentation Author to 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 at: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCCI/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCCI/)

Building Component	Form/Title
Mechanical	NRCC-MCH-01-E - Must be submitted for all buildings

Project Name:	Horace Mann School Bld B	NRCC-PRF-01-E	Page 11 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	15:57, Thu, Sep 01, 2022
Input File Name:	Horace Mann B.cibd15x		

**M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**

Table Instructions: Selections shall be made by Documentation Author to 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 (ATTC). For more information visit: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCCA/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCCA/)

Building Component	Form/Title
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-05-A Air Economizer Controls
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints
	NRCA-MCH-07-A Supply Fan Variable Flow Controls
	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance
NRCA-MCH-16-A Supply Air Temperature Reset Controls	

Project Name:	Horace Mann School Bld B	NRCC-PRF-01-E	Page 12 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	15:57, Thu, Sep 01, 2022
Input File Name:	Horace Mann B.cibd15x		

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

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

Documentation Author Name: Mark Baskin	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 175 Fulton St.	Signature Date: 2022-09-01
City/State/Zip: Fresno CA 93721	CEA/ HERS Certification Identification (if applicable): M26578
Phone: 5592370376	

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

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

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable 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 Envelope Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Lighting Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Mechanical Designer Name: Mark Baskin, P.E.	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 5500 Ming Avenue, #251	Date Signed: 09/01/22
City/State/Zip: Bakersfield CA 93309	
Phone: (661) 397-2114	Title: P. E.
	License #: M26578



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Bakersfield, California 93301  
tel | 661.327.1690 fax | 661.327.7204  
web | www.aparchitects.net

**CAMPUS HVAC SYSTEM UPGRADE**

Horace Mann Elementary School

2710 Niles St Bakersfield, CA 93306  
Bakersfield City School District

**ARCHITECT**



JAMES PATRICK FOGARTY, AIA  
ARCHITECT, C-19670



**CONSULTANT**



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF AP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF AP ARCHITECTS. WRITTEN SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS SHALL BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION. © COPYRIGHT

10.31.23 13:49

TITLE 24

**M5.11**



**BASKIN MECHANICAL ENGINEERS**

175 Fulton Street  
Fresno, CA 93721  
Tel: (559) 237-0376  
Job: 22014  
Plt: 10-19-23





3434 Truxtun Avenue, Suite 240 Bakersfield, California 93301 tel | 661.327.1690 fax | 661.327.7204 web | www.oiparchitects.net

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School 2710 Niles St Bakersfield, CA 93306 Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA ARCHITECT, C-19670

CONSULTANT



PROJECT INFO

Project No: 566-0016 Date: 10.30.23 DSA File No: 15-6 DSA No: 03-122671

REVISIONS

Table with 3 columns: No, Date, Item. Revision 1: 00.00.08 DESCRIPTION

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF OIP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF OIP ARCHITECTS. WRITTEN SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS SHALL BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION. © COPYRIGHT 10.31.23 10.30.23

TITLE 24

M5.12



175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 22014 PIt: 10-19-23

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section A: GENERAL INFORMATION, Section B: PROJECT SUMMARY.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section G1: ENVELOPE GENERAL INFORMATION (conditioned spaces only).

Section G3: OPAQUE SURFACE ASSEMBLY SUMMARY table with columns for Surface Name, Surface Type, Area, Framing, Cavity, Continuous, Units, Value, Description.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section H6: SYSTEM SPECIAL FEATURES table.

Section H7: NONRESIDENTIAL VENTILATION table with columns for Zone Name, Ventilation Function, # of people, Supply OA, Exhaust, Conditioned Area.

Section H8: HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION. This Section Does Not Apply.

Section H9: ZONAL SYSTEM AND TERMINAL UNIT SUMMARY table with columns for System ID, Zone Name, System Type, Qty, Rated Capacity, Airflow, Fan, Power, Cycles, VSD.

Section H10: EVAPORATIVE COOLER SUMMARY. This Section Does Not Apply.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section C1: COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft²-yr). COMPLIES.

Section C2: RESULTS FOR 'ABOVE CODE' QUALIFICATIONS. Miscellaneous Energy Component table.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section G3: OPAQUE SURFACE ASSEMBLY SUMMARY table.

Section G5: FENESTRATION ASSEMBLY SUMMARY table with columns for Fenestration Assembly Name, Fenestration Type, Certification Method, Assembly Method, Area, Overall U-factor, Overall SHGC, Overall VT.

Section G6: OVERHANG DETAILS table with columns for Fenestration Tag/ID, Orientation, Depth, Height from Bottom of Sill to Overhang, Right Extent, Left Extent.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section H11: HEAT RECOVERY SUMMARY. This Section Does Not Apply.

Section K3: INDOOR CONDITIONED LIGHTING GENERAL INFO table with columns for Occupancy Type, Conditioned Floor Area, Installed Lighting Power, Lighting Control Credits, Area Category Footnotes, Tailored Method.

Section K4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS table with columns for Area Description, Area Category Primary Function Area, Area Controls, Multi-Level Controls, Shut-Off Controls, Primary Daylighting, Secondary Daylighting.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section C3: ENERGY USE SUMMARY table.

Section D: EXCEPTIONAL CONDITIONS. The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

Section E: HERS VERIFICATION. This Section Does Not Apply.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section H1: DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.) table.

Section H2: FAN SYSTEMS SUMMARY table with columns for Name or Item Tag, Qty, Design OA, CFM, Modeling Method, Power, Power Units, Control, CFM, Modeling Method, Power, Power Units, Control.

Section H3: EXHAUST FAN SUMMARY. This Section Does Not Apply.

Section H4: Wet System Equipment (boilers, chillers, cooling towers, etc.). This Section Does Not Apply.

Section H5: PUMPS. This Section Does Not Apply.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:11:48

Project Name: Horace Mann School Bld C, Project Address: 270 Niles Street Bakersfield 93308, Input File Name: Horace Mann C.cibd19x. Section H9: ZONAL SYSTEM AND TERMINAL UNIT SUMMARY table.

Project Name:	Horace Mann School Bld C	NRCC-PRF-01-E	Page 10 of 12
Project Address:	270 Niles Street Bakersfield 93308	Calculation Date/Time:	16:11, Thu, Sep 01, 2022
Input File Name:	Horace Mann C.cibd19x		

**L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION**

Table Instructions: Selections shall be made by Documentation Author to 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 at: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCC/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/)

Building Component	Form/Title
Mechanical	NRCC-MCH-01-E - Must be submitted for all buildings

Project Name:	Horace Mann School Bld C	NRCC-PRF-01-E	Page 11 of 12
Project Address:	270 Niles Street Bakersfield 93308	Calculation Date/Time:	16:11, Thu, Sep 01, 2022
Input File Name:	Horace Mann C.cibd19x		

**M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**

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Building Component	Form/Title
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-05-A Air Economizer Controls
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints
	NRCA-MCH-07-A Supply Fan Variable Flow Controls
	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance
	NRCA-MCH-16-A Supply Air Temperature Reset Controls

Project Name:	Horace Mann School Bld C	NRCC-PRF-01-E	Page 12 of 12
Project Address:	270 Niles Street Bakersfield 93308	Calculation Date/Time:	16:11, Thu, Sep 01, 2022
Input File Name:	Horace Mann C.cibd19x		

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

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

Documentation Author Name: Mark Baskin	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 175 Fulton St.	Signature Date: 2022-09-01
City/State/Zip: Fresno CA 93721	CEA/ HERS Certification Identification (if applicable): M26578
Phone: 559.237.0376	

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

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

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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- 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 Envelope Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Lighting Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Mechanical Designer Name: Mark Baskin, P.E.	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 5500 Ming Avenue, #251	Date Signed: 09/01/2022
City/State/Zip: Bakersfield CA 93309	
Phone: (661) 397-2114	Title: P. E.
	License #: M26578



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web | www.aparchitects.net

**CAMPUS HVAC SYSTEM UPGRADE**

Horace Mann Elementary School

2710 Niles St Bakersfield, CA 93306  
Bakersfield City School District

**ARCHITECT**



JAMES PATRICK FOGARTY, AIA  
ARCHITECT, C-19670



**CONSULTANT**



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

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TITLE 24

**M5.13**



**BASKIN MECHANICAL ENGINEERS**

175 Fulton Street  
Fresno, CA 93721  
Tel: (559) 237-0376  
Job: 22014  
Plt: 10-19-23



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CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School

2719 Niles St, Bakersfield, CA 93306 Bakersfield City School District

ARCHITECT



JAMES PATRICK FOGARTY, AIA ARCHITECT, C-19670

CONSULTANT



PROJECT INFO

Table with Project No, Date, DSA File No, and DSA No.

REVISIONS

Table with columns for No, Date, and Description of revisions.

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF AP ARCHITECTS. ALL DESIGN AND DRAWINGS ARE FOR THE USE ON THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF AP ARCHITECTS.

TITLE 24

M5.14

Project information table for Page 1 of 12, including Project Name, Address, and File Name.

Table A: GENERAL INFORMATION with columns for Item, Location, Standards Version, and Compliance.

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation.

Table B: Project Summary table with columns for Component, Performance, and Compliance.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 4 of 12.

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

Table G1: Envelope General Information with columns for Orientation, Area, and Ratio.

Notes: 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).

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

Table G3: Opaque Surface Assembly Summary with columns for Surface Name, Area, and Description.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 7 of 12.

H5. PUMPS

This Section Does Not Apply

H6. SYSTEM SPECIAL FEATURES

Table H6: System Special Features with columns for System Name, Equipment Type, and Features.

H7. NONRESIDENTIAL VENTILATION

Table H7: Nonresidential Ventilation with columns for Zone Name, Ventilation Function, and Area.

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 2 of 12.

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)

Table C1: Compliance Results for Performance Components showing Energy Component, Standard Design TDV, Proposed Design TDV, and Compliance Margin.

ENERGY STANDARDS COMPLIANCE TOTAL 383.49 279.28 104.21 (27.2%)

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS<sup>1</sup>

Table C2: Results for 'Above Code' Qualifications with columns for Component, Standard Design TDV, Proposed Design TDV, and Compliance Margin.

COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS 456.23 352.02 104.21 (22.8%)

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 5 of 12.

G3. OPAQUE SURFACE ASSEMBLY SUMMARY

Table G3: Opaque Surface Assembly Summary with columns for Surface Name, Surface Type, Area, and Description.

Status: N - New, A - Altered, E - Existing

G5. FENESTRATION ASSEMBLY SUMMARY

Table G5: Fenestration Assembly Summary with columns for Fenestration Assembly Name, Certification Method, and Assembly Method.

Status: N - New, A - Altered, E - Existing

G6. OVERHANG DETAILS

Table G6: Overhang Details with columns for Fenestration Tag/ID, Orientation, Depth, Height, and Extent.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 8 of 12.

H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

Table H9: Zonal System and Terminal Unit Summary with columns for System ID, Zone Name, System Type, and Capacity.

H10. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY

This Section Does Not Apply

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

Table K1: Indoor Conditioned Lighting General Info with columns for Occupancy Type, Conditioned Floor Area, and Lighting Power.

Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 3 of 12.

C3. ENERGY USE SUMMARY

Table C3: Energy Use Summary with columns for Energy Component, Standard Design Site, Proposed Design Site, and Compliance Margin.

D. EXCEPTIONAL CONDITIONS

The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

E. HERS VERIFICATION

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 6 of 12.

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

Table H1: Dry System Equipment with columns for Equipment Name, Equipment Type, Qty, and Efficiency.

Status: N - New, A - Altered, E - Existing

H2. FAN SYSTEMS SUMMARY

Table H2: Fan Systems Summary with columns for Name or Item Tag, Qty, Design OA, and Power Units.

Status: N - New, A - Altered, E - Existing

H3. EXHAUST FAN SUMMARY

This Section Does Not Apply

H4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 9 of 12.

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS

Table K4: Indoor Conditioned Lighting Mandatory Lighting Controls with columns for Building Level Controls, Area Level Controls, and Area Category Primary Function Area.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844



175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 22014 PIt: 10-19-23

Project Name:	Horace Mann School Bid E	NRCC-PRF-01-E	Page 10 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	16:19, Thu, Sep 01, 2022
Input File Name:	Horace Mann E.cibd19x		

**L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION**

Table Instructions: Selections shall be made by Documentation Author to 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 at: [https://www.energy.ca.gov/title24/2019standards/2019\\_compliance\\_documents/Nonresidential\\_Documents/NRCCI/](https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCCI/)

Building Component	Form/Title
Mechanical	NRCC-MCH-01-E - Must be submitted for all buildings

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:20:08

Project Name:	Horace Mann School Bid E	NRCC-PRF-01-E	Page 11 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	16:19, Thu, Sep 01, 2022
Input File Name:	Horace Mann E.cibd19x		

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Building Component	Form/Title
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-05-A Air Economizer Controls
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints
	NRCA-MCH-07-A Supply Fan Variable Flow Controls
	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance
NRCA-MCH-16-A Supply Air Temperature Reset Controls	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 16:20:08

Project Name:	Horace Mann School Bid E	NRCC-PRF-01-E	Page 12 of 12
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	16:19, Thu, Sep 01, 2022
Input File Name:	Horace Mann E.cibd19x		

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

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

Documentation Author Name: Mark Baskin	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 175 Fulton St.	Signature Date: 2022-09-01
City/State/Zip: Fresno CA 93721	CEA/ HERS Certification Identification (if applicable): M26578
Phone: 5592370376	

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

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

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Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Lighting Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	Title:
Phone:	License #:
Responsible Mechanical Designer Name: Mark Baskin, P.E.	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 5500 Ming Avenue, #251	Date Signed: 09-01-2022
City/State/Zip: Bakersfield CA 93309	
Phone: (661) 397-2114	Title: P. E.
	License #: M26578

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2710 Niles St Bakersfield, CA 93306  
Bakersfield City School District

**ARCHITECT**



JAMES PATRICK FOGARTY, AIA  
ARCHITECT, C-19670



**CONSULTANT**



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

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10.31.23 13.49

TITLE 24

**M5.15**



**BASKIN MECHANICAL ENGINEERS**

175 Fulton Street  
Fresno, CA 93721  
Tel: (559) 237-0376  
Job: 22014  
Plt: 10-19-23



3434 Truxtun Avenue, Suite 240 Bakersfield, California 93301 tel: 661.327.1690 fax: 661.327.7204 web: www.opoarchitects.net

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School 2719 Niles St, Bakersfield, CA 93306 Bakersfield City School District

ARCHITECT



CONSULTANT



PROJECT INFO

Table with Project No, Date, DSA File No, and DSA No.

REVISIONS

Table with columns for No, Date, and Description of revisions.

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10.31.23.13.00

TITLE 24

M5.16



175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 22014 PIt: 10-19-23

Project information table for Page 1 of 11, including Project Name, Address, and Calculation Date/Time.

Table A: GENERAL INFORMATION with 7 columns for project details like location, code, zone, and stories.

B. PROJECT SUMMARY Table instructions regarding performance calculation and compliance requirements.

Table B: Performance comparison table for Building Components Complying via Performance vs. Prescriptively.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 4 of 11.

Table G1: ENVELOPE GENERAL INFORMATION (conditioned spaces only) with columns for orientation and area.

Notes for envelope information regarding orientation and area calculations.

Table G3: OPAQUE SURFACE ASSEMBLY SUMMARY with columns for surface name, type, area, and value.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 7 of 11.

Table H7: NONRESIDENTIAL VENTILATION with columns for zone name, function, and area.

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION This Section Does Not Apply

Table H9: ZONAL SYSTEM AND TERMINAL UNIT SUMMARY with columns for system ID, zone name, and type.

H10. EVAPORATIVE COOLER SUMMARY This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 2 of 11.

Table C1: COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft²-yr) showing compliance status.

Notes for compliance results regarding compliance margin and percent better than standard.

Table C2: RESULTS FOR 'ABOVE CODE' QUALIFICATIONS showing miscellaneous energy components.

Notes for above code qualifications regarding compliance with programs other than Title 24 Part 6.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 5 of 11.

Table G3: OPAQUE SURFACE ASSEMBLY SUMMARY (continued) with columns for surface name and area.

Notes for opaque surface assembly summary regarding status and orientation.

Table G5: FENESTRATION ASSEMBLY SUMMARY with columns for fenestration assembly name and value.

Notes for fenestration assembly summary regarding newly installed fenestration and certification.

Table H1: DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRE, economizers, etc.)

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 8 of 11.

Table K1: INDOOR CONDITIONED LIGHTING GENERAL INFO with columns for occupancy type and lighting power.

Notes for indoor conditioned lighting general info regarding table references and lighting information.

Table K4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS with columns for building level and area level controls.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 3 of 11.

Table C3: ENERGY USE SUMMARY with columns for energy component, standard design site, and proposed design site.

D. EXCEPTIONAL CONDITIONS The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

E. HERS VERIFICATION This Section Does Not Apply

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 6 of 11.

Table H2: FAN SYSTEMS SUMMARY with columns for fan name, quantity, and power.

Notes for fan systems summary regarding status and orientation.

H3. EXHAUST FAN SUMMARY This Section Does Not Apply

H4. Wet System Equipment (boilers, chillers, cooling towers, etc.) This Section Does Not Apply

H5. PUMPS This Section Does Not Apply

Table H6: SYSTEM SPECIAL FEATURES with columns for system name, equipment type, and window interlocks.

Notes for system special features regarding table reference and prescriptive path.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project information table for Page 9 of 11.

Table L: DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION with columns for building component and form title.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name:	Horace Mann School Bld M1	NRCC-PRF-01-E	Page 10 of 11
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	17:55, Thu, Sep 01, 2022
Input File Name:	Horace Mann M1.cibd11x		

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE	
Table Instructions: Selections shall be made by Documentation Author to 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 (ATTC). For more information visit: <a href="https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_documents/NRCA/">https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_documents/NRCA/</a>	
Building Component	Form/Title
Mechanical	NRCA-MCH-07-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-05-A Air Economizer Controls
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to 9120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints
	NRCA-MCH-07-A Supply Fan Variable Flow Controls
	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance
NRCA-MCH-16-A Supply Air Temperature Reset Controls	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 17:56:08

Project Name:	Horace Mann School Bld M1	NRCC-PRF-01-E	Page 11 of 11
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	17:55, Thu, Sep 01, 2022
Input File Name:	Horace Mann M1.cibd11x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Mark Baskin	Signature: Mark Baskin, P.E.
Company: Baskin Mechanical Engineers	
Address: 175 Fulton St.	Signature Date: 2022-09-01
City/State/Zip: Fresno CA 93721	CEA/HERS Certification Identification (if applicable): M26578
Phone: 5592370376	

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 Envelope Designer Name:	Signature:	
Company:	Date Signed:	
Address:		
City/State/Zip:	Title:	License #:
Phone:		
Responsible Lighting Designer Name:	Signature:	
Company:	Date Signed:	
Address:		
City/State/Zip:	Title:	License #:
Phone:		
Responsible Mechanical Designer Name: Mark Baskin, P.E.	Signature: Mark Baskin, P.E.	
Company: Baskin Mechanical Engineers	Date Signed: 09-01-2022	
Address: 5500 Ming Avenue, #251		
City/State/Zip: Bakersfield CA 93309	Title: P. E.	License #: M26578
Phone: (661) 397-2114		

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 17:56:08



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## CAMPUS HVAC SYSTEM UPGRADE

Horace Mann  
Elementary School  
2719 Niles St Bakersfield, CA, 93306  
Bakersfield City School District

ARCHITECT



CONSULTANT



PROJECT INFO	
Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

REVISIONS		
No	Date	Item
△	00.00.08	DESCRIPTION

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TITLE 24

# M5.17



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CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School 2719 Niles St Bakersfield, CA 93306 Bakersfield City School District

ARCHITECT



CONSULTANT



PROJECT INFO

Table with Project No (566-0016), Date (10.30.23), DSA File No (15-6), and DSA No (03-122671).

REVISIONS

Table with columns for No, Date, and Item, showing a revision on 00.08.08 for DESCRIPTION.

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TITLE 24

M5.18



175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 22014 PIt: 10-19-23

Project summary table for Project Name: Horace Mann School Bld M2, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M2.cibd19x. Includes sections A. GENERAL INFORMATION and B. PROJECT SUMMARY.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only). Includes columns for Orientation, Total Gross Surface Area, Total Penetration Area, and Window to Wall Ratio.

Table G3. OPAQUE SURFACE ASSEMBLY SUMMARY. Includes columns for Surface Name, Surface Type, Area, Framing Type, Cavity R-Value, Continuous R-Value, Units, Value, and Description of Assembly Layers.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table H3. EXHAUST FAN SUMMARY, H4. Wet System Equipment, H5. PUMPS, and H6. SYSTEM SPECIAL FEATURES. Includes details on equipment types, window interlocks, and special features.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Project summary table for Project Name: Horace Mann School Bld M2, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M2.cibd19x. Includes section C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS.

Table C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS. Includes columns for Miscellaneous Energy Component, Standard Design, Proposed Design, and Compliance Margin.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table G3. OPAQUE SURFACE ASSEMBLY SUMMARY. Includes columns for Surface Name, Surface Type, Area, Framing Type, Cavity R-Value, Continuous R-Value, Units, Value, and Description of Assembly Layers.

Table G5. FENESTRATION ASSEMBLY SUMMARY. Includes columns for Fenestration Assembly Name, Fenestration Type, Certification Method, Assembly Method, Area, Overall U-factor, Overall SHGC, and Overall VT.

Table H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.). Includes columns for Equipment Name, Equipment Type, Qty, Total Heating Output, Supp Heat Output, Efficiency Unit, Efficiency, Total Cooling Output, Efficiency Unit, Efficiency, and Economizer Type.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table H7. NONRESIDENTIAL VENTILATION. Includes columns for Zone Name, Ventilation Function, # of people, Supply OA, Exhaust, and Conditioned Area.

Table H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION. This section does not apply.

Table H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY. Includes columns for System ID, Zone Name, System Type, Qty, Rated Capacity, Airflow, Power, Power Units, Cycles, and VSD.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Project summary table for Project Name: Horace Mann School Bld M2, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M2.cibd19x. Includes section C3. ENERGY USE SUMMARY.

Table D. EXCEPTIONAL CONDITIONS. This building does not include service water heating.

Table E. HERS VERIFICATION. This section does not apply.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.). Includes columns for Equipment Name, Equipment Type, Qty, Total Heating Output, Supp Heat Output, Efficiency Unit, Efficiency, Total Cooling Output, Efficiency Unit, Efficiency, and Economizer Type.

Table H2. FAN SYSTEMS SUMMARY. Includes columns for Name or Item Tag, Qty, Design OA, Modeling Method, Power, Control, CFM, Modeling Method, Power, and Control.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Table H10. EVAPORATIVE COOLER SUMMARY. This section does not apply.

Table H11. HEAT RECOVERY SUMMARY. This section does not apply.

Table K1. INDOOR CONDITIONED LIGHTING GENERAL INFO. Includes columns for Occupancy Type, Conditioned Floor Area, Installed Lighting Power, Lighting Control Credits, Area Category Footnotes, and Tailored Method.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Project Name:	Horace Mann School Bid M2	NRCC-PRF-01-E	Page 10 of 13			
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	18:27, Thu, Sep 01, 2022			
Input File Name:	Horace Mann M2.cibd19x					
<b>K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS</b>						
<b>Building Level Controls</b>						
1		2				
Mandatory Demand Response §110.12(c)		Shut-Off Controls §130.1(c)				
<b>Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per §130.1)</b>						
4	5	6	7	8	9	10
Area Description	Area Category Primary Function Area	Area Controls 130.1(a)	Multi-Level Controls 130.1(b)	Shut-Off Controls 130.1(c)	Primary Daylighting 130.1(d)	Secondary Daylighting 140.5(d)

Project Name:	Horace Mann School Bid M2	NRCC-PRF-01-E	Page 11 of 13
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	18:27, Thu, Sep 01, 2022
Input File Name:	Horace Mann M2.cibd19x		
<b>L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION</b>			
Table Instructions: Selections shall be made by Documentation Author to 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 at: <a href="https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/">https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/</a>			
<b>Building Component</b>		<b>Form/Title</b>	
Mechanical	NRCC-MCH-01-E - Must be submitted for all buildings		

Project Name:	Horace Mann School Bid M2	NRCC-PRF-01-E	Page 12 of 13
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	18:27, Thu, Sep 01, 2022
Input File Name:	Horace Mann M2.cibd19x		
<b>M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE</b>			
Table Instructions: Selections shall be made by Documentation Author to 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). For more information visit: <a href="https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/">https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/</a>			
<b>Building Component</b>		<b>Form/Title</b>	
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.		
	NRCA-MCH-05-A Air Economizer Controls		
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints		
	NRCA-MCH-07-A Supply Fan Variable Flow Controls		
	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units		
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance		
	NRCA-MCH-16-A Supply Air Temperature Reset Controls		

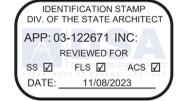
CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44

Project Name:	Horace Mann School Bid M2	NRCC-PRF-01-E	Page 13 of 13
Project Address:	2719 Niles Street Bakersfield 93308	Calculation Date/Time:	18:27, Thu, Sep 01, 2022
Input File Name:	Horace Mann M2.cibd19x		
<b>DOCUMENTATION AUTHOR'S DECLARATION STATEMENT</b>			
I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name: Mark Baskin	Signature: <b>Mark Baskin, P.E.</b>	<small>Design signed by Mark Baskin, P.E. (No. M26578) California Professional Engineer - Mechanical License # M26578. I have reviewed this document. Date: 2022-09-01 18:27:44</small>	
Company: Baskin Mechanical Engineers	Signature Date: 2022-09-01		
Address: 175 Fulton St.	CEA/HERS Certification Identification (if applicable): M26578		
City/State/Zip: Fresno CA 93721	Phone: 5592370376		
<b>RESPONSIBLE PERSON'S DECLARATION STATEMENT</b>			
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 inspectors. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.			
Responsible Envelope Designer Name:	Signature:		
Company:	Date Signed:		
Address:	Title:	License #:	
City/State/Zip:			
Phone:			
Responsible Lighting Designer Name:	Signature:		
Company:	Date Signed:		
Address:	Title:	License #:	
City/State/Zip:			
Phone:			
Responsible Mechanical Designer Name: Mark Baskin, P.E.	Signature: <b>Mark Baskin, P.E.</b>	<small>Design signed by Mark Baskin, P.E. (No. M26578) California Professional Engineer - Mechanical License # M26578. I have reviewed this document. Date: 2022-09-01 18:27:44</small>	
Company: Baskin Mechanical Engineers	Signature Date: 09-01-2022		
Address: 5500 Ming Avenue, #251	Title: <b>P. E.</b>	License #:	M26578
City/State/Zip: Bakersfield CA 93309			
Phone: (661) 397-2114			

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-09-01 18:27:44



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**CAMPUS HVAC SYSTEM UPGRADE**

**Horace Mann Elementary School**  
2719 Niles St, Bakersfield, CA, 93306  
Bakersfield City School District

**ARCHITECT**



**CONSULTANT**



**PROJECT INFO**

Project No	566-0016
Date	10.30.23
DSA File No	15-6
DSA No	03-122671

**REVISIONS**

No	Date	Item
△	00.00.08	DESCRIPTION

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TITLE 24

**M5.19**

**bme** BASKIN MECHANICAL ENGINEERS  
175 Fulton Street  
Fresno, CA 93721  
Tel: (559) 237-0376  
Job: 22014  
Plt: 10-19-23





3434 Truxtun Avenue, Suite 240 Bakersfield, California 93301

CAMPUS HVAC SYSTEM UPGRADE

Horace Mann Elementary School 2710 Niles St Bakersfield, CA 93306

ARCHITECT



JAMES PATRICK FOGARTY, AIA ARCHITECT, C-19670

CONSULTANT



PROJECT INFO

Project No: 566-0016 Date: 10.30.23 DSA File No: 15-6 DSA No: 03-122671

REVISIONS

Table with 3 columns: No, Date, Item. Revision 1: 00.00.08 DESCRIPTION

THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF OIP ARCHITECTS. ALL DESIGNS AND DRAWINGS ARE FOR THE USE OF THE SPECIFIED PROJECT AND SHALL NOT BE USED OTHERWISE WITHOUT THE EXPRESSED WRITTEN PERMISSION OF OIP ARCHITECTS.

TITLE 24

M5.20

Project Name: Horace Mann School Bld M3, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M3.cibd19x

A. GENERAL INFORMATION table with 7 rows and 4 columns: Project Location, CA Zip Code, Climate Zone, Total Conditioned Floor Area, Total Unconditioned Floor Area, Total # of Stories, Total # of dwelling units.

B. PROJECT SUMMARY table with 2 columns: Building Components Complying via Performance, Building Components Complying Prescriptively.

Table with 4 columns: Envelope, Mechanical, Domestic Hot Water, Lighting, Solar Thermal Water Heating. Includes checkboxes for Performance and Not Included.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

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G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only) table with 4 columns: North-Facing, East-Facing, South-Facing, West-Facing, Total.

Notes: 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).

G3. OPAQUE SURFACE ASSEMBLY SUMMARY table with 10 columns: Surface Name, Surface Type, Area, Framing Type, Cavity R-Value, Continuous R-Value, Units, Value, Description of Assembly Layers.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

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H2. FAN SYSTEMS SUMMARY table with 14 columns: Name or Item Tag, Qty, Design OA, CFM, Modeling Method, Power, Control, Return Fan, Power Units, Control.

H3. EXHAUST FAN SUMMARY

H4. Wet System Equipment(boilers,chillers,cooling towers,etc.)

H5. PUMPS

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft²-yr) table with 4 columns: Energy Component, Standard Design (TDV), Proposed Design (TDV), Compliance Margin (TDV%).

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS table with 4 columns: Miscellaneous Energy Component, Standard Design (TDV), Proposed Design (TDV), Compliance Margin (TDV%).

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

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G3. OPAQUE SURFACE ASSEMBLY SUMMARY table with 10 columns: Surface Name, Surface Type, Area, Framing Type, Cavity R-Value, Continuous R-Value, Units, Value, Description of Assembly Layers.

G5. FENESTRATION ASSEMBLY SUMMARY table with 9 columns: Fenestration Assembly Name / Tag or I.D., Fenestration Type / Product Type / Frame Type, Certification Method, Assembly Method, Area, Overall U-factor, Overall SHGC, Overall VT.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld M3, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M3.cibd19x

H6. SYSTEM SPECIAL FEATURES table with 4 columns: System Name, Equipment Type, Window Interlocks per §140.4(n), Other Special Features and Controls.

H7. NONRESIDENTIAL VENTILATION table with 7 columns: Zone Name, Ventilation Function, # of people, Supply OA, Exhaust, Conditioned Area, DCV or Occupant Sensor Controls.

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C3. ENERGY USE SUMMARY table with 7 columns: Energy Component, Standard Design Site (MWh), Proposed Design Site (MWh), Margin (MWh), Standard Design Site (MBtu), Proposed Design Site (MBtu), Margin (MBtu).

D. EXCEPTIONAL CONDITIONS

E. HERS VERIFICATION

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

Project Name: Horace Mann School Bld M3, Project Address: 2719 Niles Street Bakersfield 93308, Input File Name: Horace Mann M3.cibd19x

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.) table with 12 columns: Equipment Name, Equipment Type, Qty, Total Heating Output, Supp Heat Output, Efficiency Unit, Efficiency, Total Cooling Output, Efficiency Unit, Efficiency, Economizer Type, Status.

H2. FAN SYSTEMS SUMMARY table with 14 columns: Name or Item Tag, Qty, Design OA, CFM, Modeling Method, Power, Control, Return Fan, Power Units, Control.

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H7. NONRESIDENTIAL VENTILATION table with 7 columns: Zone Name, Ventilation Function, # of people, Supply OA, Exhaust, Conditioned Area, DCV or Occupant Sensor Controls.

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY table with 13 columns: System ID, Zone Name, System Type, Qty, Rated Capacity, Airflow, Fan, Power Units, Cycles, VSD.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844



BASKIN MECHANICAL ENGINEERS 175 Fulton Street Fresno, CA 93721

Job: 22014 PIt: 10-19-23

