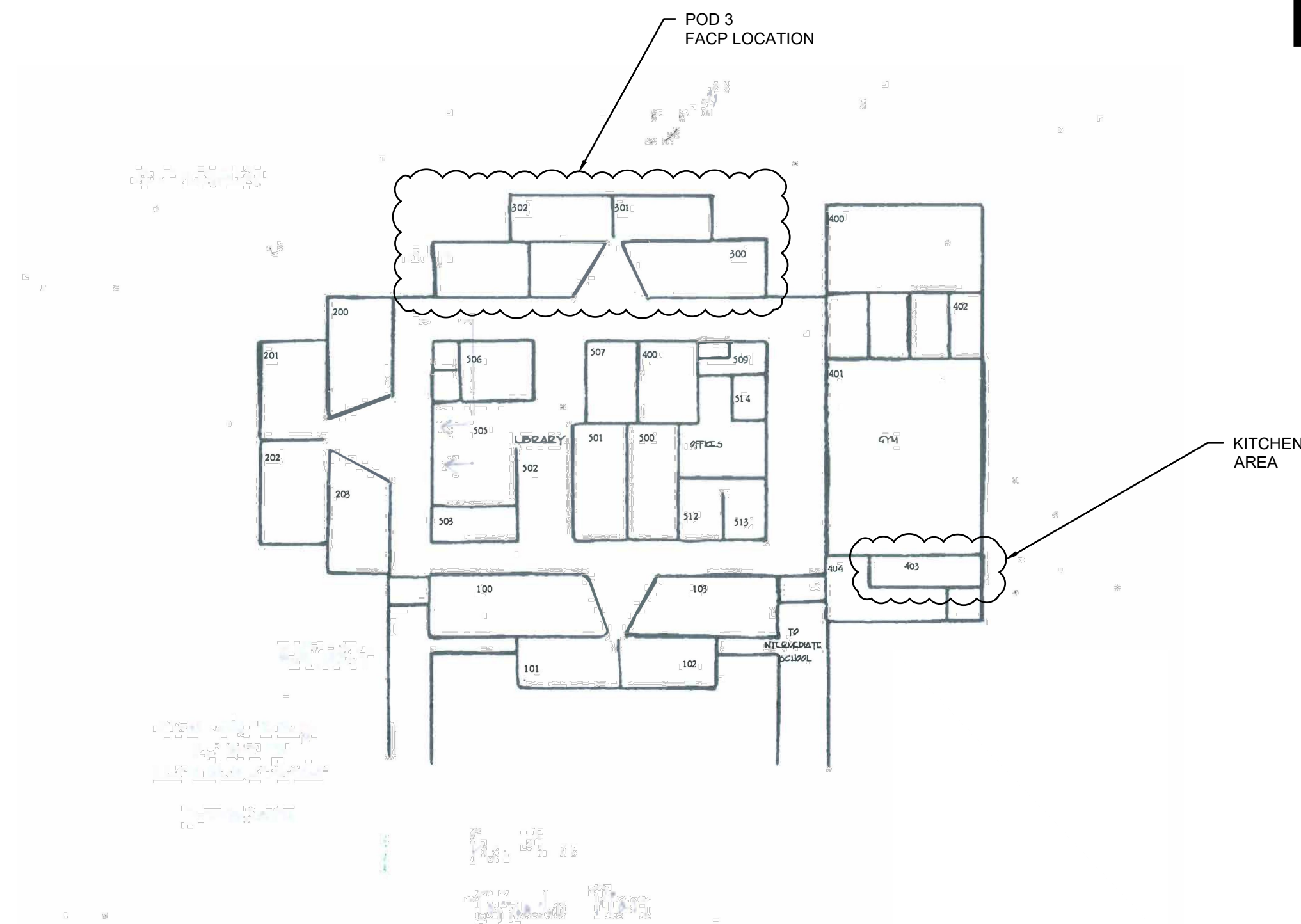
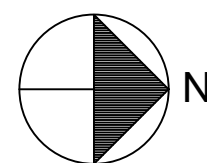


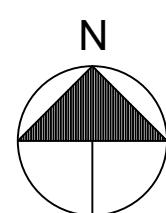
LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
9380 LANCER ROAD  
HEBRON, OHIO 43025



BUILDING PLAN  
SCALE: NTS



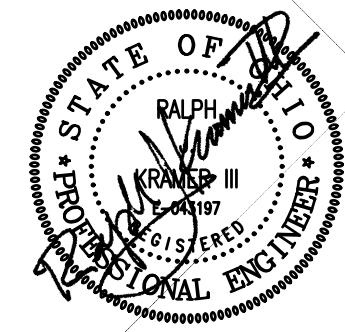
VICINITY PLAN  
SCALE: NTS



| DRAWING INDEX |                                            |
|---------------|--------------------------------------------|
| SHEET #       | SHEET NAME                                 |
| C-1           | COVER SHEET & CODE REVIEW                  |
| D-1           | APHE - DEMO                                |
| S-1           | SITE/PAD WORK                              |
| PH-1          | PLUMBING & HVAC PLAN                       |
| H-1           | COMMERCIAL KITCHEN HOOD - WALL CANOPY HOOD |
| H-2           | COMMERCIAL KITCHEN HOOD - EXHAUST FAN      |
| H-3           | COMMERCIAL KITCHEN HOOD - ANSUL SYSTEM     |
| H-4           | COMMERCIAL KITCHEN HOOD - MAU              |
| H-5           | COMMERCIAL KITCHEN HOOD - CONTROLS         |
| E-1           | ELECTRICAL PLANS                           |

BUILDING CODE INFORMATION

NEW WORK DESIGNED PER:  
2017 OHIO BUILDING CODE  
2017 OHIO MECHANICAL CODE  
2017 OHIO PLUMBING CODE  
2017 NATIONAL ELECTRIC CODE  
HANDICAP ICC/ANSI A117.1-2009  
LAKEWOOD MIDDLE SCHOOL:  
USE GROUP E  
CONSTRUCTION TYPE 3B  
INTERIOR BEARING WALLS 1 HOUR  
BUILDING SPRINKLER NO



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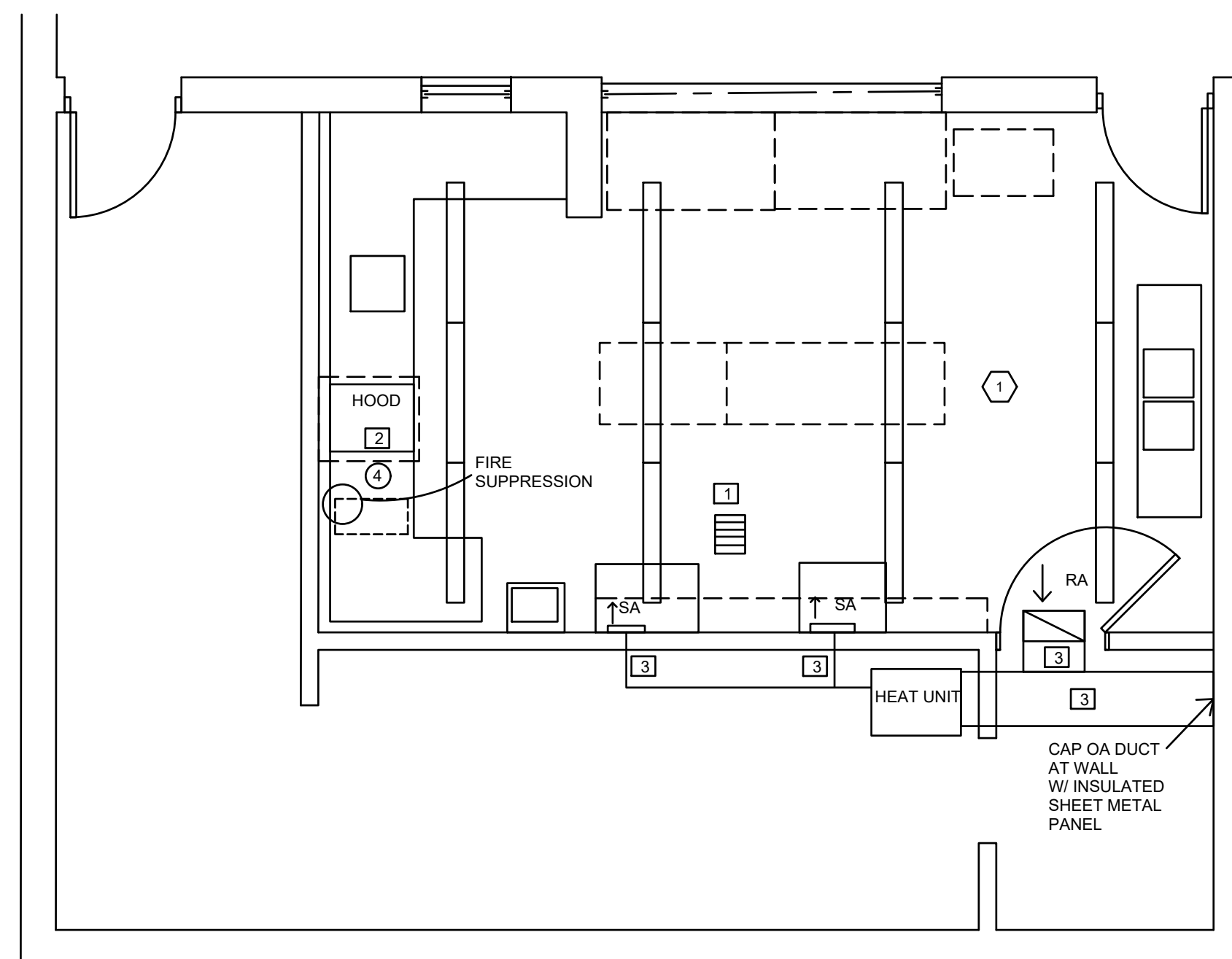
LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025

| NO.          | DATE      | DESCRIPTION |
|--------------|-----------|-------------|
| SUBMITTED:   | 3-23-2023 |             |
| DRAWN BY:    | STAFF     |             |
| KRAMER JOB # | 2022-230  |             |

COVER SHEET

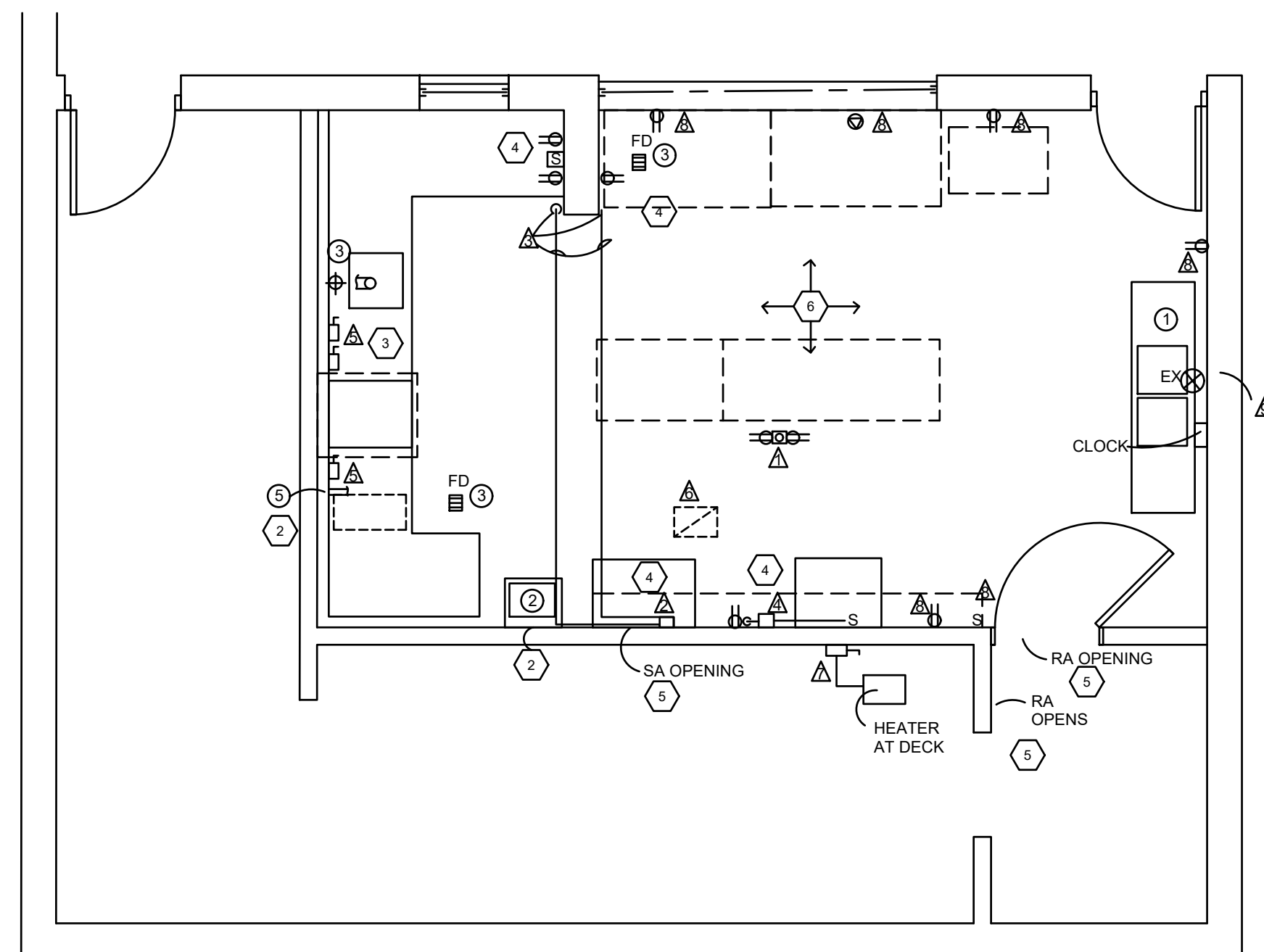
C-1





## UPPER DEMO PLAN

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



## LOWER DEMO PLAN

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

## # GENERAL DEMO CODED NOTES

1. REMOVE ENTIRE DRYWALL CEILING AND SUPPORTS
2. PATCH AND PAINT WALL AFTER PLUMBING PIPING IS CAPPED.
3. REMOVE COUNTERS, ETC.
4. PATCH WALLS WHERE ELECTRIC OR PLUMBING IS REMOVED
5. PATCH WALLS WITH FULL L8" CONCRETE BLOCK TO MATCH EXISTING AT SUPPLY AIR, RETURN AIR AND OUTSIDE AIR OPENINGS, PRIME AND PAINT TO MATCH.
6. WASH AND CLEAN ALL INTERIOR SURFACES, WALLS, DOORS, DOOR TRIP, FLOOR.

# PLUMBING DEMO CODED NOTES

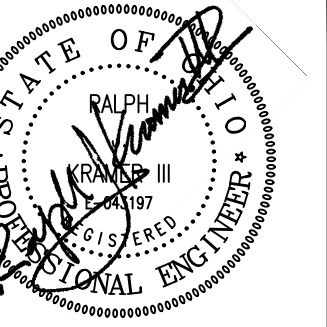
1. CLEAN 3 COMPARTMENT SINK AND BOARDS
2. REMOVE SINK, CUT AND CAP DRAINS AND WATER LINES FLUSH WITH WALL, REMOVE AND CLEAN SINK FOR REINSTALLATION. NEW FAUCET TO BE INSTALLED
3. CLEAN FLOOR DRAINS
4. REMOVE OLD HOOD FIRE SUPPRESSION SYSTEM
5. CUT DRAIN FLUSH WITH WALL AND CAP.
6. MAINTAIN DCW AND DHW AND DRAIN FOR CONNECTION TO RELOCATED SINK.

# HVAC DEMO CODED NOTES

1. REMOVE GRILLE, DUCT AND ROOFTOP FAN. CAP CURB WITH INSULATED GALVANIZED ROOF CAP (2" 6 LB DENSITY FIBERGLASS BOARD WITH VAPOR BARRIER). VERIFY DUCT THROUGH ROOF LOCATION. NEW HOOD WILL HAVE TWO NEW FAN OPENINGS.
2. REMOVE HOOD AND FAN ON ROOF. CAP CURB AS ABOVE IN #1
3. REMOVE CEILING MOUNTED FAN/HEATING UNIT AT CEILING. REMOVE SUPPLY AIR GRILLES, SUPPLY AIR DUCTWORK RETURN AIR DUCTWORK AND GRILLE AND OUTSIDE AIR DUCTWORK. CAP OUTSIDE AIR DUCTWORK WITH SHEET METAL AND INSULATE WITH 2" 6 LB DENSITY FIBERGLASS BOARD WITH VAPOR BARRIER.

### ⚡ ELECTRIC DEMO CODED NOTES

1. REMOVE EXPOSED FLOOR RECEPTACLE AND CONDUIT AND PULL WIRE PACK TO PANEL. PATCH FLOOR. CHANGE PANEL CIRCUIT LABELS.
2. REMOVE 60/3 VOLT SWITCH AND WIRES AND CONDUITS TO RECEPTABLES. REMOVE RECEPTABLES AND SWITCHES. CHANGE PANEL CIRCUIT LABELS.
3. REMOVE CONDUIT, WIRE RECEPTABLES AND SWITCHES.
4. REMOVE BOX, CONDUIT, WIRE, ETC. PULL WIRE.
5. REMOVE 480 VOLT SWITCHES ON WALL. SET SURFACE MOUNTED CAST METAL JUNCTION BOX WITH GASKETED COVER OVER WIRES THROUGH WALL. WIRE NUT WIRES AND LABEL ON COVER OF JB WITH STICK-ON LABELS, CIRCUIT(S) NUMBERS
6. REMOVE ELECTRIC FROM ROOF EXHAUST FANS. PULL WIRE. CHANGE PANEL CIRCUIT LABELS.
7. MAINTAIN 480 VOLT SWITCH AND POWER WIRING. WIRE NUT WIRES. REMOVE WIRING TO CEILING HEATING UNIT. LABEL SWITCH CIRCUIT AND ADJUST PANEL LABELS. NOTE ON DIRECTORY "ABANDONED CIRCUIT" AND LOCATION.
8. REPLACE DEVICES WITH NEW AND NEW STAINLESS STEEL PLATES.
9. MAINTAIN EXIST SIGN AND CLOCK
10. REMOVE LIGHTS AND SAVE FOR REINSTALLATION. CLEAN LIGHTS AND REPLACE T8 LAMPS - 2 PER LIGHT.



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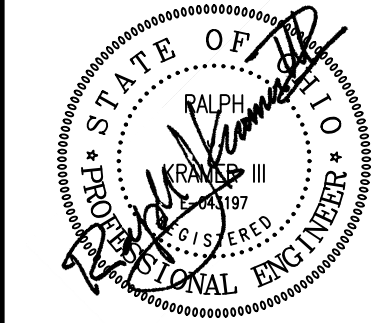


LAKESWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025

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|--------------|-------------|
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APHE - DEMO





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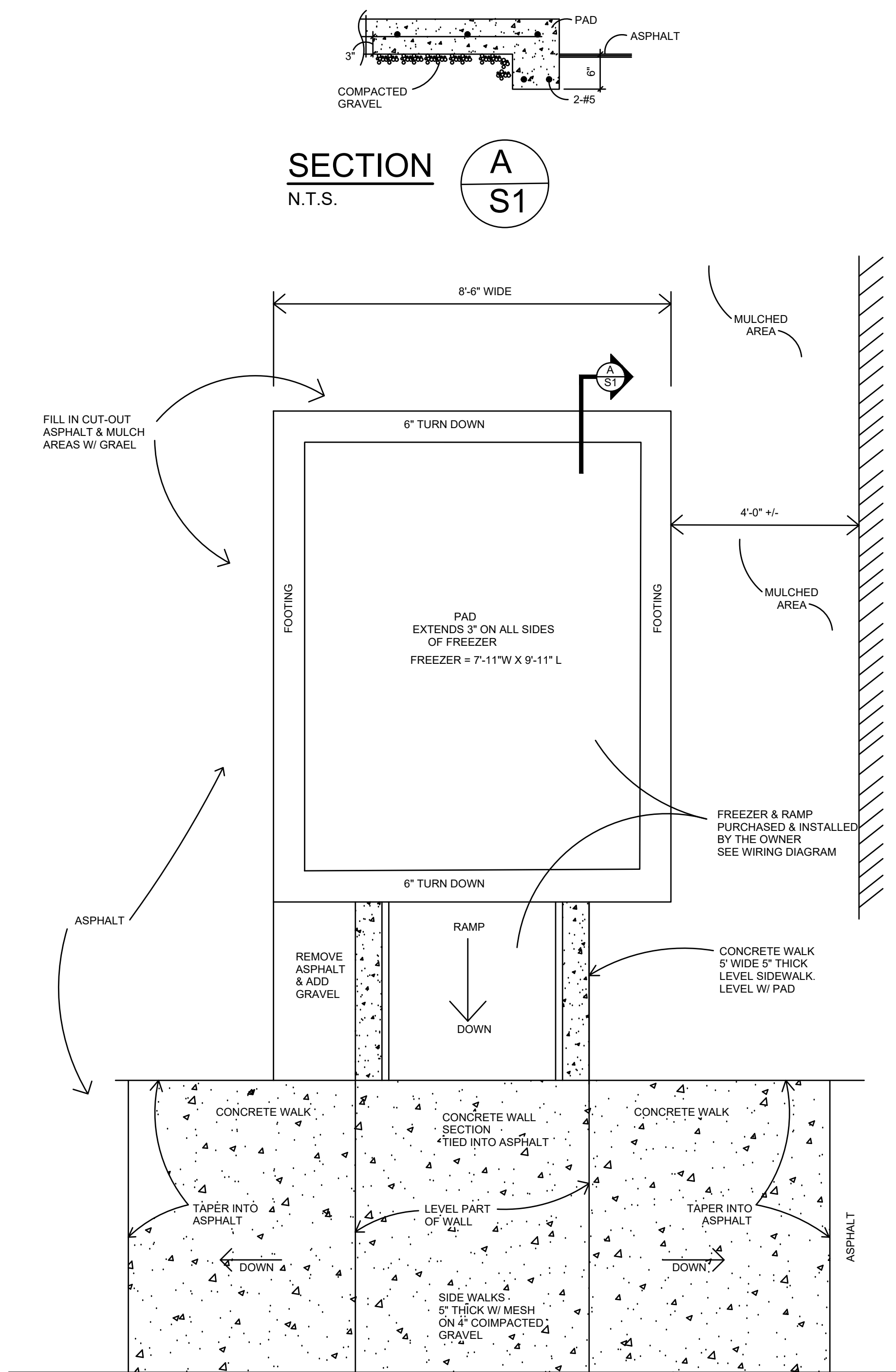


**LAKEWOOD ELEMENTARY  
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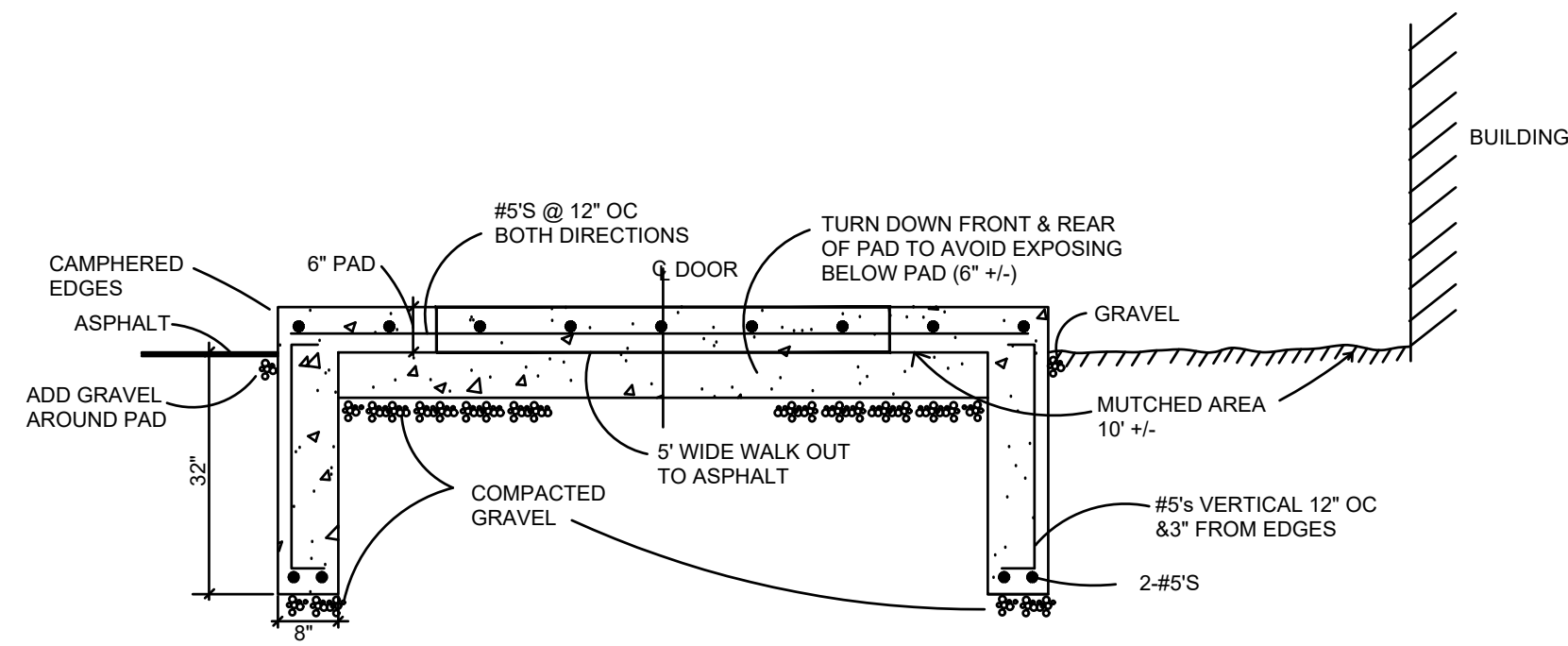
|     |           |                       |
|-----|-----------|-----------------------|
| NO. | DATE      | DESCRIPTION           |
|     | 3-23-2023 | SUBMITTED:            |
|     |           | DRAWN BY: STAFF       |
|     |           | KRAMER JOB # 2022-230 |

SITE/PAD WORK

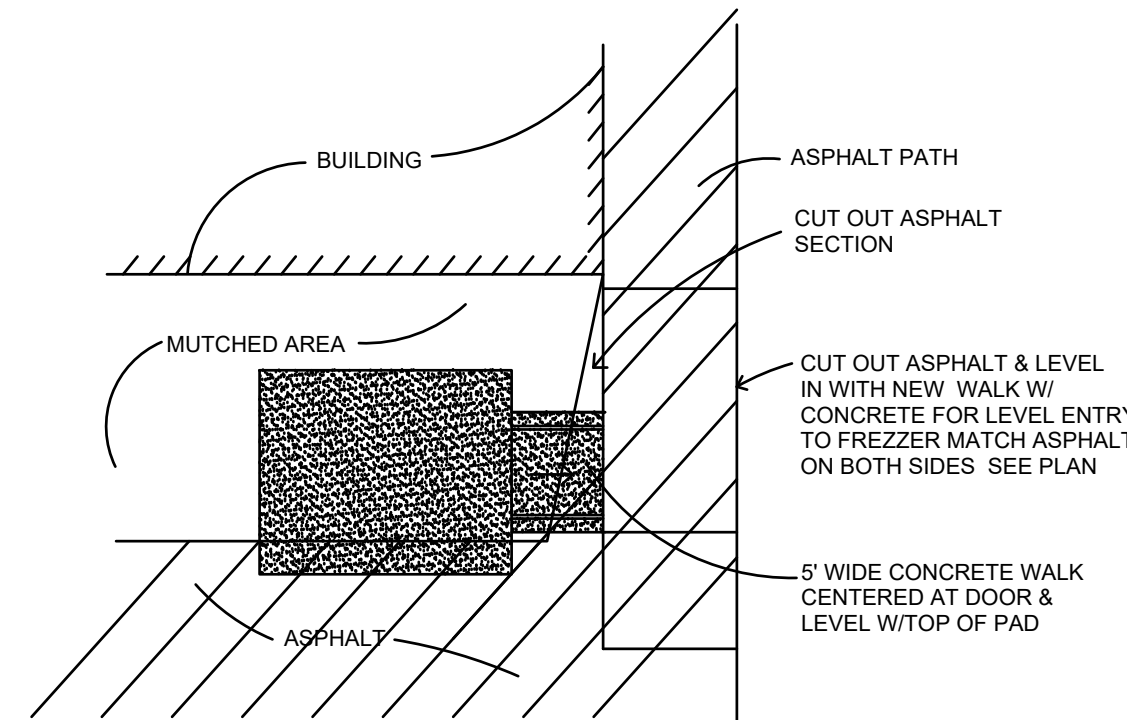
S-1



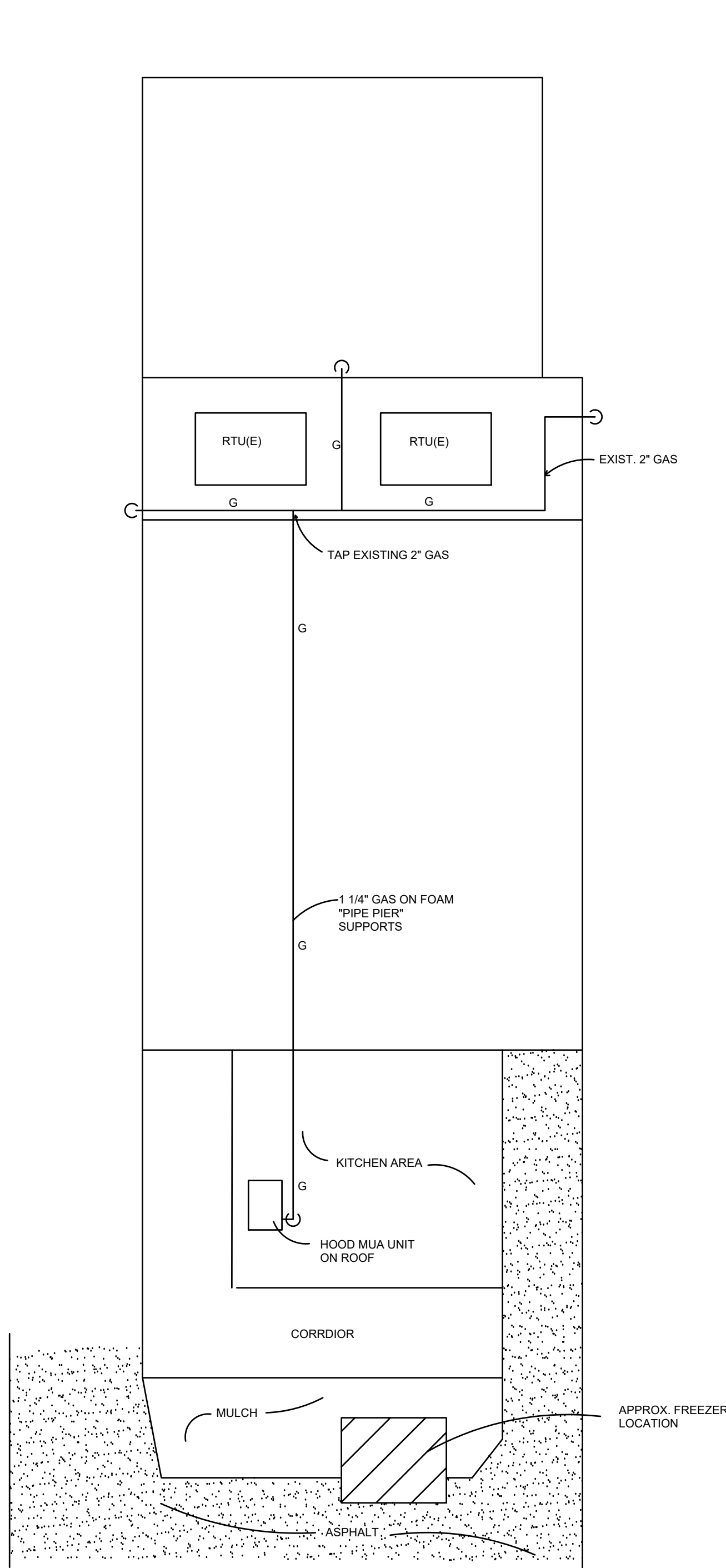
**FREEZER PAD / WALK PLAN**  
SCALE: 1/2" = 1'-0"



**FREEZER PAD - FRONT VIEW**  
SCALE: 1/2" = 1'-0"

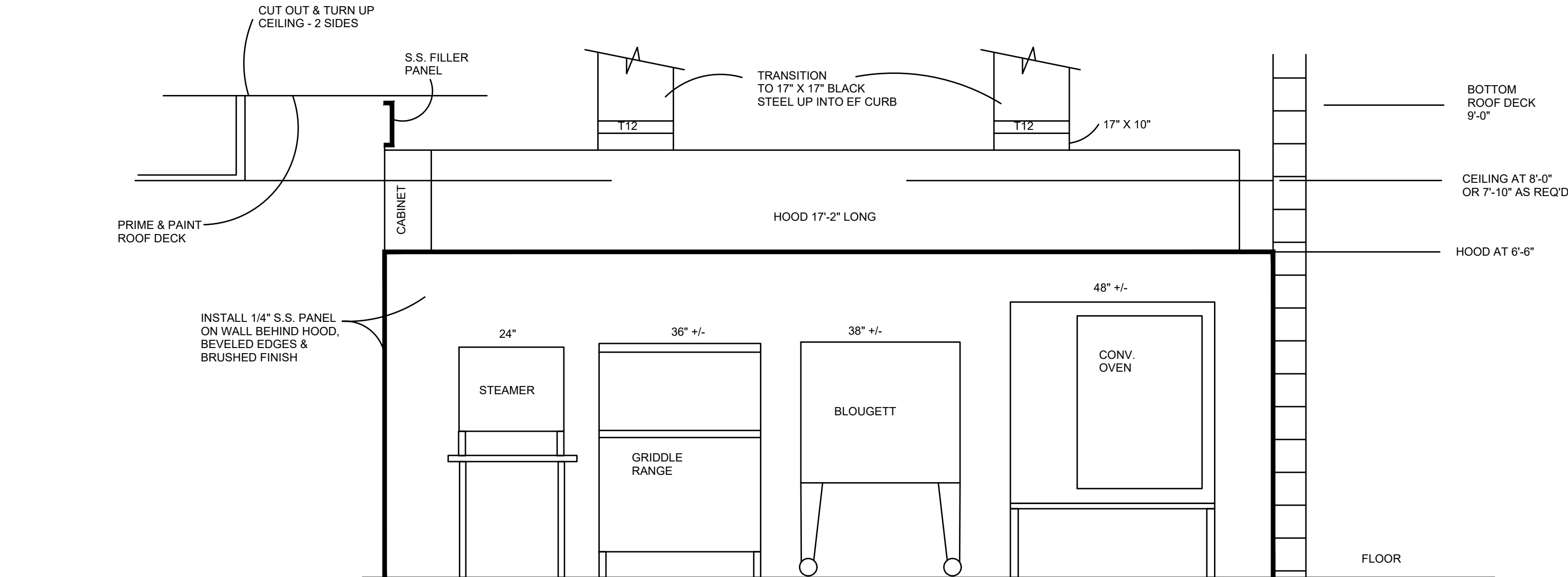




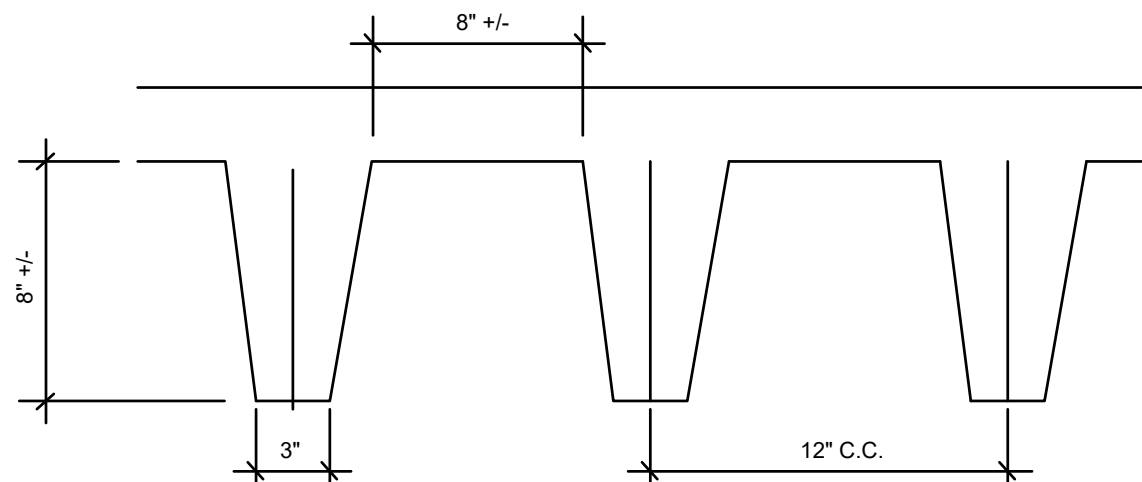


OVERALL BUILDING PLUMBING  
SCALE: 3/32" = 1'-0"

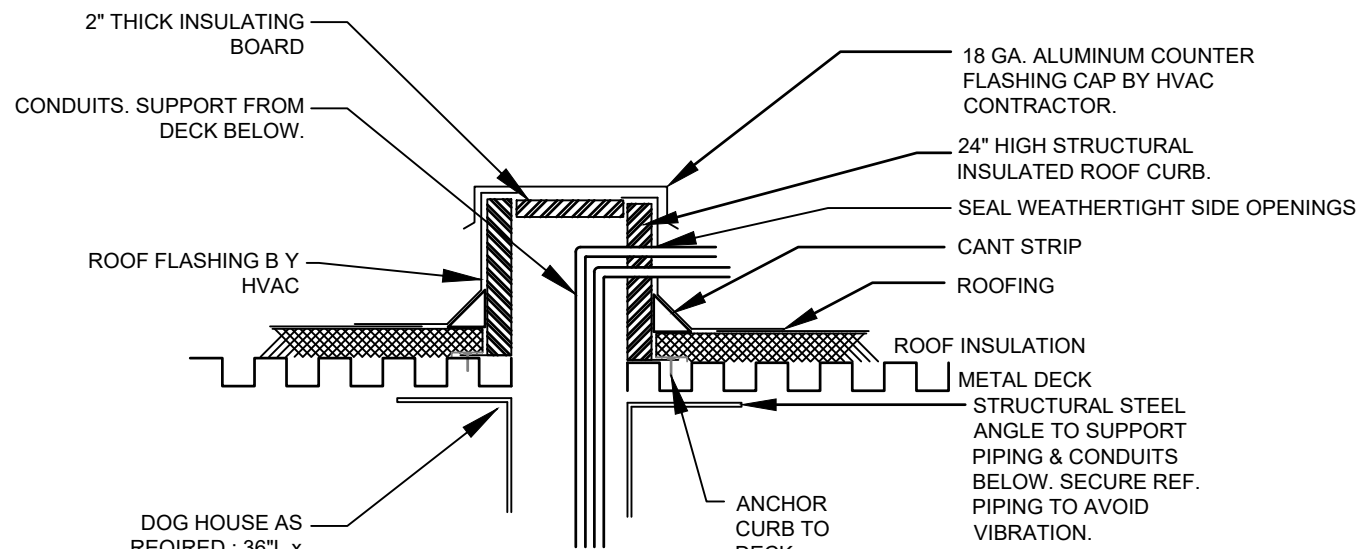
| MECHANICAL SYMBOLS & ABBREVIATIONS |                     |
|------------------------------------|---------------------|
| SYMBOL                             | DESCRIPTION         |
|                                    | RETURN AIR DEVICE   |
|                                    | SUPPLY AIR DEVICE   |
|                                    | VOLUME DAMPER       |
|                                    | TURNING VANES       |
| SA                                 | SUPPLY AIR          |
| RA                                 | RETURN AIR          |
| G                                  | NATURAL GAS         |
|                                    | GAS COCK            |
| -  -                               | UNION               |
|                                    | CONNECT TO EXISTING |



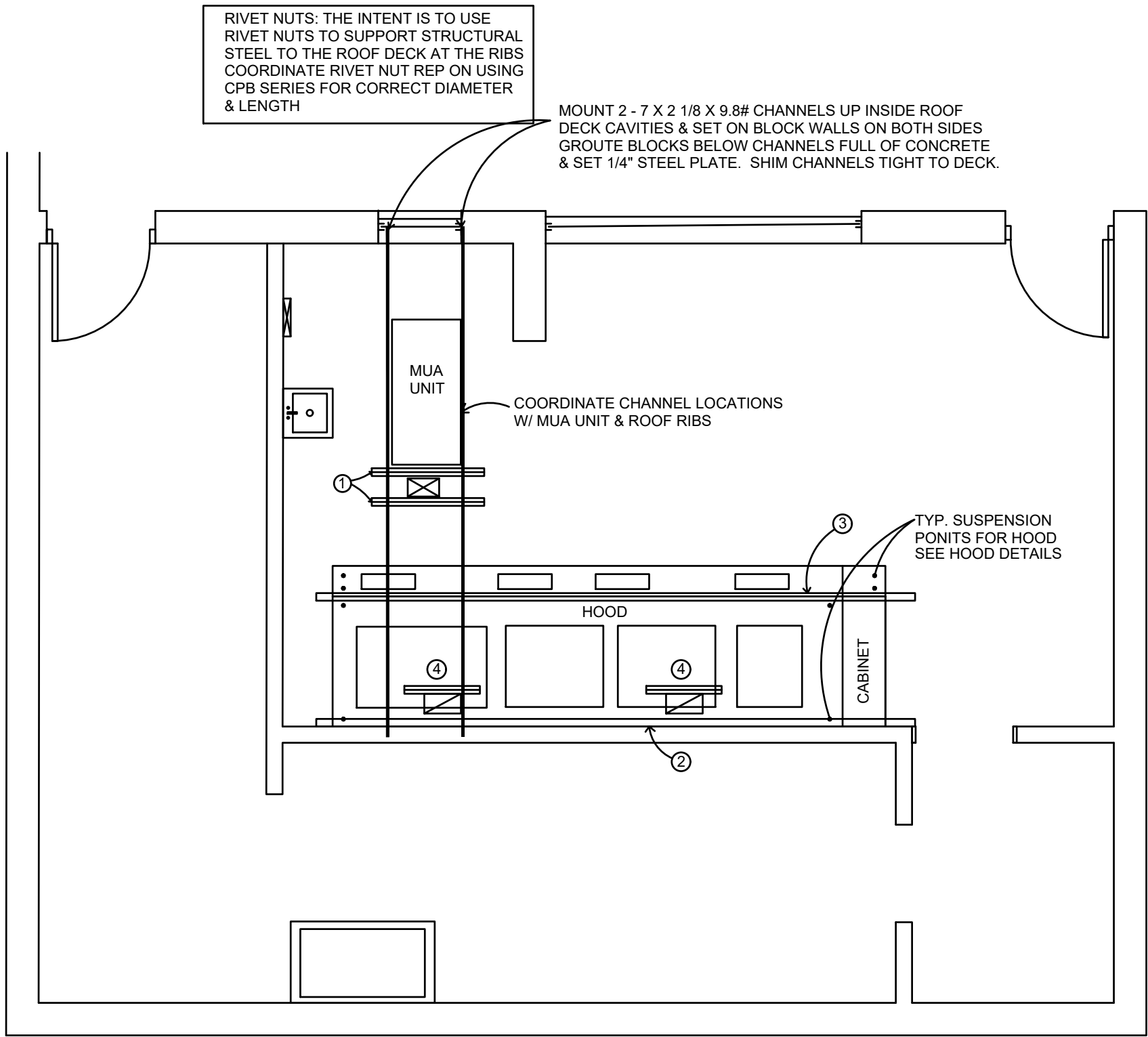
HOOD ELEVATION  
SCALE: 1/2" = 1'-0"



ROOF DECK PROFILE  
N.T.S.

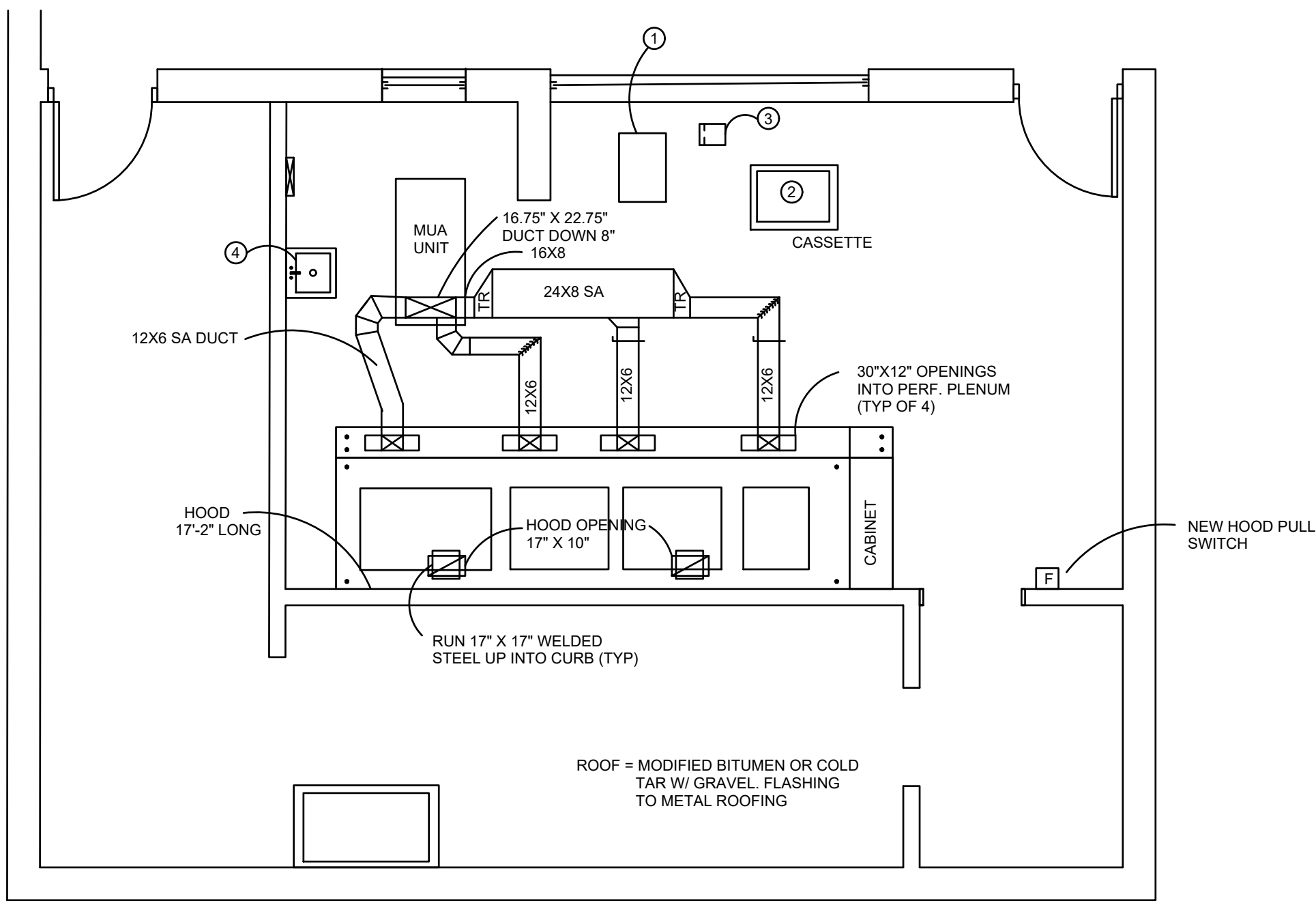


A DETAIL  
DOG HOUSE ROOF DETAIL NTS  
APPLIES TO PIPING/WIRING TO  
ROOFTOP CONDENSER.



- NOTES:
- SPAN SA DUCT OPENING ON 2 SIDES W/ 1"x1"x1/4" ANGLE ANCHORED INTO CHANNELS & INTO BOTTOM OF MIN. 2 ROOF RIBS ON EITHER SIDE OF OPENING USE RIVET NUTS UP INTO RIBS
  - ON WALL ABOVE HOOD ANCHOR A 4X4X1/4" ANGLE TIGHT TO ROOF DECK TO SUPPORT DECK/RIB. ANCHOR TO WALL AT ENDS & 18" O.C. W/ WEDGE ANCHORS. SUPPORT REAR HOOD SUSPENSION RODS FROM THIS ANGLE. ATTACH TO DECK WITH RIVET NUTS AT CUT PANEL LOCATIONS.
  - AT FRONT PART OF HOOD MOUNT TIGHT TO ROOF DECK A 3X1 1/2 X 1/4" THICK CHANNEL WITH A RIVET NUT AT EACH RIB. SUSPEND HOOD FROM THIS CHANNEL. RUN CHANNEL PAST HOOD TO PICK UP AT LEAST 2 RIBS ON EITHER END.
  - AT EXH AIR OPENING THRU ROOF DECK INSTALL A 2" X 2" X 5/16" ANGLE TO SUPPORT CUT ROOF PANELS. EXTEND ANGLE AT MIN. 2 RIBS PAST OPENING. INSTALL A RIVET NUT THRU ANGLE & INTO RIB AT EACH RIB.

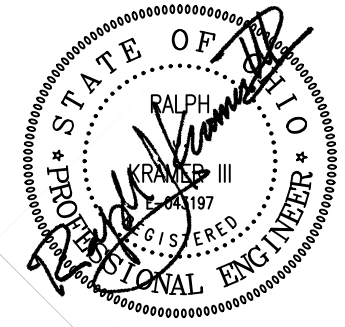
ROOF STRUCTURAL PLAN  
SCALE: 1/4" = 1'-0"



- NOTES:
- ROOF MOUNTED VENT HEAT PUMP MOUNTED ON FOAM PIPE PIER. ASSEMBLY WITH CAST IN UNISTRUT & A UNISTRUT MADE FOR THE DISCONNECT.
  - INDOOR 37" X 37" CEILING CASSETTE. COORDINATE W/ CEILING PLAN
  - DOG HOUSE ON ROOF FOR REF. PIPING & WIE / CONDUIT TO COIND. UNIT & CASSETTE
  -

PLUMBING & HVAC PLAN  
SCALE: 1/4" = 1'-0"

- HVAC GENERAL NOTES
- CONTRACTOR SHALL INSTALL ALL EQUIPMENT, DUCTWORK, ETC. PER ALL LOCAL, STATE AND FEDERAL CODES. PER THE RECOMMENDATIONS OF THE MANUFACTURER AND PER ALL APPLICABLE GUIDELINES OF SMACNA AND ASHRAE.
  - COORDINATE ALL EQUIPMENT LOCATIONS, DUCT ROUTINGS, ETC. IN THE FIELD WITH THE GENERAL CONTRACTOR AND ALL OTHER TRADES. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF EQUIPMENT AND MATERIALS THAT HAS NOT BEEN SO COORDINATED AND CAUSES CONFLICTS.
  - DUCTWORK SHALL BE GALVANIZED STEEL, LOW PRESSURE TYPE AS OUTLINED BY SMACNA AND ASHRAE. FLEXIBLE DUCTWORK PERMITTED FOR FINAL RUN TO AIR DEVICES AS ONG AS AIR FLOWS ARE MET.
  - INSTALL CONDENSATE DRAIN FOR THE CEILING CASSETTE. PER MANUFACTURER'S RECOMMENDATIONS USING PVC PIPING. INSULATE CONDENSATE DRAINS WITH 1/2" ARMAFLEX OR FIBERGLASS ADHESIVE PIPING WRAP WITH VAPOR BARRIER AND MINIMUM R VALUE OF 4. INSULATE SUCTION REFRIGERANT PIPING AND CONDENSATE DRAINS WITH 1/2" CLOSED CELL PLASTIC INSULATION WITH VAPOR BARRIER.
  - INSULATE ALL DUCTWORK (SUPPLY, RETURN AND OUTSIDE AIR) ASSOCIATED WITH EQUIPMENT WITH 1" THICK, 1.5 LB. DENSITY DUCTWRAP.
  - BALANCE THE HOOD SUPPLY AND EXHASUTS PER THE HOOD DEDSIGN. SUBMIT BALANCE REPORT.
  - PROVIDE CONICAL TAKE-OFFS OR TAPERED TAPS AT ALL BRANCHES FROM MAINS TO RECTANGULAR OR ROUND DUCTWORK.
  - PROVIDE RADIUS TURNS OR TURNING VANES IN ALL 90 DEGREE ELBOWS IN RECTANGULAR DUCTWORK.
  - PROVIDE COMPLETE START-UP AND TESTING OF EQUIPMENT AND INSTRUCT OWNERS PERSONNEL IN OPERATION AND MAINTENANCE OF EQUIPMENT (FOUR HOURS MINIMUM SCHEDULED AT THE OWNER'S CONVENIENCE). PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT INCLUDING A ONE-YEAR WARRANTY ON ALL PARTS AND WORKMANSHIP AND A FIVE-YEAR WARRANTY ON ALL AIR CONDITIONING COMPRESSORS.
  - PROVIDE ALL TRANSITIONS, BOOTS, FITTINGS, ETC. AS REQUIRED TO ACHIEVE DUCT/DIFFUSER/REGISTER CONNECTIONS. FIELD VERIFY EXACT REQUIREMENTS.
  - HVAC CONTRACTOR RESPONSIBLE FOR CUTTING AND PATCHING OF ALL PENETRATIONS: ROOF, CEILING, FLOORS, WALLS, ETC.
  - DUCT DIMENSIONS ARE INSIDE FREE CLEAR.
  - CONTRACTOR SHALL OBTAIN A COMPLETE SET OF PLANS AND BE FAMILIAR WITH THE ENTIRE PROJECT IN ORDER TO UNDERSTAND THE COMPLETE SCOPE OF THE PROJECT.
  - CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS THROUGH RATED WALLS WITH APPROVED UL ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF WALLS. NOTE THAT FLOOR ARE RATED INCLUDING THE FIRST FLOOR AND WALLS BETWEEN THE SLEEPING UNITS AND THE CORRIDOR ARE RATED.
  - CONTRACTOR SHAL SUBMIT AND OBTAIN A FIRE SUPPRESSION DESIGN/PERMIT FOR THE HOOD FIRE SUPPRESSION SYSTEM TO THE LOCAL AUTHORITY AND PAY ALL NECESSARY PERMIT FEES.
  - THIS CONTRACTOR SHALL OBTAIN INSPECTIONS, TESTS, ETC. REQUIRED FOR THE PERFORMANCE OF THIS WORK.
  - ROVIDE A ONE YEAR WARRANTY ON LABOR AND MATERIAL.



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| NO. | DATE         | DESCRIPTION |
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|     | KRAMER JOB # | 2022-230    |

PLUMBING & HVAC  
PLAN

PH-1

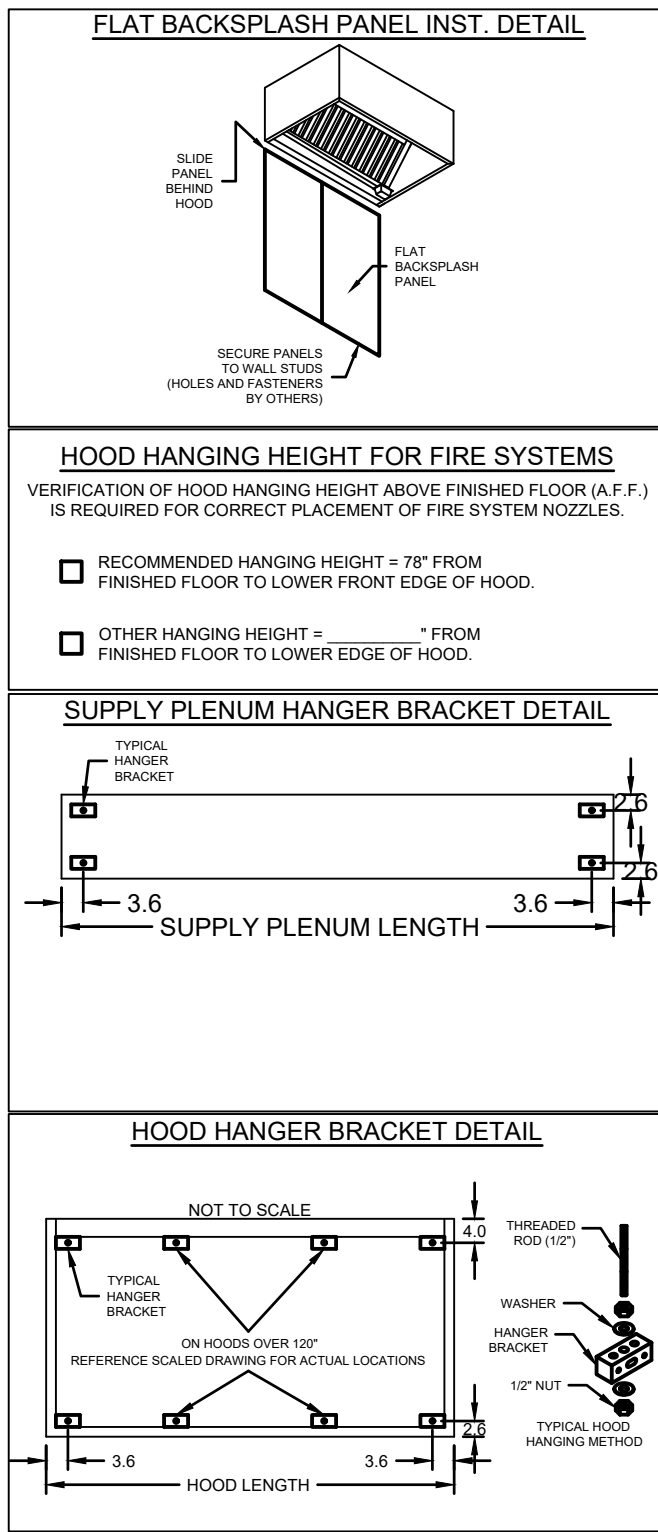
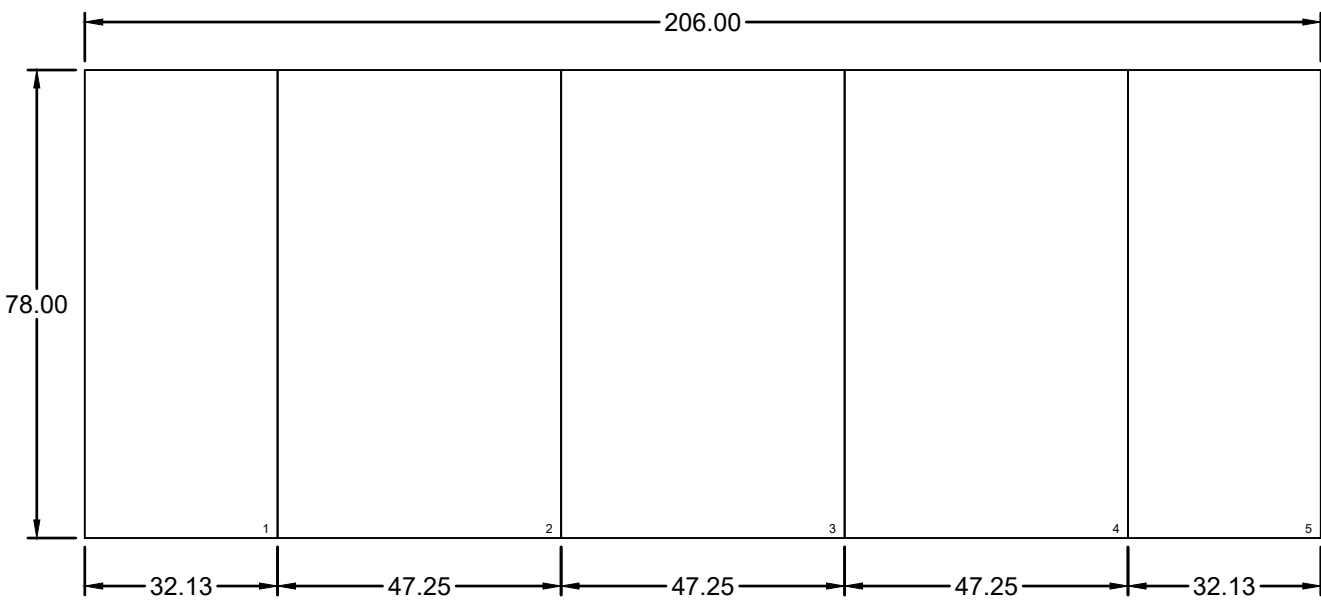
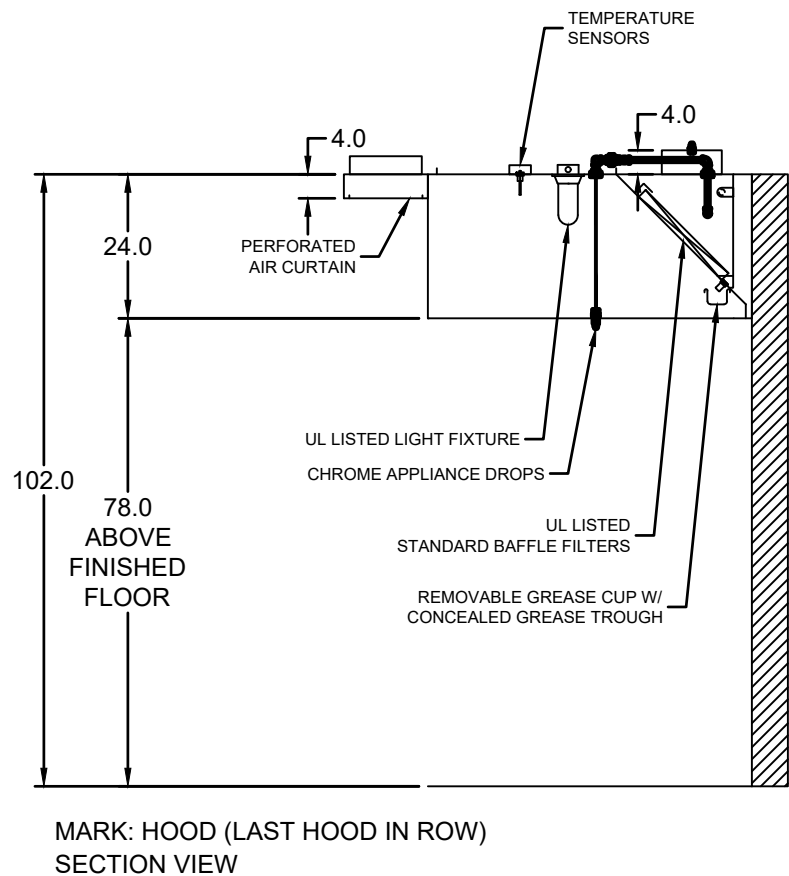
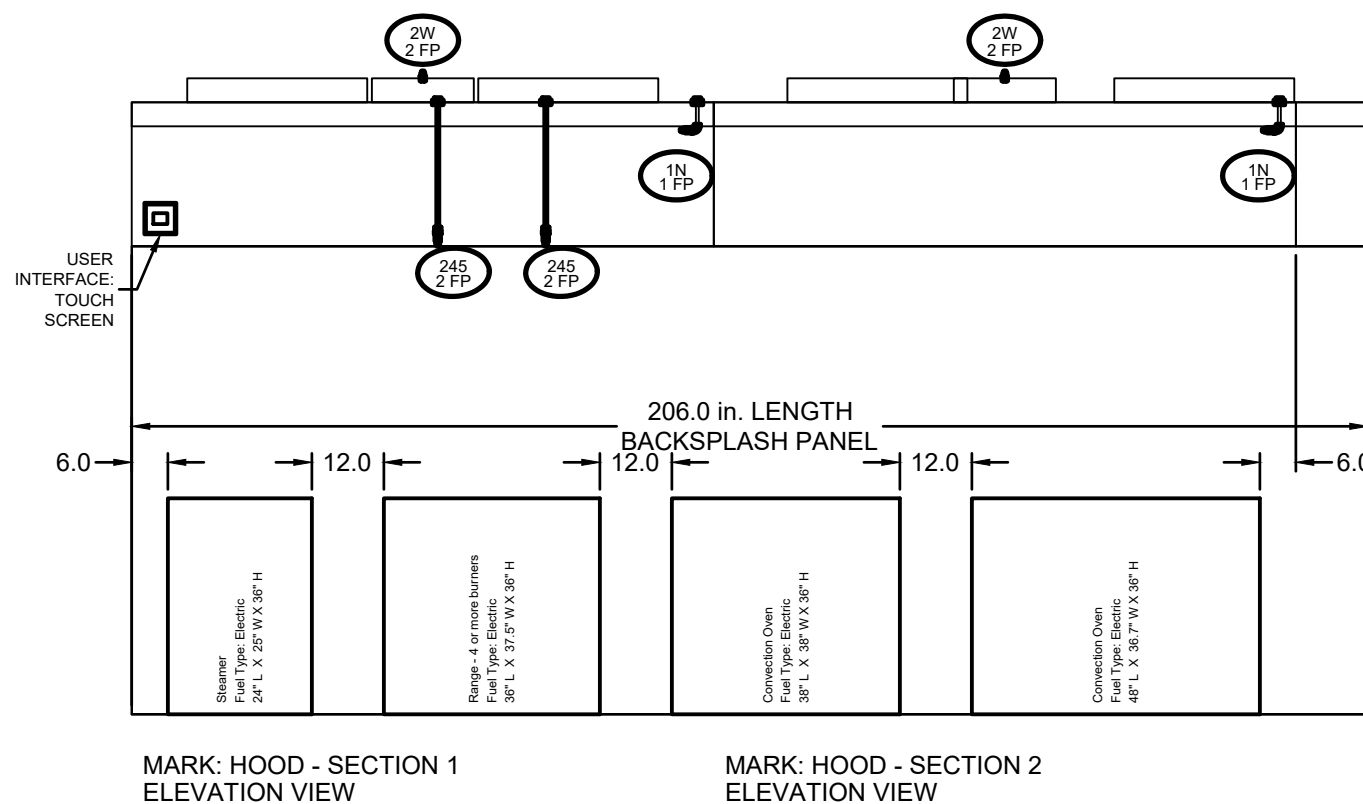
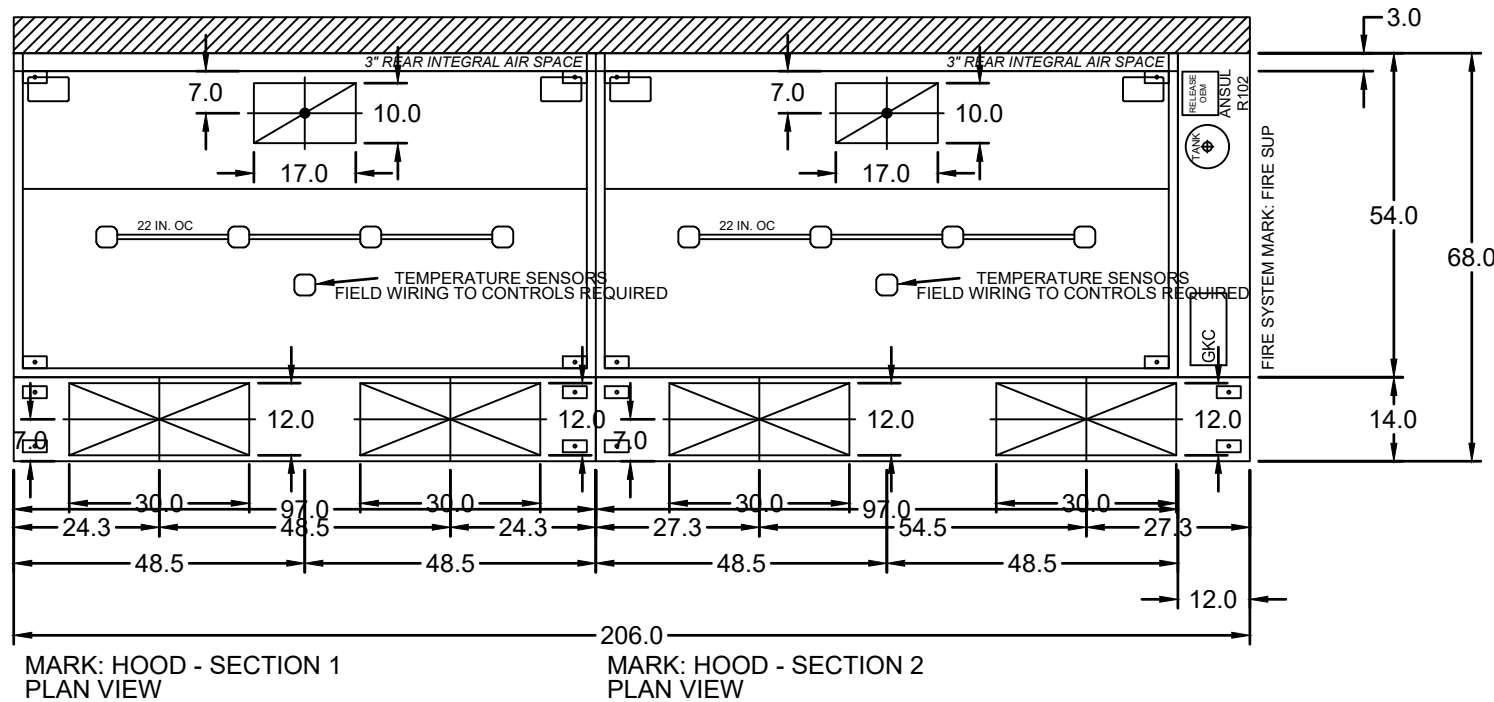


| HOOD INFORMATION |      |           |                       |       |        |                      |                            |           |         |        |      |      |       |                  |
|------------------|------|-----------|-----------------------|-------|--------|----------------------|----------------------------|-----------|---------|--------|------|------|-------|------------------|
| HOOD NO.         | MARK | MODEL     | HOOD DIMENSIONS (IN.) |       |        | HOOD CONSTR.         | COOKING LOAD / DUTY RATING | TOTAL CFM | EXHAUST |        |      |      |       | SECTION LOCATION |
|                  |      |           | LENGTH                | WIDTH | HEIGHT |                      |                            |           | WIDTH   | LENGTH | DIA. | CFM  | S.P.  |                  |
| 1                | HOOD | GHEW-97-S | 97                    | 54    | 24     | 430 SS WHERE EXPOSED | HEAVY                      | 1820      | 10      | 17     |      | 1820 | 0.416 | LEFT             |
| 2                | HOOD | GHEW-97-S | 97                    | 54    | 24     | 430 SS WHERE EXPOSED | HEAVY                      | 1820      | 10      | 17     |      | 1820 | 0.416 | RIGHT            |

| HOOD INFORMATION |      |                      |                            |     |              |                           |                 |     |                    |          |                  |            |       |                    |
|------------------|------|----------------------|----------------------------|-----|--------------|---------------------------|-----------------|-----|--------------------|----------|------------------|------------|-------|--------------------|
| HOOD NO.         | MARK | LIGHTING DETAILS     |                            |     | FOOT CANDLES | GREASE FILTRATION DETAILS |                 |     | UTILITY CABINET(S) |          |                  |            |       |                    |
|                  |      | FIXTURE TYPE         | BULB / LAMP INFO           | QTY |              | TYPE / MODEL              | MATERIAL        | QTY | SIZE (IN.)         | LOCATION | FIRE SYSTEM TYPE | SIZE       | MODEL | CONTROLS INTERFACE |
| 1                | HOOD | INCANDESCENT (GLOBE) | 100W A19 (BULBS NOT INCL.) | 4   | 45.97        | BAFFLE                    | STAINLESS STEEL | 6   | 16                 | 20       |                  |            |       |                    |
| 2                | HOOD | INCANDESCENT (GLOBE) | 100W A19 (BULBS NOT INCL.) | 4   | 45.97        | BAFFLE                    | STAINLESS STEEL | 6   | 16                 | 20       | RIGHT            | ANSUL R102 | 3     | GKC                |

| SUPPLY PLENUM INFORMATION |      |       |      |            |    |   |           |           |              |     |           |         |          |     |    |    |      |     |      |      |
|---------------------------|------|-------|------|------------|----|---|-----------|-----------|--------------|-----|-----------|---------|----------|-----|----|----|------|-----|------|------|
| HOOD NO.                  | MARK | POS.  | TYPE | SIZE (IN.) |    |   | INSULATED | DAMPER(S) | LED LIGHT(S) |     | TOTAL CFM | COLLARS |          |     |    |    |      |     |      |      |
|                           |      |       |      | L          | W  | H |           |           | SUPPLIED     | QTY |           | TYPE    | MOUNTING | QTY | W  | L  | DIA. | CFM | S.P. | VEL. |
| 1                         | HOOD | FRONT | ASP  | 97         | 14 | 4 | NO        | YES       | NO           |     | 1275      | MUA     | FACTORY  | 2   | 12 | 30 |      | 638 | 0.01 | 255  |
| 2                         | HOOD | FRONT | ASP  | 109        | 14 | 4 | NO        | YES       | NO           |     | 1275      | MUA     | FACTORY  | 2   | 12 | 30 |      | 638 | 0.01 | 255  |

HOOD OPTIONS  
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #MH11726  
BACK INTEGRAL AIR SPACE - 3 IN WIDE  
FACTORY MOUNTED EXHAUST COLLAR(S)  
BACKSPLASH 78.00 IN HIGH 206.00 IN LONG  
PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY  
STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH

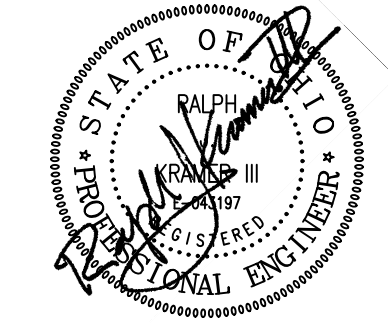


PROJECT: 22171022 KRAMER - LAKEWOOD SCHOOLS KITCHEN HOOD

MARK: HOOD

AIR CONTROL PRODUCTS INC  
CHRIS WHICKER  
CHRISW@AIRCONTROLPRODUCTS.COM  
(614) 999-1747

GREENHECK



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LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025

| NO. | DATE      | DESCRIPTION           |
|-----|-----------|-----------------------|
| 1   | 3-23-2023 | SUBMITTED:            |
| 2   |           | DRAWN BY: STAFF       |
| 3   |           | KRAMER JOB # 2022-230 |

COMMERCIAL KITCHEN  
HOOD - WALL CANOPY  
HOOD

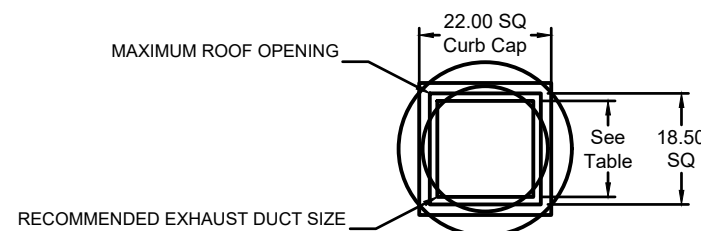


Direct Drive Upblast Centrifugal Roof Exhaust Fan

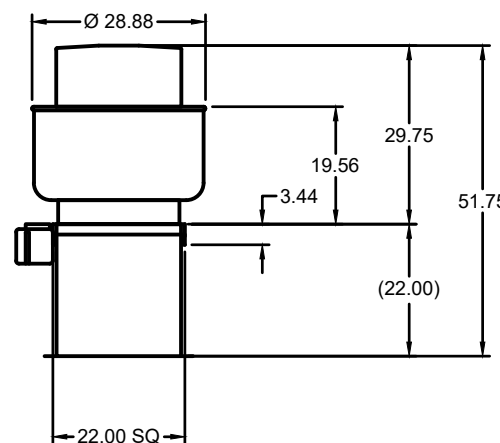
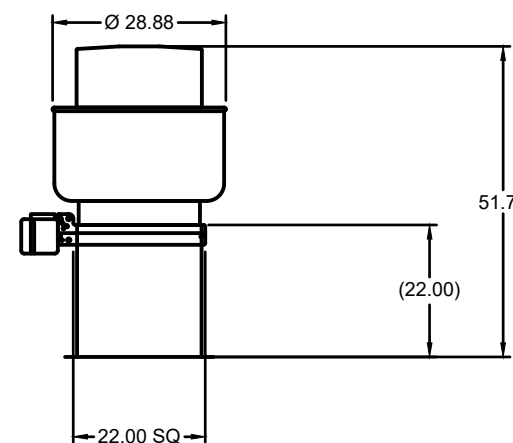
| MARK INFORMATION |      |            | FAN INFORMATION |                           |         |                      |              | MOTOR INFORMATION |          |           |           |          |
|------------------|------|------------|-----------------|---------------------------|---------|----------------------|--------------|-------------------|----------|-----------|-----------|----------|
| QTY              | MARK | MODEL      | VOLUME (CFM)    | TOTAL EXTERNAL SP (IN WG) | FAN RPM | OPERATING POWER (HP) | WEIGHT (LB.) | SIZE (HP)         | V/C/P    | ENCLOSURE | MOTOR RPM | WINDINGS |
| 2                | EF-1 | CUE-140-VG | 1,820           | 0.666                     | 1,312   | 0.43                 | 85           | 0.75              | 115/60/1 | OP        | 1550      | 1        |

EF-1: SELECTED OPTIONS AND ACCESSORIES

Standard Curb Cap Size - 22 Square  
UL/cUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances"  
Switch, NEMA-1, Toggle, Shipped with Unit  
Hinge, Factory Installed  
High Temp Curb Seal Rated for Continuous Duty at 1500 F (Factory Attached)  
Grease Trap with Absorbent Material

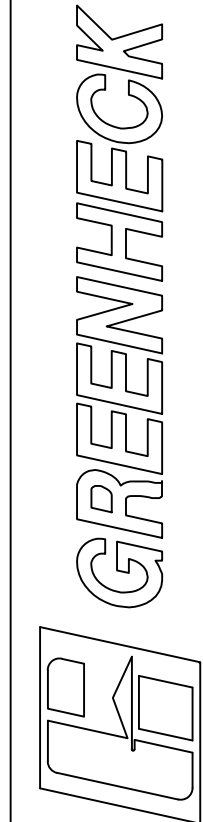
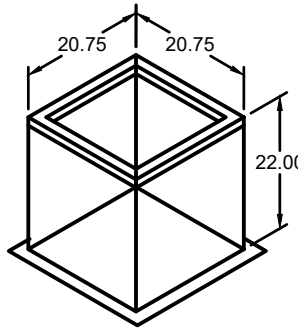


| DUCT TYPE    | SIZE  |
|--------------|-------|
| STANDARD     | 16 SQ |
| PIRE-WRAPPED | 12 SQ |



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.  
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON  
MOTOR, ADAPTER, AND/OR HINGE BASE.



AIR CONTROL PRODUCTS INC  
CHRIS WHICKER  
CHRISW@AIRCONTROLPRODUCTS.COM  
(614)295-1747

PROJECT: 2/27/2023 KRAMER, LAKEWOOD SCHOOLS  
KITCHEN HOOD

EF-1



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| NO. | DATE      | DESCRIPTION     |
|-----|-----------|-----------------|
|     | 3-23-2023 | SUBMITTED:      |
|     |           | DRAWN BY: STAFF |
|     | 2022-230  | KRAMER JOB #    |

COMMERCIAL KITCHEN  
HOOD - EXHAUST FAN

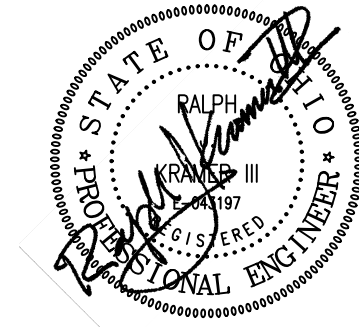
H-2

LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025



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MECHANICAL/ELECTRICAL/CIVIL ENGINEERING

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COLUMBUS, OHIO 43215  
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| FIRE SYSTEM INFORMATION |                             |                             |                             |     |             |              |                                  |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----|-------------|--------------|----------------------------------|
| MARK                    | MODEL                       | LOCATION                    | FLOW POINTS                 |     | SUPPLY LINE | DETECTION    | MARK(S) PROTECTED BY FIRE SYSTEM |
|                         |                             |                             | HOODS                       | PCU |             |              |                                  |
| FIRE SUP                | ANSUL R-102<br>WET CHEMICAL | CABINET – RIGHT END OF HOOD | 10 UTILIZED<br>11 AVAILABLE |     | CONTINUOUS  | FUSIBLE LINK | HOOD SECTION 1<br>HOOD SECTION 2 |

FIRE SYSTEM OPTIONS AND ACCESSORIES

FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)

CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED

METAL BLOW-OFF CAPS - INCLUDED

GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, 2" (ANSUL) - PART# ANSULMECHSHUTOFFVALVE200

HOOD SUPPRESSION TANK - INCLUDED - 3 GAL. - [(1) 3.0 TANK(S)]

REMOTE PULL STATION - STANDARD - FIELD INSTALLATION AT SINGLE POINT OF EGRESS

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE

2. AGENT STORAGE TANK

3. INSTALLING GAS ORBITRIDGE

4. AUTOMAN RELEASE

5. REGULATOR

6. INDOORKIT FOR WIRING MICROSWITCH

NOT TO SCALE

23.5

16.5

7.5

NOTES:

WET CHEMICAL FIRE PROTECTION SYSTEM TO BE ANSUL R-102, DESIGNED IN COMPLIANCE WITH UL 300 REQUIREMENTS.

-VERIFICATION OF ALL COOKING EQUIPMENT MAKE, MODEL AND LOCATION REQUIRED FOR ALL FIRE PROTECTION SYSTEMS.

-ALL FIRE SYSTEM PIPING IS STANDARDLY TO THE RIGHT END OF THE HOOD UNLESS A WALL IS LOCATED ON THE RIGHT END.

-ANSUL AUTOMAN RELEASE TO BE LOCATED WITHIN 60" OF HOOD.

THE BASIC FIRE SYSTEM WILL INCLUDE THE FOLLOWING:

-GAS SHUT-OFF VALVE, IF REQUIRED, TO BE SUPPLIED BY MANUFACTURER (UP TO 2" DIAMETER AS STANDARD) AND INSTALLED BY A LICENSED PLUMBER.

-MICRO SWITCH TO BE SUPPLIED BY MANUFACTURER FOR CONNECTION TO, BUT NOT LIMITED TO, BUILDING ALARM SYSTEM(S), EXHAUST AND SUPPLY FANS AND ELECTRICAL POWER SHUT DOWN. FIELD WIRING AND CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

THE BASIC FIRE SYSTEM DOES NOT INCLUDE THE FOLLOWING:

-FULL DUMP TEST OTHER THAN WHAT IS SPECIFIED PER THE INSTALLATION MANUAL, OR TO SATISFY A STATE OR LOCAL CODE. PRINT AND TESTING FEES ARE NOT INCLUDED UNLESS NOTED UNDER THE EQUIPMENT SCHEDULE FOR THE FIRE SYSTEM.

-MORE THAN TWO TRIPS TO THE JOBSITE OR SPECIAL TRANSPORTATION, OR OVERNIGHT LOADING REQUIREMENTS IN REMOTE AREAS. NORMAL TRAVEL DISTANCE IS FIRST 50 MI. (80.5 KM) FROM OFFICE.

-SPECIAL CLASSES OR ADDITIONAL LABOR FOR ACCESS TO SECURITY SENSITIVE AREAS.

-INSTALLATION OF GAS SHUT-OFF VALVE.

-SPECIAL DRAWINGS REQUIRED TO SATISFY STATE OR LOCAL CODE. PLAN EXAMINATION FEES, PE OR PS APPROVAL STAMP.

-UNION LABOR, GOVERNMENT LABOR, OR PREVAILING WAGES REQUIRED FOR FINAL FIELD WORK-UP.

-ANY AND ALL ELECTRICAL COMPONENTS/CONNECTIONS REQUIRED TO SHUT DOWN FAN, SHUT OFF DEVICE FOR ELECTRIC COOKING EQUIPMENT (SHUNT TRIP BREAKER), OR ACTIVATE AN ALARM SYSTEM, ETC.

-ANY DISMANTLING OR REASSEMBLY REQUIRED TO GAIN ACCESS TO THE FIRE SUPPRESSION PIPING LOCATED ON THE TOP OF THE HOOD.

-ROUGH-IN HIDDEN CONDUIT FOR REMOTE PULL STATION OR GAS VALVE (FLUSH MOUNTED PULL STATION).

-INSTALLATION OF MORE THAN (1) REMOTE PULL STATION OR DISTANCES GREATER THAN 20 FT (6.1M).

-PARTS OR LABOR REQUIRED TO CORRECT PIPING DUE TO COOKING EQUIPMENT CHANGES OR DEVIATION FROM PLANS, OR ANY CHARGES FOR MISSING OR ADDITIONAL PARTS OTHER THAN THOSE INDICATED ON THE FIRE SUPPRESSION DETAIL.

WIRING DIAGRAMS

WIREKIT MICRO SWITCH

WIRING THE TYPICAL EXAMPLES SHOWN, VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.

CONNECTION TO BUILDINGS ALARM

CONNECTION TO COOKING EQUIPMENT SHUT DOWN

CONNECTION TO FAN SHUT DOWN

NOTES:

1. \_\_\_\_\_ DENOTES FIELD INSTALLATION.

2. \_\_\_\_\_ DENOTES FACTORY INSTALLATION.

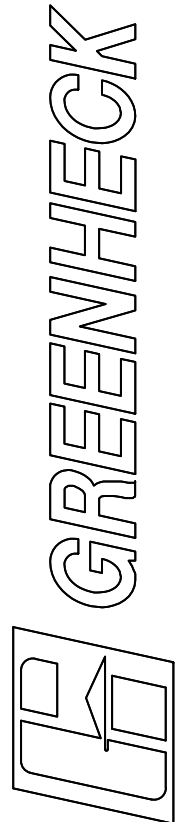
3. DO NOT USE BLACK WIRE OR SHUNT-TRIP SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRAORDINARY ALARM, LIGHT CIRCUITS, ETC.

PROJECT: KRAMER - LAKEWOOD SCHOOLS KITCHEN HOOD

MARK

FIRE SUP

AIR CONTROL PRODUCTS INC  
CHRIS WHICKER  
CHRISW@AIRCONTROLPRODUCTS.COM  
(614)999-1747

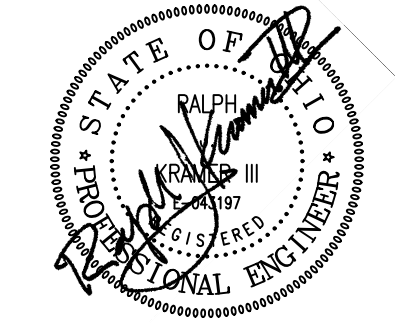


LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025

| NO.          | DATE | DESCRIPTION |
|--------------|------|-------------|
| SUBMITTED:   |      | 3-23-2023   |
| DRAWN BY:    |      | STAFF       |
| KRAMER JOB # |      | 2022-230    |

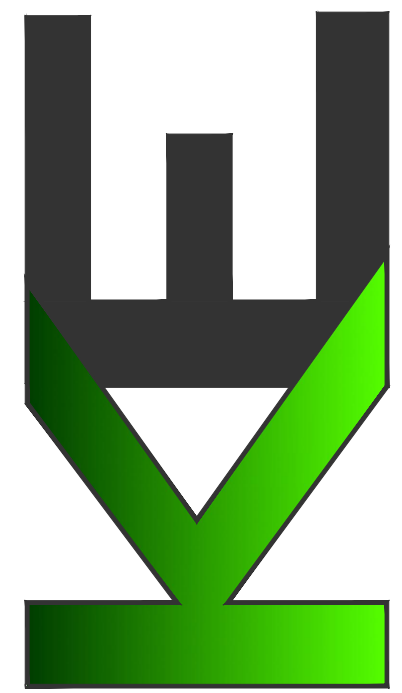
COMMERCIAL KITCHEN  
HOOD - ANSUL  
SYSTEM

H-3



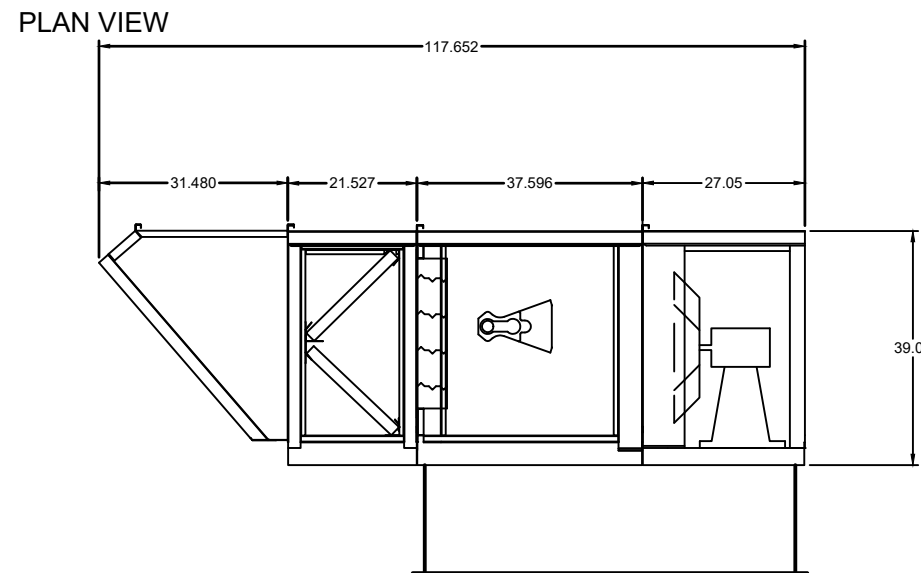
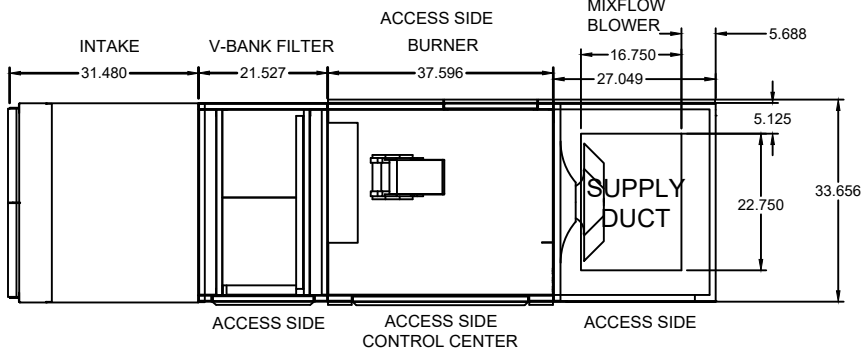
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| EQUIPMENT SCHEDULE        |                 |             |             |              |        |               |              |                |              |                                        |  |  | OPTIONS AND ACCESSORIES |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|---------------------------|-----------------|-------------|-------------|--------------|--------|---------------|--------------|----------------|--------------|----------------------------------------|--|--|-------------------------|--|-----------------------------------------------------------------------------------------------------------|------|------|------|------|-------------------------------------|-------|------|------|------|------|--|--|--|--|--|
| Tempered Make-Up Air Unit |                 |             |             |              |        |               |              |                |              | Mark: MAU                              |  |  |                         |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
| Qty                       | Greenheck Model | Volume      | External SP | Total SP     | MCA    | MCP           | Weight       | SCCR           |              | Air Flow Arrangement: Outdoor Air Only |  |  |                         |  | Weatherhood: Aluminum Mesh, 16x20x2 - (4)                                                                 |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
| 1                         | DDX-P115-H12-MF | 2,550 CFM   | 0.51 in. wg | 1.368 in. wg | 14.4   | 25            | 775 lb       | 5kA            |              | Filter Section: MERV-8, 16x20x2 - (4)  |  |  |                         |  | Dampers: Inlet                                                                                            |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
| Size                      |                 |             |             |              |        |               |              |                |              | Outdoor Air Inlet Position: End        |  |  |                         |  |                                                                                                           |      |      |      |      | Discharge Position: Bottom          |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              | Coating: Galvalume                     |  |  |                         |  |                                                                                                           |      |      |      |      | Coating: Double Wall - Tempering On |       |      |      |      |      |  |  |  |  |  |
| 1 1/2 hp                  |                 |             |             |              |        |               |              |                |              | Supply Fan Control: VFD                |  |  |                         |  |                                                                                                           |      |      |      |      | VFD Control: Constant Volume        |       |      |      |      |      |  |  |  |  |  |
| 2568001                   |                 |             |             |              |        |               |              |                |              | Access Side: Right-Hand                |  |  |                         |  |                                                                                                           |      |      |      |      | Control Center                      |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | Freeze Protection                                                                                         |      |      |      |      | Heat Inlet Air Sensor               |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | Unit Controls: Microprocessor                                                                             |      |      |      |      | Temperature Control: Discharge      |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | BAC Protocol: None                                                                                        |      |      |      |      | Direct Gas Options/Accessories      |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | Approvals: ETL                                                                                            |      |      |      |      | FIM Compliant                       |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
| Type                      | Gas Type        | Temperature |             | Energy       |        | Corrected Gas | Building Gas | Control Access | Gas Pressure |                                        |  |  |                         |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 | Winter DB   | Max LAT     | Input        | Output | Efficiency    | Connection   | Right Hand     | Min          | Max                                    |  |  |                         |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
| Direct Gas                | Natural         | 80.0 F      | 80.0 F      | 238.3 MBH    | 62%    | 34"           | 1/2 PSI      | Right Hand     | 8 in. wg     | 0.5 PSI                                |  |  |                         |  |                                                                                                           |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | Outlet Sound Power By Octave Band                                                                         |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | LWA                                                                                                       |      |      |      |      | dBA                                 | Sones |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | 62.5                                                                                                      | 72.5 | 72.6 | 72.2 | 72.6 | 72.2                                | 67.3  | 80.2 | 89.2 | 75.4 |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | 74.9                                                                                                      | 72   | 73.4 | 77.9 | 72.3 | 72.6                                | 72.2  | 67.3 | 80.2 | 69.2 | 76.4 |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | * LWA = A-weighted sound power level measured at 1000 Hz                                                  |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | * dBA = A-weighted sound pressure level measured at 1000 Hz                                               |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | * Sound Power Level (LWA) is based on a sound pressure level of 0.0002 Pa (20 micropascals) at 1000 Hz    |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |
|                           |                 |             |             |              |        |               |              |                |              |                                        |  |  |                         |  | * Sound Pressure Level (dBA) is based on a sound pressure level of 0.0002 Pa (20 micropascals) at 1000 Hz |      |      |      |      |                                     |       |      |      |      |      |  |  |  |  |  |



ELEVATION VIEW

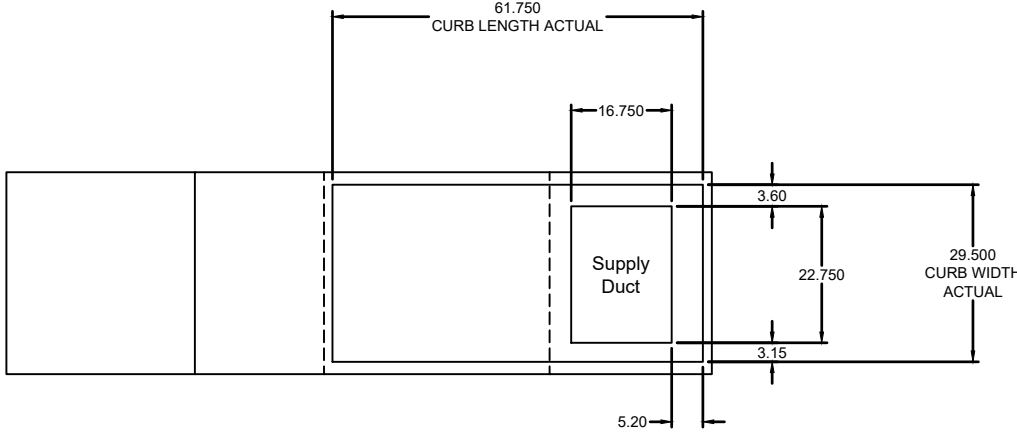
NOTE: Roof Opening Requirements:

Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides.  
For example: If the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.

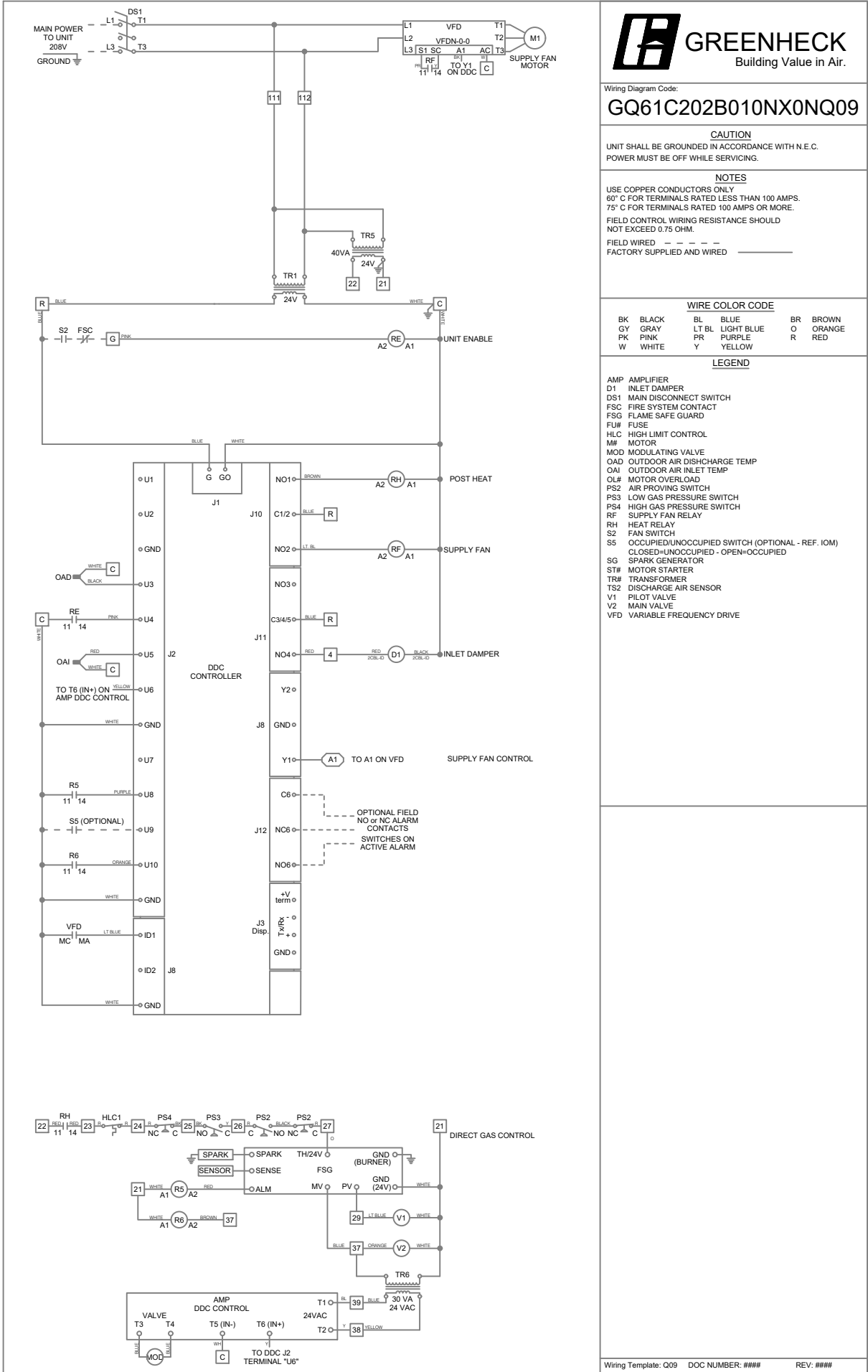
Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb.  
For example: If the roof curb is 75 x 30 in. square, the maximum roof opening is 71.5 x 28.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb.  
This is by design, in order to help alleviate water infiltration issues.

FOOTPRINT

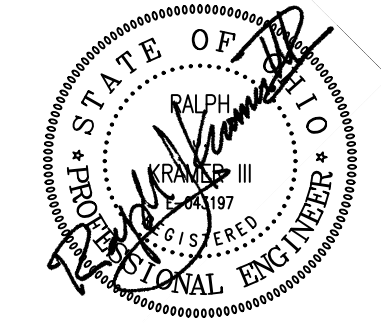
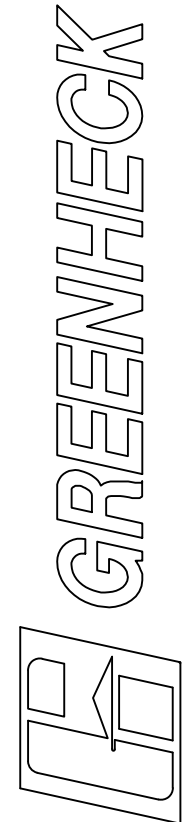


END VIEW



PROJECT: KRAMER - LAKEWOOD SCHOOLS  
2/27/2023 KITCHEN HOOD

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TEL: 614.233.6911



LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025

| NO. | DATE      | DESCRIPTION           |
|-----|-----------|-----------------------|
| 1   | 3-23-2023 | SUBMITTED:            |
| 2   |           | DRAWN BY: STAFF       |
| 3   |           | KRAMER JOB # 2022-230 |

COMMERCIAL KITCHEN  
HOOD - MAU

H-4





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**LAKEWOOD ELEMENTARY  
KITCHEN REMODEL  
938 LANCER ROAD  
HEBRON, OHIO 43025**

## COMMERCIAL KITCHEN HOOD - CONTROLS

H-5

| CONTROL FEATURES                          |
|-------------------------------------------|
| HOOD LIGHT CONTROL                        |
| TEMP SENSORS (FACTORY INSTALLED) - QTY. 2 |
| DRY FIRE CONTACTS - QTY. 1                |
| LIGHTS OFF DURING FIRE                    |
| EXHAUST MAX DURING FIRE                   |
| SUPPLY OFF DURING FIRE                    |



# GREENHECK

BUILDING VALUE IN AIR.

DOC NUMBER: #####    REV: #####

**CAUTION**    **ATTENTION**

UNIT MUST BE GROUNDING IN ACCORDANCE WITH N.E.C. POWER MUST BE OFF WHILE SERVICING.    L'APPAREIL DOIT ÊTRE MIS À LA TERRE CONFORMÉMENT AU CODE C.E. L'ALIMENTATION DOIT ÊTRE COUPÉE QUAND L'ENTRETIEN.

**COMMERCIAL APPLIANCE OUTLET CENTER**

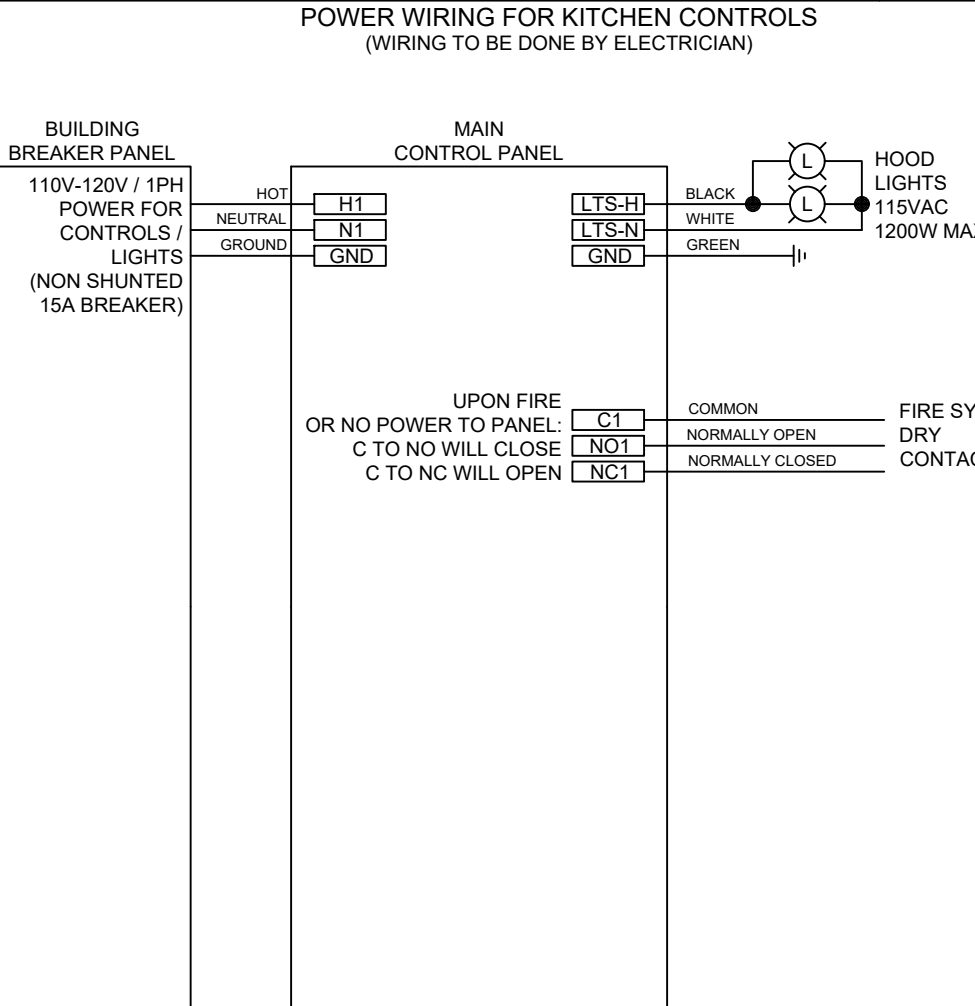
ELECTRICAL RATINGS: 110-240V, 1PHASE, 50-60HZ, 15A  
BASE FILE #E200616, ML FILE #E313951

THESE DRAWINGS SHALL NOT BE REMOVED FROM THIS EQUIPMENT. USE COPPER CONDUCTORS RATED TO 90°C UNLESS SPECIFIED. TORQUE CONTROL & GROUND CLOCS TO 3 LBS. IN. TORQUE. POWER INSULATIONS TO COMPONENT RATINGS LISTED. TORQUE CONTROL BOWED SCREW TERMINALS TO 3 LBS. IN. FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM. SEE CMA FOR ADDITIONAL INFORMATION. OR CALL FACTORY AT 1.800.321.4666.

FRIG VERSION: VI  
FIELD WIRING (CABLE & LOCALMENT)  
FACTORY WIRING (CABLE & LINE)

NE PAS RETIRER CES DESSINS DE CE DÉTÉQUIPEMENT. SAUF INDICATION CONTRAIRE, UTILISER DES CONDUCTEURS EN CUIVRE CLASSÉS 90°C. SERRER LES BORNES DE COMMANDE ET DE MISE À LA TERRE À 3 LBS-PO. SERRER LES CONNEXIONS D'ALIMENTATION AUX COMPONENSD'INDIQUEZ POUR LE COMMANDEANT. SERRER LES BORNES À VIS DE LA CARTES DE COMMANDE À 3 LBS-PO. LA RÉSISTANCE DU CÂBLAGE DE COMMANDE LOCAL NE DOIT PAS DÉPASSER 0,75 OHM. POUR PLUS D'INFORMATION, CONSULTER LE MANUEL DU APPLIQUÉ #E200616.

**POWER WIRING FOR KITCHEN CONTROLS**  
(WIRING TO BE DONE BY ELECTRICIAN)



**BUILDING BREAKER PANEL**

110V-120V / 1PH  
POWER FOR CONTROLS / LIGHTS  
(NON SHUNTED 15A BREAKER)

**MAIN CONTROL PANEL**

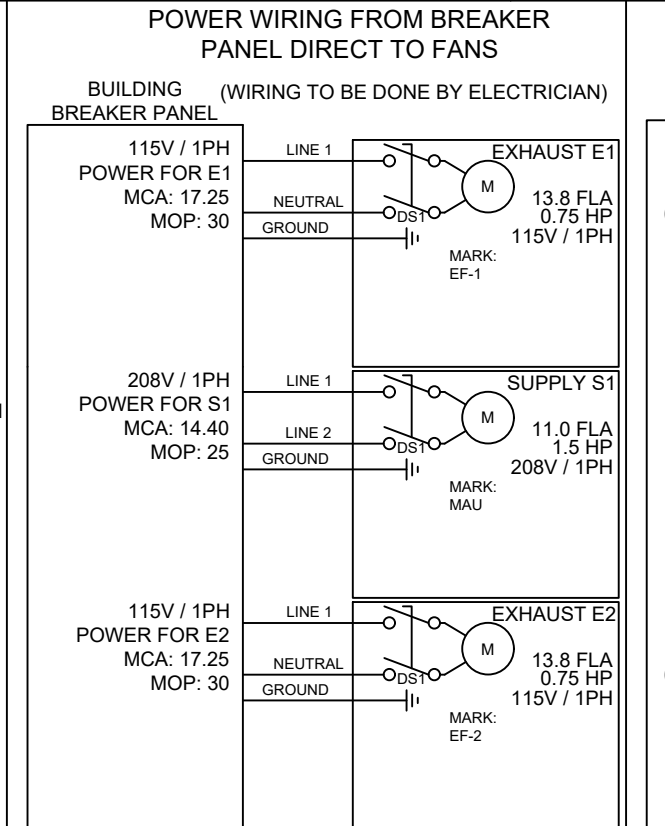
UPON FIRE OR NO POWER TO PANEL:  
C TO NO WILL CLOSE  
C TO NC WILL OPEN

COMMON  
NORMALLY OPEN  
NORMALLY CLOSED

FIRE SYSTEM DRY CONTACT 1\*

HOOD LIGHTS  
115VAC  
1200W MAX

**POWER WIRING FROM BREAKER PANEL DIRECT TO FANS**  
(WIRING TO BE DONE BY ELECTRICIAN)



**BUILDING BREAKER PANEL**

115V / 1PH  
POWER FOR E1  
MCA: 17.25  
MOP: 30

208V / 1PH  
POWER FOR S1  
MCA: 14.40  
MOP: 25

115V / 1PH  
POWER FOR E2  
MCA: 17.25  
MOP: 30

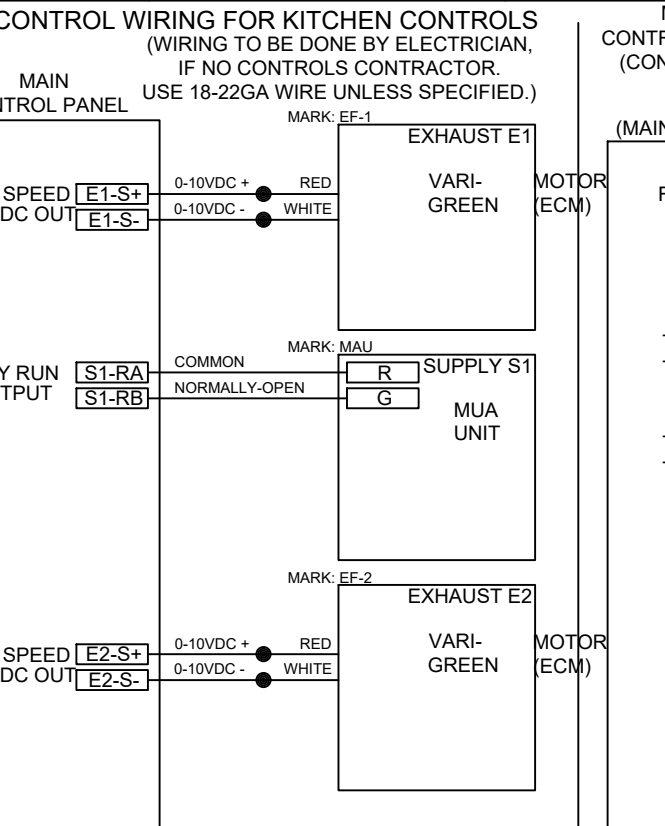
**MAIN CONTROL PANEL**

EXHAUST E1  
13.8 FLA  
0.75 HP  
115V / 1PH

SUPPLY S1  
11.0 FLA  
1.5 HP  
208V / 1PH

EXHAUST E2  
13.8 FLA  
0.75 HP  
115V / 1PH

**CONTROL WIRING FOR KITCHEN CONTROLS**  
(WIRING TO BE DONE BY ELECTRICIAN, IF NO CONTROLS CONTRACTOR.)  
USE 18-22GA WIRE UNLESS SPECIFIED.)



**MAIN CONTROL PANEL**

FAN SPEED [E1-S1] 0-10VDC OUT [E1-S2]

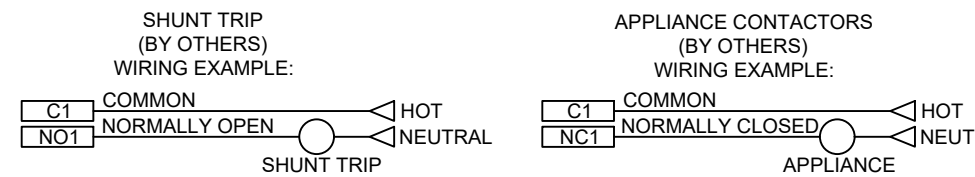
DRY RUN OUTPUT [S1-RA] [S1-RB]

EXHAUST E1  
VARI- GREEN  
MOTOR (ECM)

EXHAUST E2  
VARI- GREEN  
MOTOR (ECM)

**\*FIRE SYSTEM DRY CONTACT WIRING EXAMPLES**

SHUNT TRIP (BY OTHERS)  
WIRING EXAMPLE:



COMMON  
NORMALLY OPEN  
NORMALLY CLOSED

SHUNT TRIP BREAKER COIL

APPLIANCE CONTACTOR (BY OTHERS)  
WIRING EXAMPLE:

COMMON  
NORMALLY OPEN  
NORMALLY CLOSED

APPLIANCE CONTACTOR COIL

**CONTROL PANEL (CONTINUED)**

MAIN MB (MAIN BOARD)

FIRE SUPPRESSION FIRE SYSTEM SWITCH (REMOVE JUMPER IF USED)\*\*

TS-1A  
TS-1B  
TS-2A  
TS-2B

HOOD 1 TEMP SENSOR  
HOOD MARK HOOD SECTION 1  
HOOD 2 TEMP SENSOR  
HOOD MARK HOOD SECTION 2

DI-1A  
DI-1B  
DI-2A  
DI-2B

DIGITAL IN 1 FAN ON/OFF (DEFAULT)  
DIGITAL IN 2 LIGHT ON/OFF (DEFAULT)

FACTORY PROVIDED

J15

MAIN BOARD USER INTERFACE MB-U1

HOOD SECTION 1

**JOB NAME:** KRAMER - LAKEWOOD SCHOOLS KITCHEN HOOD

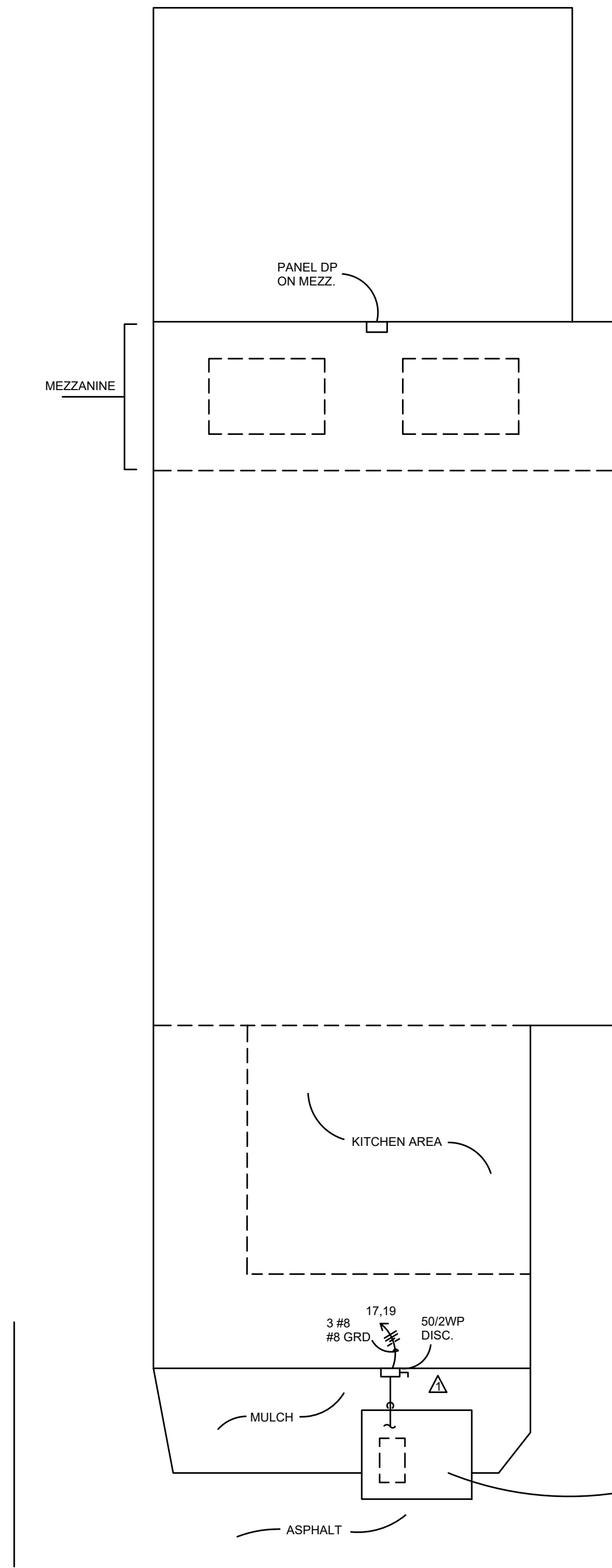
**MODEL:** GK-CV-S-21-2-1-0

**SERIAL NUMBER:** WDSNH

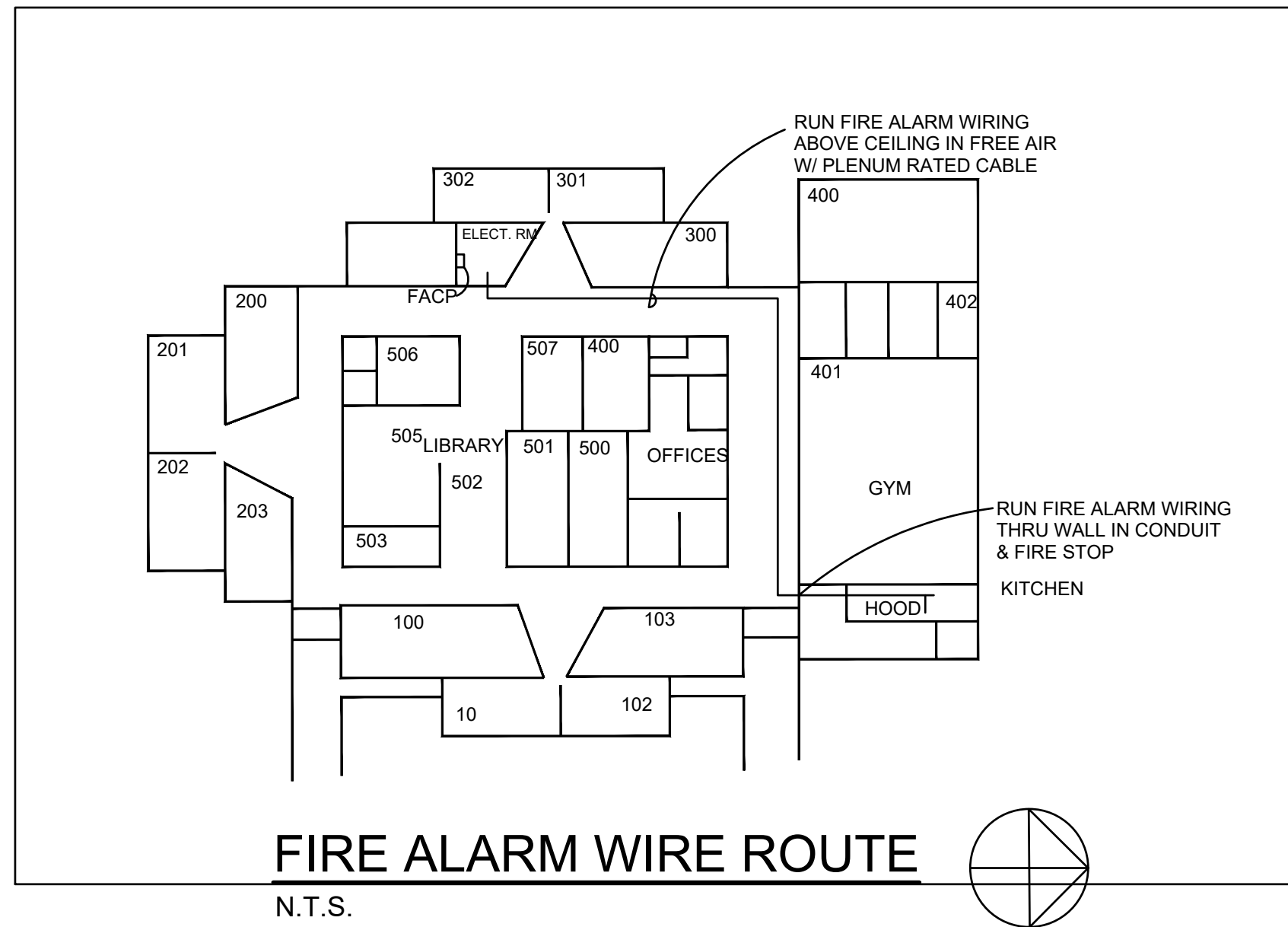
**MARK:** KITCHEN CONTROLS

\*\*WHEN FIRE SYSTEM IS ARMED, FS-C TO FS-NC SHOULD HAVE CONTINUUM





**BUILDING ELECTRIC PLAN**  
SCALE: 3/32" = 1'-0"



**FIRE ALARM WIRE ROUTE**  
N.T.S.

**ELECTRICAL GENERAL NOTES**

- ALL ELECTRICAL WORK SHALL BE PER ALL STATE AND LOCAL CODES AND THE NEC.
- ALL WIRING SHALL BE COPPER, STRANDED, THWN OR THHN, #12 AWG MINIMUM SIZE.
- ALL WIRING AND CONDUIT SHALL BE CONCEALED IN WALLS AND ABOVE CEILINGS WHEREVER POSSIBLE. FOR EXPOSED CONDUITS IN KITCHEN USE EMT WITH WATE RTIGHT COMPRESSION FITTINGS.
- ACCEPTABLE WIRING METHODS: MC CABLE (CONCEALED), AND COPPER WIRE IN EMT CONDUIT OR RIGID CONDUIT WHERE NOTED.
- CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS THROUGH FIRE-RESISTANCE-RATED ASSEMBLIES (WALLS, FLOORS, CEILINGS, ROOFS, RATED MEMBRANES) WITH APPROVED UL ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF WALLS.
- EXTERIOR WIRING SHALL BE RUN IN HEAVY WEIGHT GALVANIZED STEEL CONDUIT FOR RISERS AND BELOW GRADE IN SCHEDULE 40 PVC ELECTRICAL CONDUIT.
- CARRY A GROUND WIRE WITH ALL CIRCUITS. SHARED NEUTRALS ARE NOT ACCEPTABLE. NO DOUBLE CONNECTED CIRCUIT BREAKERS ARE PERMITTED.
- PANEL BOARDS TO BE BOLT ON TYPE NQ OR I-LINE TYPE AS NOTED ON THE PLANS WITH COPPER BUSSES, GROUND BUS, AND NEUTRAL BUS.
- PROVIDE LABELS AND TAGS FOR ALL PANEL BOARDS AND DISTRIBUTION EQUIPMENT. PROVIDE TYPED DIRECTORY FOR ALL PANEL BOARDS.
- BREAKERS FOR KITCHEN EQUIPMENT NOT HAVING CORDS OR DISCONNECTS SHALL BE LOCKABLE TYPE BREAKERS. ALL 120 VOLT KITCHEN RECEPTACLES TO BE GFI TYPE AND READILY ACCESSIBLE. WHERE GFI TYPE RECEPTACLES CANNOT BE LOCATED IN A READILY ACCESSIBLE LOCATION, PROVIDE A GFI TYPE BREAKER FOR THE CIRCUIT.
- WIRE ALL EXIT AND EMERGENCY LIGHTS ON LOCAL LIGHTING CIRCUIT WITH HOT WIRE AHEAD OF SWITCHING OR LIGHTING CONTROLS.
- SWITCHES AND RECEPTACLES SHALL BE SPEC GRADE. WHITE. RECEPTACLES TO BE 20 AMP, 125 VOLT RATED.
- MOUNT ALL CONTROLS AND DEVICES AT HEIGHTS PER ADA: SWITCHES, CONTROLS, THERMOSTATS, PHONES: 48" TO TOP. RECEPTACLES: 18" AFF UNLESS NOTED OTHERWISE ON DRAWINGS.

**FREEZER ELECTRIC NOTES**

- 208/160 POWER TO FREEZER CONTROL. PANEL SEAL ANY CONDUIT THROUGH FREEZER WALL WITH SILICONE. INSTALL CONDUIT PENETRATE PER MFG RECOMMENDATIONS

- RECESSED BOXES IN GENERAL TO BE STAMPED STEEL TYPE. EXPOSED BOXES IN UNFINISHED SPACES TO BE STAMPED STEEL TYPE WITH STAMPED STEEL COVER PLATES. INTERIOR SURFACE MOUNTED BOXES OTHER THAN WIREMOLD TYPE BOXES SHALL BE CAST METAL TYPE WITH THREADED HUBS. EXTERIOR BOXES TO BE CAST METAL TYPE WITH THREADED HUBS AND WATERTIGHT COVER PLATES.
- OVER PLATES IN FINISHED SPACES SHALL STAIKLEWSS STEEL.
- SEAL ALL UNDERGROUND CONDUITS WHICH ENTER A BUILDING WATERTIGHT PER THE NEC.
- WIRING RUNS.
- PROVIDE AND INSTALL NEW FIRE ALARM SYSTEM DEVICES AS NOTED INCLUDING INTERLOCKING THE HOOD FIRE SUPPRESSION SYSTEM. THE STAIRWELLS. WIRE HOOD ANSUL SYSTEM TO FACP TO ALARM WHEN SYSTEM IS ACTIVATED. CONTRACTOR TO DEVELOP FIRE ALARM DESIGN DRAWINGS AND SUBMIT WITH CUT SHEETS AND BATTERY CALCS FOR PERMIT AND APPROVAL AND PAY ALL NECESSARY FEES. FIRE ALRMSYSTEM DESIGN SHALL BE A PROFESSIONAL ENGINEER OR NICET RATED. PROVIDE UPGRADES, RELAYS, ETC. AS NEEDED FOR THE EXISTING FIRE LITE FIRE ALAARM SYSTEM.
- OBTAIN ALL NESSARY INSPECTIONS.
- PROVIDE A FULL YEAR WARRANTY ON LABOR AND MATERIALS.

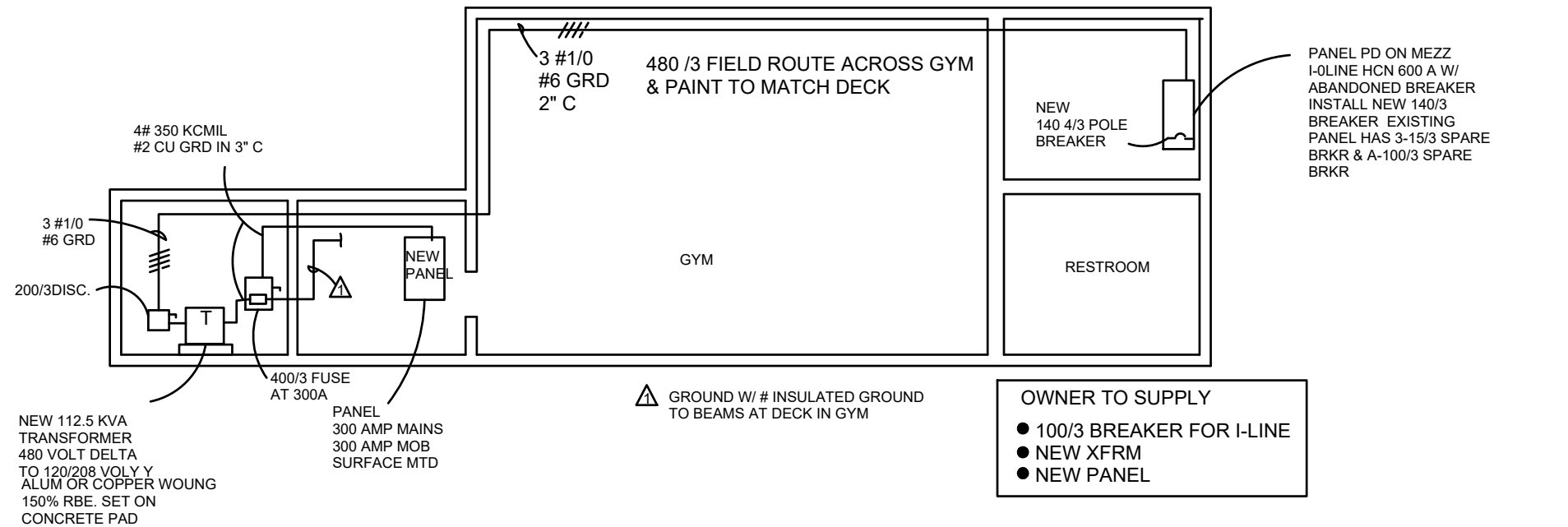
**ELECTRICAL SYMBOLS & ABBREVIATIONS**

| SYMBOL | DESCRIPTION              | SYMBOL | DESCRIPTION              |
|--------|--------------------------|--------|--------------------------|
|        | DUPLEX RECEPTACLE        |        | ELECTRIC PANEL           |
|        | SPECIAL POWER REQUIRED   |        | MOTOR                    |
|        | JUNCTION BOX             |        | HOT, NEUTRAL, GROUND     |
|        | DISCONNECT SWITCH        |        | GROUND                   |
|        | FUSED DISCONNECT SWITCH  |        | CONDUIT                  |
|        | BREAKER                  |        | TOGGLE SWITCH (SPST)     |
|        | WATER PROOF              |        | FIRE ALARM HORN / VISUAL |
|        | GROUND FAULT INTERRUPTER |        | PULL STATION             |

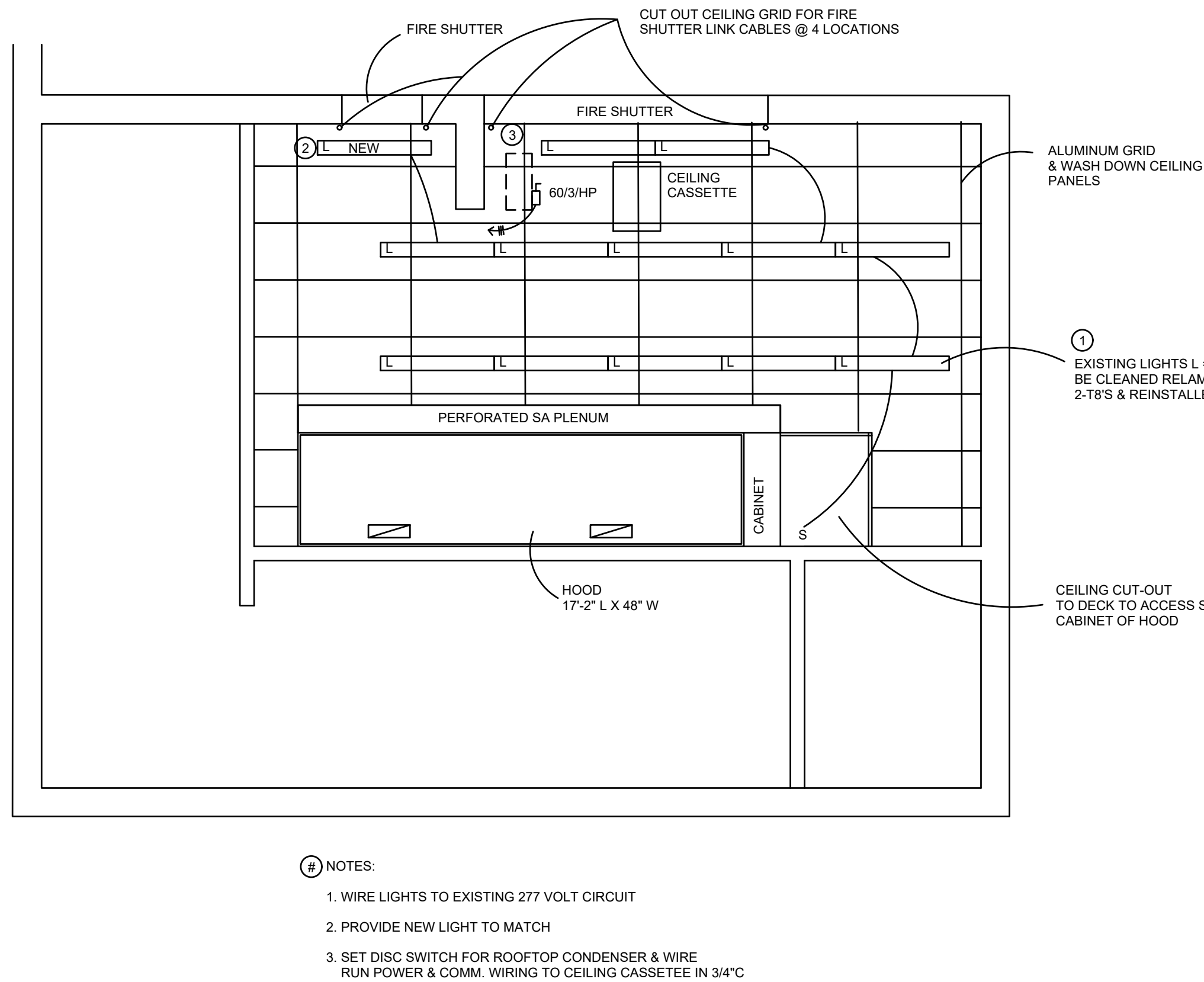
| PANEL NUMBER | LOAD          | WIRE SIZE | CB/P | NO. | PHASE | NO. | CB/P | WIRE SIZE | LOAD            | WATTS |
|--------------|---------------|-----------|------|-----|-------|-----|------|-----------|-----------------|-------|
| 180          | HOOD PANEL    | #12       | 15/1 | 1   | A     | 2   | 20/1 | #10       | EF1             | 1610  |
| -            | FREEZER COMP  | #10       | 30/2 | 3   | B     | 4   | 20/1 | #10       | EF2             | 1610  |
| -            | -             | -         | -    | 5   | C     | 6   | 25/2 | #10       | MUA             | 1500  |
| 1500         | DOOR HEATER   | #12       | 20/1 | 7   | A     | 8   | -    | -         | -               | 1500  |
| 200          | FREEZER LIGHT | #12       | 20/1 | 9   | B     | 10  | 70/3 | #4        | GRIDDLE         | 6124  |
| 1000         | FREEZER RECPT | #12       | 20/1 | 11  | A     | 12  | -    | -         | -               | 6124  |
| -            | SPARES        | -         | 20/1 | 13  | A     | 14  | -    | -         | -               | 2641  |
| -            | -             | -         | 20/1 | 15  | B     | 16  | 30/3 | #3        | STEAMER         | 2641  |
| -            | -             | -         | 20/1 | 17  | A     | 18  | -    | -         | -               | 2641  |
| -            | -             | -         | 20/1 | 19  | A     | 20  | -    | -         | -               | 2641  |
| -            | -             | -         | 20/1 | 21  | B     | 22  | 40/3 | #12       | BOLGETT         | 3723  |
| -            | -             | -         | 20/1 | 23  | C     | 24  | -    | -         | -               | 3723  |
| -            | -             | -         | 30/2 | 25  | A     | 26  | -    | -         | -               | 3723  |
| -            | -             | -         | -    | 27  | B     | 28  | 90/3 | -         | CONVECTION OVEN | 8045  |
| -            | -             | -         | 40/2 | 29  | C     | 30  | -    | -         | -               | 8045  |
| -            | SPACE         | -         | -    | 31  | A     | 32  | -    | -         | -               | 8045  |
| -            | -             | -         | -    | 33  | B     | 34  | -    | -         | WARMER          | -     |
| -            | -             | -         | -    | 35  | C     | 36  | -    | -         | -               | -     |
| -            | -             | -         | -    | 37  | A     | 38  | -    | -         | SPACE           | -     |
| -            | -             | -         | -    | 39  | B     | 40  | -    | -         | SPACE           | -     |
| -            | -             | -         | -    | 41  | C     | 42  | -    | -         | SPACE           | -     |

PHASE A = 25.5 KW  
PHASE B = 28.2 KW  
PHASE C = 29 KW  
TOTAL = 82.7 KW  
AMPS = 229

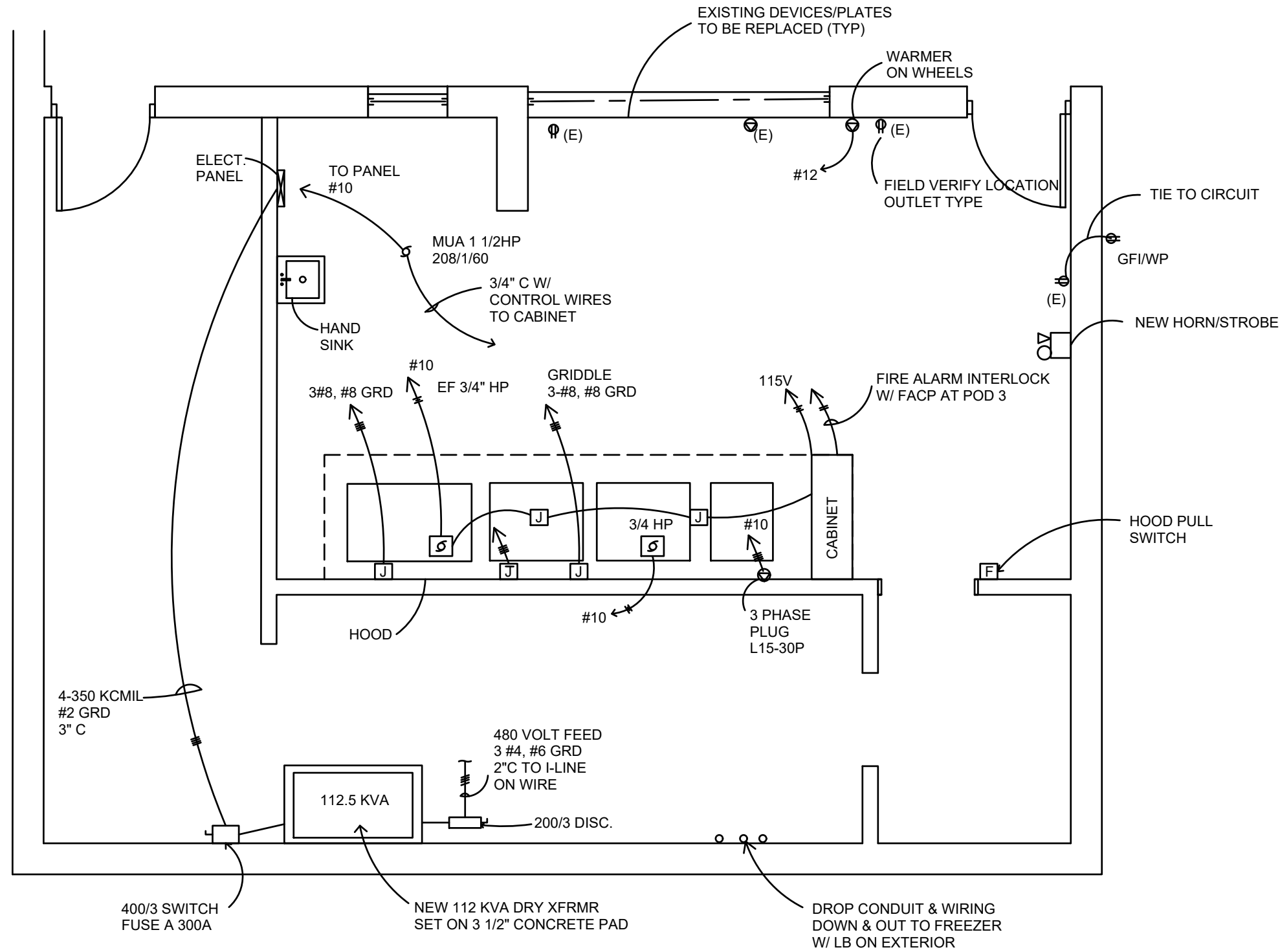
APPLIANCE BREAKER TO BE LOCKABLE WITH A PAD LOCK



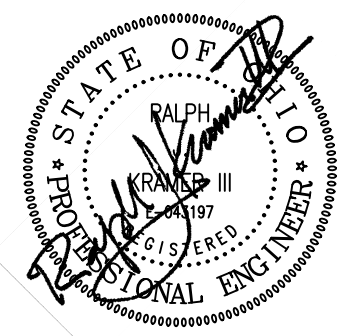
**ELECTRIC RISER DIAGRAM**  
NTS



**CEILING PLAN**  
SCALE: 1/4" = 1'-0"



**POWER PLAN**  
SCALE: 1/4" = 1'-0"



**KRAMER ENGINEERS**  
MECHANICAL/ELECTRICAL/CIVIL ENGINEERING

394 OAK STREET  
COLLINGSBURG, OHIO 43215  
WWW.KRAMERENGINEERS.COM  
TEL: 614.233.6911



**LAKEWOOD ELEMENTARY**  
**KITCHEN REMODEL**  
**938 LANCER ROAD**  
**HEBRON, OHIO 43025**

NO. DATE DESCRIPTION  
SUBMITTED: 3-23-2023  
DRAWN BY: STAFF  
KRAMER JOB # 2022-230

ELECTRICAL PLAN