GENERAL NOTES

A. REFER TO HEATING, VENTILATING & AIR CONDITIONING SPECIFICATIONS AND GENERAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
B. ALL DIFFUSERS AND CEILING GRILLES SHALL BE COORDINATED WITH LAY-IN CEILING GRID AND PROVIDED BY MECHANICAL CONTRACTOR. SEE SCHEDULE SHEET M6.1.
C. PROVIDE BALANCING DAMPERS FOR EACH DIFFUSER, REGISTER AND GRILLE AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES LEAD OFF FROM LARGER DUCTS OR IN DIFFUSERS AS REQUIRED FOR AIR BALANCING. INSTALL AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF WHERE PRACTICAL. REFER TO HD-25 ON SHEET M3.1.
D. NO PROVISION HAS BEEN MADE FOR RETURN AIR FROM THE BACK ROOM AS IT HAS BEEN OUR EXPERIENCE THAT ACCEPTABLE CONSTRUCTION TOLERANCES IN THIS AREA RESULTS IN LEAKAGE IN AN AMOUNT EQUAL TO THAT SUPPLIED.
E. ALL NEW EXHAUST FANS AND RTUs SPECIFIED ARE INCLUDED IN KROGER'S DIRECT BUY PROGRAM, AND SHALL BE PROVIDED BY KROGER AND INSTALLED BY HVAC CONTRACTOR, UNLESS OTHERWISE NOTED.
F. ALL HVAC DUCT SMOKE DETECTORS ARE SHOWN ON ELECTRICAL SYSTEMS PLAN.
G. REFER TO RTU SCHEDULE SHEET M6.1 FOR ROOFTOP UNIT INFORMATION.
H. PROVIDE AND INSTALL BACKDRAFT DAMPERS FOR NON-KITCHEN EXHAUST FANS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
I. THE STORE'S MECHANICAL DESIGN SHALL BE ELIGIBLE TO EARN ENERGY STAR CERTIFICATION.
J. SUPPLY AND RETURN DUCTWORK FROM ROOFTOP UNITS TO BE INTERNALLY INSULATED A MINIMUM OF TEN FEET FOR SOUND ATTENUATION. SEE DETAIL HSD-3, SHEET M5.1.
K. REFER TO ROOFTOP UNIT CURB DETAILS, SHEET M5.1 FOR ROOFTOP UNIT CURB INSTALLATION.
L, M. PROVIDE TURNING VANES IN ALL RECTANGULAR MITERED ELBOWS. ONLY ITEMS REQUIRED FOR THE OPERATION OF THE ELEVATOR ARE ALLOWED TO BE IN OR PASS THROUGH THE ELEVATOR EQUIPMENT ROOM.
N. ALL DIFFUSERS ARE 4-WAY UNLESS OTHERWISE INDICATED. REFER TO HD-4 ON SHEET M3.1.
O. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

KEYED NOTES

1 RTU TO BE INSTALLED WITH FACTORY INSTALLED HEAT RECLAIM COIL. PROVIDE OPENING THRU ROOF FOR REFRIGERATION LINES. COORDINATE WITH ALL OTHER DISCIPLINES PRIOR TO PENETRATING ROOF.
5 6X10 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-R1.
9 10" B-VENT DUCT UP FROM RACK OVEN VENT COLLAR THRU ROOF CAPPED WITH EFG1/G2. DUCTS ARE ONLY TO OFFSET ABOVE ACT TILES. DUCTS ARE TO BE RUN STRAIGHT AND VERTICAL WHEN VISIBLE TO SALES FLOOR. REFER TO DETAIL HSD-7 SHEET M5.1.
10 15X10 GREASE DUCT FROM EXHAUST HOOD H-1 CONNECTED TO 26"X20" DUCT TO OPENING THRU ROOF PER NFPA 96, CAPPED WITH EF-H1. MECHANICAL CONTRACTOR TO INSTALL PROVIDED HINGE KIT. DUCTWRAP IS TO RUN THE ENTIRE LENGTH OF GREASE DUCT FROM CEILING PENETRATION TO FAN. REFER TO DETAIL HSD-4 SHEET M5.1. REFER TO SCHEDULE SHEET M6.1.
11 13X10 GREASE DUCT FROM EXHAUST HOOD H-2 TO OPENING THRU ROOF PER NFPA 96, CAPPED WITH EF-H2. MECHANICAL CONTRACTOR TO INSTALL PROVIDED HINGE KIT. DUCTWRAP IS TO RUN THE ENTIRE LENGTH OF GREASE DUCT FROM CEILING PENETRATION TO FAN. REFER TO DETAIL HSD-4 SHEET M5.1. REFER TO SCHEDULE SHEET M6.1.
12 TEMPERATURE SENSOR FOR ROOFTOP UNIT FURNISHED BY BUILDING CONTROL PROVIDER. MOUNT SENSOR AT 8'-0" AFF. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.
13 DROP BOX DIFFUSER SYSTEM. REFER TO DIFFUSER SCHEDULE FOR AES MODEL NUMBERS AND QUANTITIES. REFER TO PLANS FOR THROW DIRECTIONS AND CFM. REFER TO DETAIL HSD-1 FOR INSTALLATION.
14 TEMPERATURE SENSOR FOR ROOF MOUNTED RTU FURNISHED BY BUILDING CONTROL PROVIDER. ROUTE CONTROL WIRING THROUGH RTU AND BACK TO BUILDING CONTROL PANEL. MOUNT SENSOR 7'-6" AFF IN SALES FLOOR AREA.
17 UW-50 VENT KIT INCLUDED WITH UNIT AND SUPPLIED BY HOBART. VENT KIT AUTOMATICALLY REMOVES STEAM/CONDENSATION AT THE COMPLETION OF THE WAREWASH CYCLE. WAREWASH DOOR WILL NOT OPEN UNTIL THIS PROCESS IS COMPLETED. MECHANICAL CONTRACTOR TO CONNECT A 10" STAINLESS STEEL DUCT TO THE VENT KIT OPENING THRU ROOF. REFER TO DETAIL HSD-8 SHEET M5.1.
18 BEHIND THE CASE RETURN AIR DUCT PLENUM. BALANCE TO CFM INDICATED ON PLANS. REFER TO HSD-2 ON SHEET M5.1 AND ARCH STANDARD DETAILS. ROUTE RETURN DUCT THRU MAIN GIRDER WHEN APPLICABLE TO MAINTAIN MAXIMUM BOTTOM OF DUCT CLEARANCE. CUT AND PATCH DUCT PER SMACNA STANDARDS AROUND GIRDER.
20 12X12 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-S.
21 RETURN AIR GRILLE IN SIDE OF DUCT DROP. TITUS 50F WITH 1 INCH OPENINGS OR EQUAL. REFER TO HSD-1, SHEET M5.1.
24 HOOD ANSUL PULL STATION LOCATION. COORDINATE FINAL LOCATION WITH ELECTRICAL E4.2 SERIES FLOOR PLANS. PROVIDE NAMEPLATE AT STATION WITH HOOD NUMBER AND LOCATIONS.
25 MOUNT TOP OF DIFFUSER EVEN WITH LIGHTING IN AREA. REFER TO LUMINAIRE SCHEDULE, SHEET E5.3 FOR LIGHTING MOUNTING HEIGHTS.
26 MOUNT EXHAUST GRILLE 8' ABOVE FINISHED FLOOR IN CLEANING CENTER AREA.
28 MOUNT TRANSFER GRILLE ABOVE RESTROOM DOOR.
31 REFER TO MEZZANINE PLAN FOR CONTINUATION OF DUCTWORK.
32 ROOFTOP UNIT FURNISHED BY KROGER AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO SCHEDULE SHEET M6.1. BALANCE TO SCHEDULED CFM. REFER TO MOUNTING DETAILS, SHEET M5.1.
36 6"STAINLESS STEEL DUCT, NATURAL DRAFT, PER NFPA 96 FOR TORTILLA MACHINE THRU ROOF. TERMINATE PER MANUFACTURER'S INSTRUCTIONS.
37 CENTER TRANSFER DUCTWORK ABOVE DOOR. CONTRACTOR TO FIELD VERIFY DIMENSIONS.
38 SUPPLY REGISTER TO BE MOUNTED IN CART CORRAL SOFFIT.
44 12X10 GREASE DUCT FROM EXHAUST HOOD H-3 TO OPENING THRU ROOF PER NFPA 96, CAPPED WITH EF-H3. MECHANICAL CONTRACTOR TO INSTALL PROVIDED HINGE KIT. DUCTWRAP IS TO RUN THE ENTIRE LENGTH OF GREASE DUCT FROM CEILING PENETRATION TO FAN, REFER TO DETAIL HSD-4 SHEET M5.1. REFER TO SCHEDULE SHEET M6.1.
49 HUMIDITY/TEMPERATURE SENSOR FOR RTU FURNISHED BY BUILDING CONTROLS PROVIDER. INSTALL PROBE 7'-4" ON COLUMN. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.
51 MOUNT TOP OF AIR DEVICE AT 8'-0" AFF. AIR DEVICE TO HAVE FACE-OPERABLE VOLUME DAMPER.
52 DIMENSIONS TO CENTER OF HOOD FOR REFERENCE ONLY. COORDINATE WITH FINAL FIXTURE PLACEMENT PRIOR TO HOOD INSTALLATION.
55 12"D DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-H4.
57 8X8 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-CC.
59 KROGER FURNISHED ROOF MOUNTED MAKEUP AIR UNIT WITH MANUFACTURER'S ROOF CURB AS SCHEDULED. UNIT SHALL BE INSTALLED 10'-0" MINIMUM FROM ROOF EDGE AND WITH MANUFACTURER'S RECOMMENDED SERVICE AND OPERATIONAL CLEARENCES.
60 CONNECT 24X10 SUPPLY AIR RUN-OUT TO BOTTOM OF SUPPLY DUCT FROM MAKEUP AIR UNIT. TYPICAL OF (4) SUPPLY CONNECTIONS TO PROVIDE 551 CFM EACH TO HOOD H-1.
61 SUPPLY REGISTER TO BE MOUNTED IN MART CART SOFFIT.
62 13X12 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-H5.
64 SKYLIGHT SHOWN FOR COORDINATION.
65 HOOD H-1 AND H-2 TO UTILIZE COMBINED ANSUL FIRE SUPPRESSION SYSTEM AND CONTROLS.
66 CONNECT 24X10 SUPPLY AIR RUN-OUT TO BOTTOM OF SUPPLY DUCT FROM MAKEUP AIR UNIT. TYPICAL OF (2) SUPPLY CONNECTIONS TO PROVIDE 490 CFM EACH TO HOOD H-2.

1 HVAC FLOOR PLAN - EAST
M1.1a SCALE: 3/32" = 1'-0"

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OWNER

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ISSUE/REVISION
04/23/2014 90% OWNER REVIEW
05/20/2014 BID/PERMIT ISSUE

PROJECT TITLE
KROGER STORE SW917

E Corner Hwy 377 & FM4
Granbury, TX

COMMISSION NO. 514041
ISSUE DATE 05/20/14

SHEET TITLE
HVAC FLOOR PLAN - EAST

SHEET NO.
M1.1a

1 HVAC FLOOR PLAN - WEST
M1.1b
SCALE: 3/32" = 1'-0"

NORTH

GENERAL NOTES

A. REFER TO HEATING, VENTILATING & AIR CONDITIONING SPECIFICATIONS AND GENERAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.

B. ALL DIFFUSERS AND CEILING GRILLES SHALL BE COORDINATED WITH LAY-IN CEILING GRID AND PROVIDED BY MECHANICAL CONTRACTOR. SEE SCHEDULE SHEET M6.1.

C. PROVIDE BALANCING DAMPERS FOR EACH DIFFUSER, REGISTER AND GRILLE AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES LEAD OFF FROM LARGER DUCTS OR IN DIFFUSERS AS REQUIRED FOR AIR BALANCING. INSTALL AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF WHERE PRACTICAL. REFER TO HD-25 ON SHEET M3.1.

D. NO PROVISION HAS BEEN MADE FOR RETURN AIR FROM THE BACK ROOM AS IT HAS BEEN OUR EXPERIENCE THAT ACCEPTABLE CONSTRUCTION TOLERANCES IN THIS AREA RESULTS IN LEAKAGE IN AN AMOUNT EQUAL TO THAT SUPPLIED.

E. ALL NEW EXHAUST FANS AND RTUs SPECIFIED ARE INCLUDED IN KROGER'S DIRECT BUY PROGRAM, AND SHALL BE PROVIDED BY KROGER AND INSTALLED BY HVAC CONTRACTOR, UNLESS OTHERWISE NOTED.

F. ALL HVAC DUCT SMOKE DETECTORS ARE SHOWN ON ELECTRICAL SYSTEMS PLAN.

G. REFER TO RTU SCHEDULE SHEET M6.1 FOR ROOFTOP UNIT INFORMATION.

H. PROVIDE AND INSTALL BACKDRAFT DAMPERS FOR NON-KITCHEN EXHAUST FANS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

I. THE STORE'S MECHANICAL DESIGN SHALL BE ELIGIBLE TO EARN ENERGY STAR CERTIFICATION.

J. SUPPLY AND RETURN DUCTWORK FROM ROOFTOP UNITS TO BE INTERNALLY INSULATED A MINIMUM OF TEN FEET FOR SOUND ATTENUATION. SEE DETAIL HSD-3, SHEET M5.1.

K. REFER TO ROOFTOP UNIT CURB DETAILS, SHEET M5.1 FOR ROOFTOP UNIT CURB INSTALLATION.

L. PROVIDE TURNING VANES IN ALL RECTANGULAR MITERED ELBOWS.

M. ONLY ITEMS REQUIRED FOR THE OPERATION OF THE ELEVATOR ARE ALLOWED TO BE IN OR PASS THROUGH THE ELEVATOR EQUIPMENT ROOM.

N. ALL DIFFUSERS ARE 4-WAY UNLESS OTHERWISE INDICATED. REFER TO HD-4 ON SHEET M3.1.

O. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

KEYED NOTES

1 RTU TO BE INSTALLED WITH FACTORY INSTALLED HEAT RECLAIM COIL. PROVIDE OPENING THRU ROOF FOR REFRIGERATION LINES. COORDINATE WITH ALL OTHER DISCIPLINES PRIOR TO PENETRATING ROOF.

2 10X10 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-R3.

7 KROGER FURNISHED EF-J ON ROOF FOR JEWELRY STORE. INSTALL FAN AND CURB, CAP ROOF OPENING IN CEILING SPACE FOR TENANT FIT OUT TO COMPLETE.

12 TEMPERATURE SENSOR FOR ROOFTOP UNIT FURNISHED BY BUILDING CONTROL PROVIDER. MOUNT SENSOR AT 5'-0" AFF. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.

13 DROP BOX DIFFUSER SYSTEM. REFER TO DIFFUSER SCHEDULE FOR AES MODEL NUMBERS AND QUANTITIES. REFER TO PLANS FOR THROW DIRECTIONS AND CFM. REFER TO DETAIL HSD-1 FOR INSTALLATION.

14 TEMPERATURE SENSOR FOR ROOF MOUNTED RTU FURNISHED BY BUILDING CONTROL PROVIDER. ROUTE CONTROL WIRING THROUGH RTU AND BACK TO BUILDING CONTROL PANEL. MOUNT SENSOR 7'-6" AFF IN SALES FLOOR AREA.

15 SLIDER THERMOSTAT FURNISHED BY BUILDING CONTROL PROVIDER. THERMOSTAT TO BE MOUNTED AT 4'-0" AFF. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.

16 HUMIDITY/TEMPERATURE SENSOR FURNISHED BY BUILDING CONTROLS PROVIDER. INSTALL PROBE AT 7'-6" AFF ON COLUMN. REFER TO EM SERIES OF DRAWINGS FOR FURTHER INFORMATION. HUMIDITY SENSOR NEAR GLASS DOOR CASES IS FOR ANTI-SWEATS ONLY.

18 BEHIND THE CASE RETURN AIR DUCT PLENUM. BALANCE TO CFM INDICATED ON PLANS. REFER TO HSD-2 ON SHEET M5.1 AND ARCH STANDARD DETAILS. ROUTE RETURN DUCT THRU MAIN GIRDER WHEN APPLICABLE TO MAINTAIN MAXIMUM BOTTOM OF DUCT CLEARANCE. CUT AND PATCH DUCT PER SMACNA STANDARDS AROUND GIRDER.

21 RETURN AIR GRILLE IN SIDE OF DUCT DROP, TITUS 50F WITH 1 INCH OPENINGS OR EQUAL. REFER TO HSD-1, SHEET M5.1.

22 MECHANICAL CONTRACTOR TO PROVIDE VAV DIFFUSER, ACCUTHERM THERMA-FUSE MODEL TF-HC OR EQUIVALENT.

23 KROGER FURNISHED SPLIT SYSTEM PROVIDED WITH LOW AMBIENT KIT AND WIND BAFFLES. MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS. ROUTE REFRIGERANT LINES THRU ROOF TO CONDENSING UNIT PER MANUFACTURER'S GUIDELINES. ROUTE 3/4" INSULATED CONDENSATE TO HUB DRAIN IN AREA.

25 MOUNT TOP OF DIFFUSER EVEN WITH LIGHTING IN AREA. REFER TO LUMINAIRE SCHEDULE, SHEET E5.3 FOR LIGHTING MOUNTING HEIGHTS.

27 KROGER FURNISHED ROOFTOP UNIT FOR JEWELRY SPACE. CAP ROOF OPENINGS FOR TENANT FIT OUT TO COMPLETE.

32 ROOFTOP UNIT FURNISHED BY KROGER AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO SCHEDULE SHEET M6.1. BALANCE TO SCHEDULED CFM. REFER TO MOUNTING DETAILS, SHEET M5.1.

37 CENTER TRANSFER DUCTWORK ABOVE DOOR. CONTRACTOR TO FIELD VERIFY DIMENSIONS.

38 SUPPLY REGISTER TO BE MOUNTED IN CART CORRAL SOFFIT.

39 KROGER FURNISHED ROOFTOP UNIT FOR FUTURE TLC, INSTALLED BY MECHANICAL CONTRACTOR. CAP ROOF OPENINGS FOR TENANT TO COMPLETE DURING FIT OUT.

40 14X14 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-E. CONTRACTOR TO PROVIDE REVERSE ACTING THERMOSTAT FOR FAN. FAN TO ENERGIZE WHEN ROOM REACHES 80 DEG F.

45 DUCT TO BE ROUTED THROUGH STRUCTURAL VIERENDEEL. COORDINATE WITH STRUCTURE PRIOR TO FABRICATION OF DUCTWORK.

46 DUCT TO BE ROUTED BETWEEN JOIST WEBBING.

53 LOCATION OF EMS PANEL. REFER TO EM- SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.

64 SKYLIGHT SHOWN FOR COORDINATION.

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ISSUE/REVISION

04/23/2014
90% OWNER REVIEW

05/20/2014
BID/PERMIT ISSUE

PROJECT TITLE

KROGER STORE SW917

E Corner Hwy 377 & FM4
Granbury, TX

COMMISSION NO. 514041

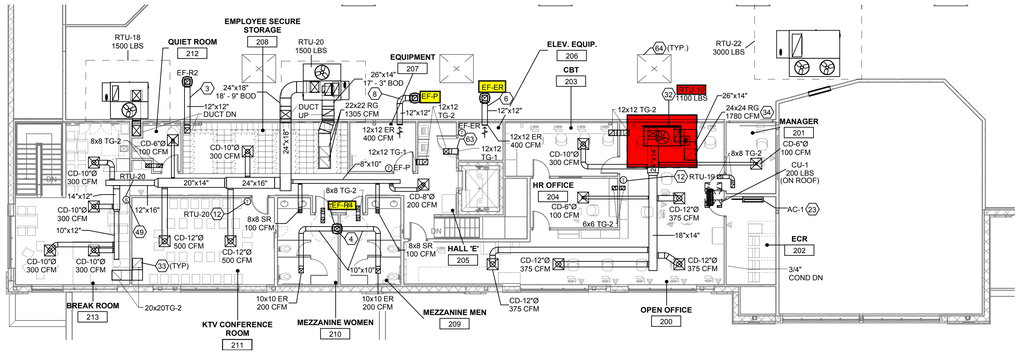
ISSUE DATE 05/20/14

SHEET TITLE

HVAC FLOOR PLAN - WEST

SHEET NO.

M1.1b



1 M1.1c HVAC MEZZANINE PLAN
SCALE: 3/32" = 1'-0"

GENERAL NOTES

A. REFER TO HEATING, VENTILATING & AIR CONDITIONING SPECIFICATIONS AND GENERAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
B. ALL DIFFUSERS AND CEILING GRILLES SHALL BE COORDINATED WITH LAY-IN CEILING GRID AND PROVIDED BY MECHANICAL CONTRACTOR. SEE SCHEDULE SHEET M6.1.
C. PROVIDE BALANCING DAMPERS FOR EACH DIFFUSER, REGISTER AND GRILLE AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES LEAD OFF FROM LARGER DUCTS OR IN DIFFUSERS AS REQUIRED FOR AIR BALANCING. INSTALL AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF WHERE PRACTICAL. REFER TO HD-25 ON SHEET M3.1.
D. NO PROVISION HAS BEEN MADE FOR RETURN AIR FROM THE BACK ROOM AS IT HAS BEEN OUR EXPERIENCE THAT ACCEPTABLE CONSTRUCTION TOLERANCES IN THIS AREA RESULTS IN LEAKAGE IN AN AMOUNT EQUAL TO THAT SUPPLIED.
E. ALL NEW EXHAUST FANS AND RTUs SPECIFIED ARE INCLUDED IN KROGER'S DIRECT BUY PROGRAM, AND SHALL BE PROVIDED BY KROGER AND INSTALLED BY HVAC CONTRACTOR, UNLESS OTHERWISE NOTED.
F. ALL HVAC DUCT SMOKE DETECTORS ARE SHOWN ON ELECTRICAL SYSTEMS PLAN.
G. REFER TO RTU SCHEDULE SHEET M6.1 FOR ROOFTOP UNIT INFORMATION.
H. PROVIDE AND INSTALL BACKDRAFT DAMPERS FOR NON-KITCHEN EXHAUST FANS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
I. THE STORE'S MECHANICAL DESIGN SHALL BE ELIGIBLE TO EARN ENERGY STAR CERTIFICATION.
J. SUPPLY AND RETURN DUCTWORK FROM ROOFTOP UNITS TO BE INTERNALLY INSULATED A MINIMUM OF TEN FEET FOR SOUND ATTENUATION. SEE DETAIL HSD-3, SHEET M5.1.
K. REFER TO ROOFTOP UNIT CURB DETAILS, SHEET M5.1 FOR ROOFTOP UNIT CURB INSTALLATION.
L. PROVIDE TURNING VANES IN ALL RECTANGULAR MITERED ELBOWS.
M. ONLY ITEMS REQUIRED FOR THE OPERATION OF THE ELEVATOR ARE ALLOWED TO BE IN OR PASS THROUGH THE ELEVATOR EQUIPMENT ROOM.
N. ALL DIFFUSERS ARE 4-WAY UNLESS OTHERWISE INDICATED. REFER TO HD-4 ON SHEET M3.1.
O. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

KEYED NOTES

3 12X10 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-R2.
4 12X10 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-R4.
6 12X12 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-ER. CONTRACTOR TO PROVIDE REVERSE ACTING THERMOSTAT FOR FAN. FAN TO ENERGIZE WHEN ROOM REACHES 80 DEG F.
8 12X12 DUCT UP TO OPENING THRU ROOF CAPPED WITH KROGER FURNISHED EXHAUST FAN AND CURB EF-P. CONTRACTOR TO PROVIDE REVERSE ACTING THERMOSTAT FOR FAN. FAN TO ENERGIZE WHEN ROOM REACHED 80 DEG F. MOUNT EXHAUST REGISTER ON END OF DUCT. MOUNT EXHAUST DUCT AT SAME HEIGHT AS LIGHTING IN AREA. REFER TO ELECTRICAL LIGHTING SCHEDULE FOR LIGHTING MOUNTING HEIGHTS.
12 TEMPERATURE SENSOR FOR ROOFTOP UNIT FURNISHED BY BUILDING CONTROL PROVIDER. MOUNT SENSOR AT 5'-0" AFF. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.
23 KROGER FURNISHED SPLIT SYSTEM PROVIDED WITH LOW AMBIENT KIT AND WIND BAFFLES. MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS. ROUTE REFRIGERANT LINES THRU ROOF TO CONDENSING UNIT PER MANUFACTURER'S GUIDELINES. ROUTE 3/4" INSULATED CONDENSATE TO HUB DRAIN IN AREA.
32 ROOFTOP UNIT FURNISHED BY KROGER AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO SCHEDULE SHEET M6.1. BALANCE TO SCHEDULED CFM. REFER TO MOUNTING DETAILS, SHEET M5.1.
33 REFER TO TRANSFER GRILLE DETAIL HD-11 ON SHEET M3.1 (TYP).
34 REFER TO RETURN/EXHAUST REGISTER DETAIL HD-8 ON SHEET M3.1 (TYP).
49 HUMIDITY/TEMPERATURE SENSOR FOR RTU FURNISHED BY BUILDING CONTROLS PROVIDER. INSTALL PROBE 7'-6" ON COLUMN. REFER TO EM SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.
63 PROVIDE FIRE DAMPER IN TRANSFER DUCTWORK.
64 SKYLIGHT SHOWN FOR COORDINATION.

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PROJECT TITLE
KROGER STORE
SW917

E Corner Hwy 377 & FM4
Granbury, TX

COMMISSION NO. 514041
ISSUE DATE 05/20/14

SHEET TITLE
HVAC
MEZZANINE
PLAN

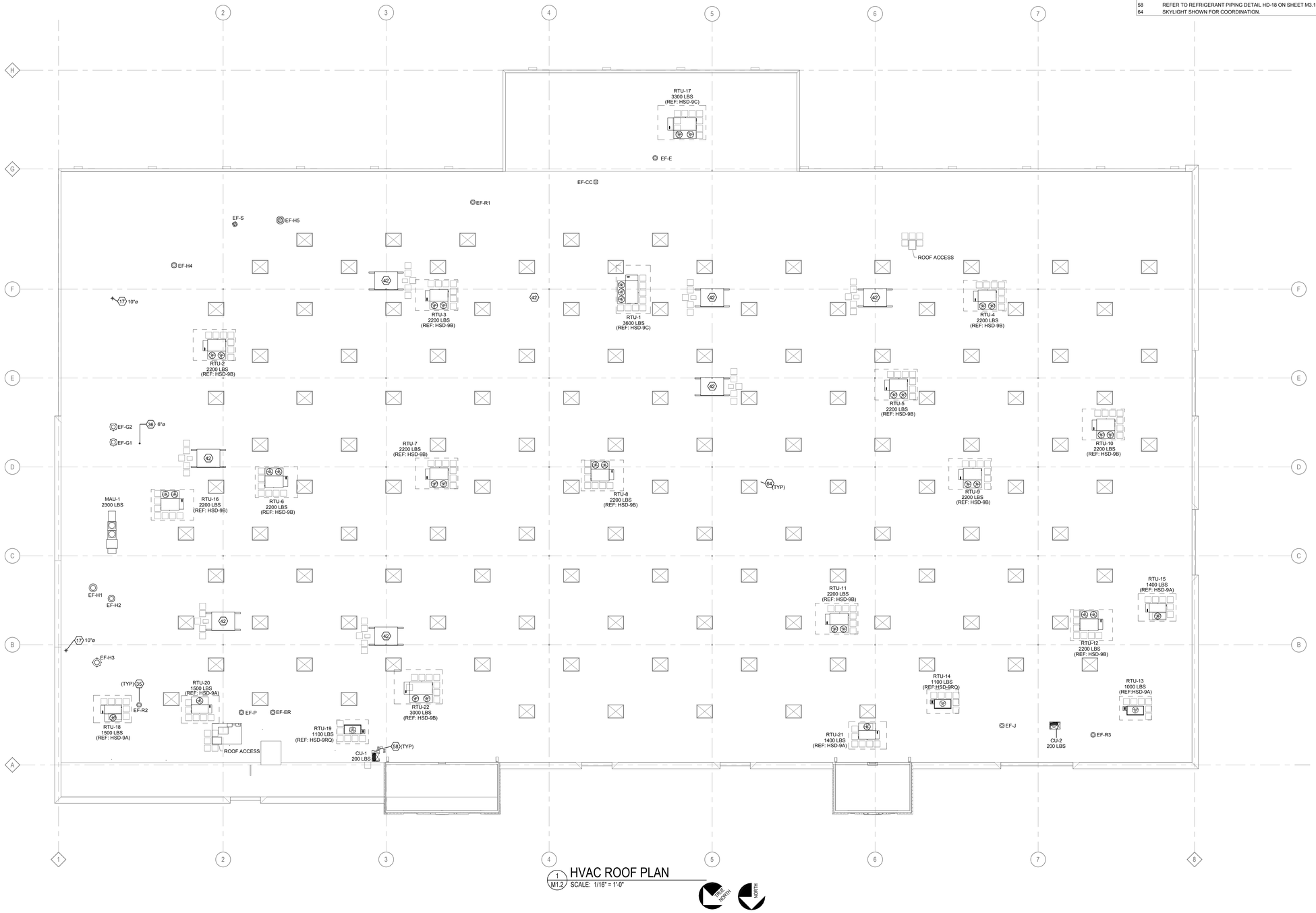
SHEET NO.
M1.1c

GENERAL NOTES

A.	REFER TO CURB DETAILS ON SHEET M5.1 FOR CURB MOUNTING INFORMATION.
B.	REFER TO PIPING SUPPORT DETAIL HD-17 ON SHEET M3.1.
C.	REFER TO SEISMIC RESTRAINT BRACKET DETAIL HSD-10 ON SHEET M5.1.

KEYED NOTES

17	UW-50 VENT KIT INCLUDED WITH UNIT AND SUPPLIED BY HOBART. VENT KIT AUTOMATICALLY REMOVES STEAM/CONDENSATION AT THE COMPLETION OF THE WAREWASH CYCLE. WAREWASH DOOR WILL NOT OPEN UNTIL THIS PROCESS IS COMPLETED. MECHANICAL CONTRACTOR TO CONNECT A 10" STAINLESS STEEL DUCT TO THE VENT KIT OPENING THRU ROOF. REFER TO DETAIL HSD-8 SHEET M5.1.
35	REFER TO UPBLAST EXHAUST FAN DETAIL HD-15 ON SHEET M3.1 (TYP).
36	6"STAINLESS STEEL DUCT, NATURAL DRAFT, PER NFPA 96 FOR TORTILLA MACHINE THRU ROOF. TERMINATE PER MANUFACTURER'S INSTRUCTIONS.
42	ROOF MOUNTED REFRIGERATION CONDENSER SHOWN FOR COORDINATION PURPOSES.
58	REFER TO REFRIGERANT PIPING DETAIL HD-18 ON SHEET M3.1 (TYP).
64	SKYLIGHT SHOWN FOR COORDINATION.



1 M1.2 HVAC ROOF PLAN
SCALE: 1/16" = 1'-0"

TRUE NORTH

NORTH

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OWNER

Kroger

ISSUE/REVISION

04/23/2014
90% OWNER REVIEW

05/20/2014
BID/PERMIT ISSUE

PROJECT TITLE

KROGER STORE
SW917

E Corner Hwy 377 & FM4
Granbury, TX

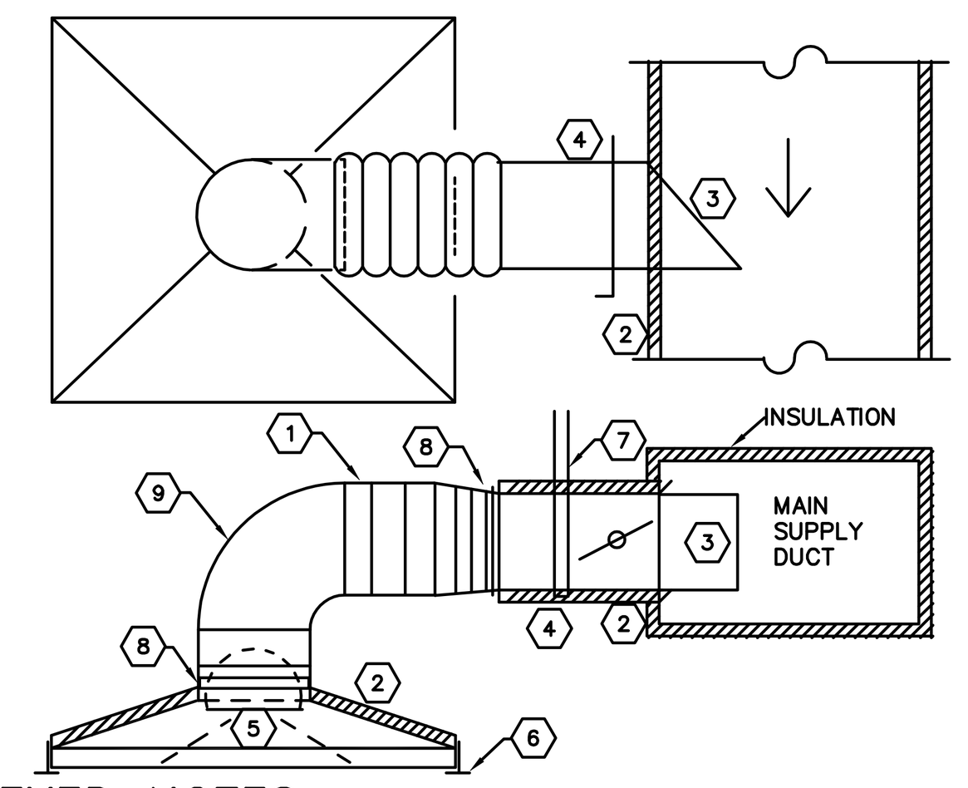
COMMISSION NO. 514041
ISSUE DATE 05/20/14

SHEET TITLE

HVAC ROOF PLAN

SHEET NO.

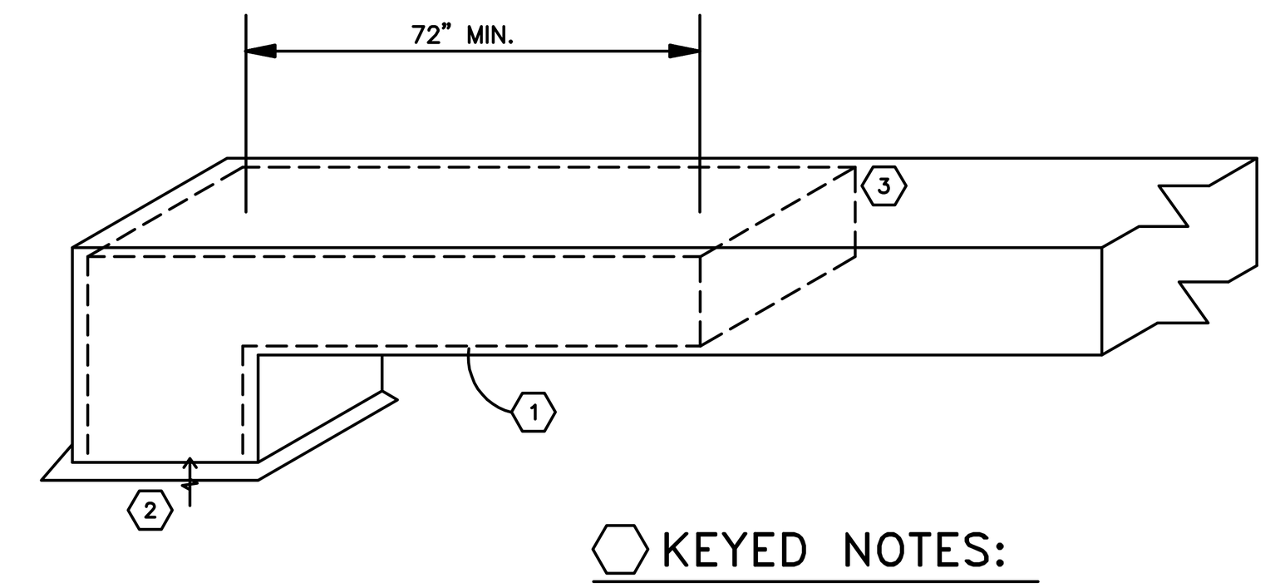
M1.2



KEYED NOTES:

1. MAXIMUM LENGTH OF INSUL. FLEX DUCT EQUALS 5 FEET. FLEX NOT PERMITTED IN INACCESSIBLE CEILINGS
2. INSULATED DUCT, COLLAR AND DIFFUSER BY HVAC CONTRACTOR
3. SCOOP
4. SPIN IN FITTING WITH MANUAL VOLUME DAMPER
5. INTERNAL BUTTERFLY DAMPER FOR DRYWALL APPLICATIONS ONLY. (PROVIDE KEY FOR ADJUSTMENT)
6. SECURE TO CEILING PER MANUFACTURER'S RECOMMENDATIONS AND PER CEILING FINISH. PROVIDE GRID CLIPS PER MFG'R REQUIREMENTS. PROVIDE FRAMING FOR DRYWALL INSTALLATION.
7. HANGER, SECURE TO STRUCTURE AND DUCTWORK
8. PEEL BACK INSULATION AND PROVIDE STRAPPING AND SHEET METAL SCREWS AT FLEX CONNECTION TO DUCT. THEN PROVIDE STRAPPING AROUND INSULATION.
9. HARD SHEET METAL ELBOW ON CONNECTION TO AIR DEVICE.

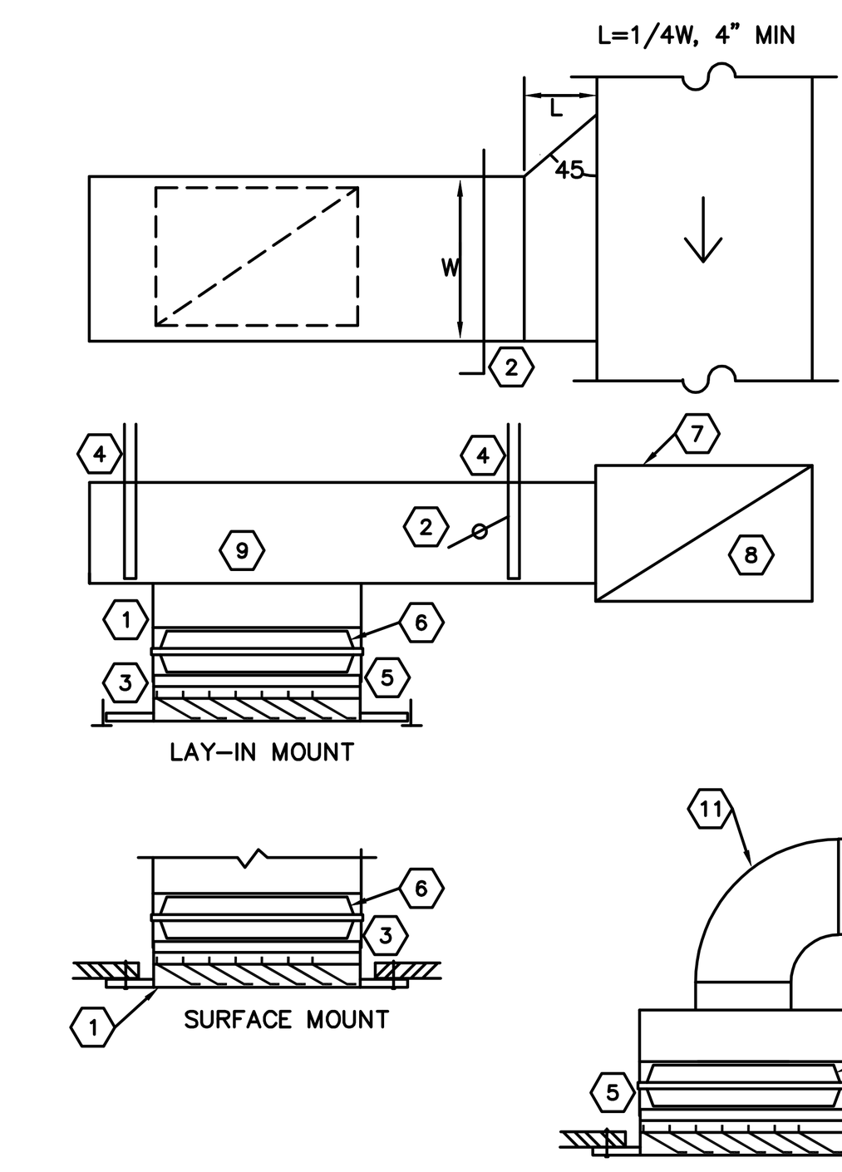
DIFFUSER INSTALLATION (TYPICAL)
KLH HVAC DETAIL
DATE: 5/26/09
SCALE: NONE
DRAWN:
HD—4



KEYED NOTES:

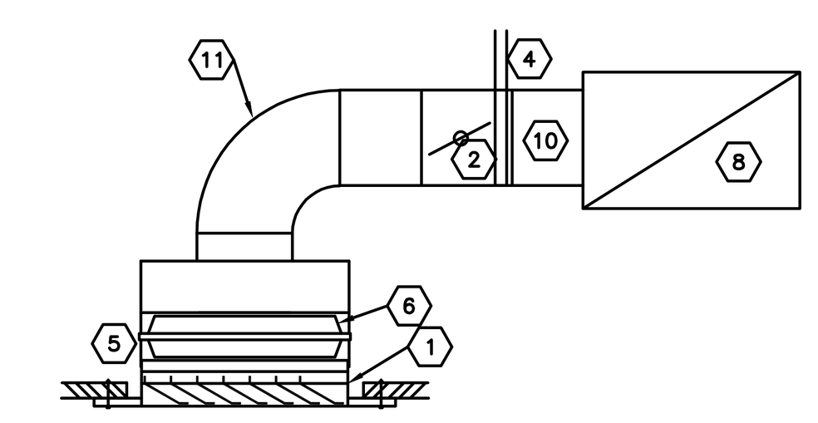
1. 1/2" ACOUSTIC LINING, SEAL AROUND ALL WALL PENETRATIONS
2. SEE NEW WORK PLAN FOR REGISTER SIZE
3. SEE NEW WORK PLAN FOR DUCT SIZE

DUCTED RETURN REGISTER
KLH HVAC DETAIL
DATE: 5/26/09
SCALE: NONE
DRAWN:
HD—6

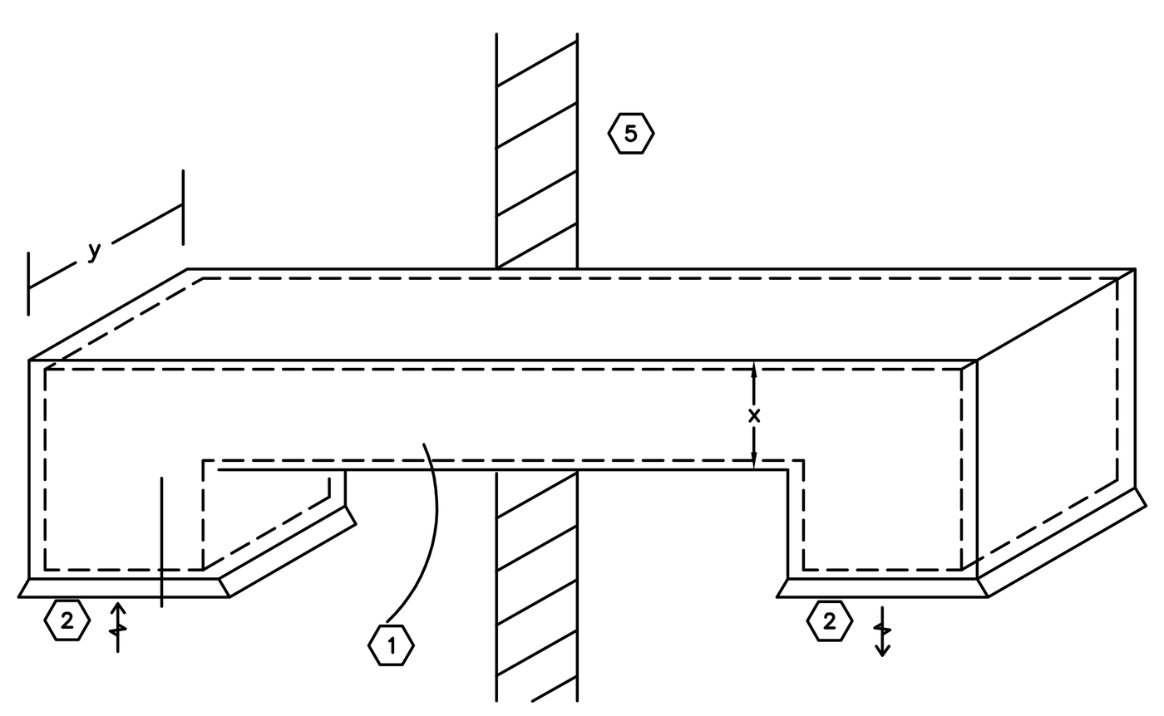


KEYED NOTES:

1. DUCT, COLLAR AND RETURN/EXHAUST REGISTER
2. MANUAL VOLUME DAMPER
3. SECURE TO CEILING PER MANUFACTURER'S RECOMMENDATIONS AND PER CEILING FINISH. PROVIDE GRID CLIPS PER MFG'R REQUIREMENTS
4. HANGER, SECURE TO STRUCTURE AND DUCTWORK
5. ATTACH DUCT TO REGISTER
6. BALANCING DAMPER FOR FINAL BALANCING
7. SHEET METAL DUCTWORK
8. MAIN RETURN/EXHAUST DUCT
9. TAP DROP TO RETURN/EXHAUST REGISTER INTO BOTTOM OF BRANCH
10. SPIN IN FITTING
11. HARD SHEET METAL ELBOW AT CONNECTION TO AIR DEVICE.



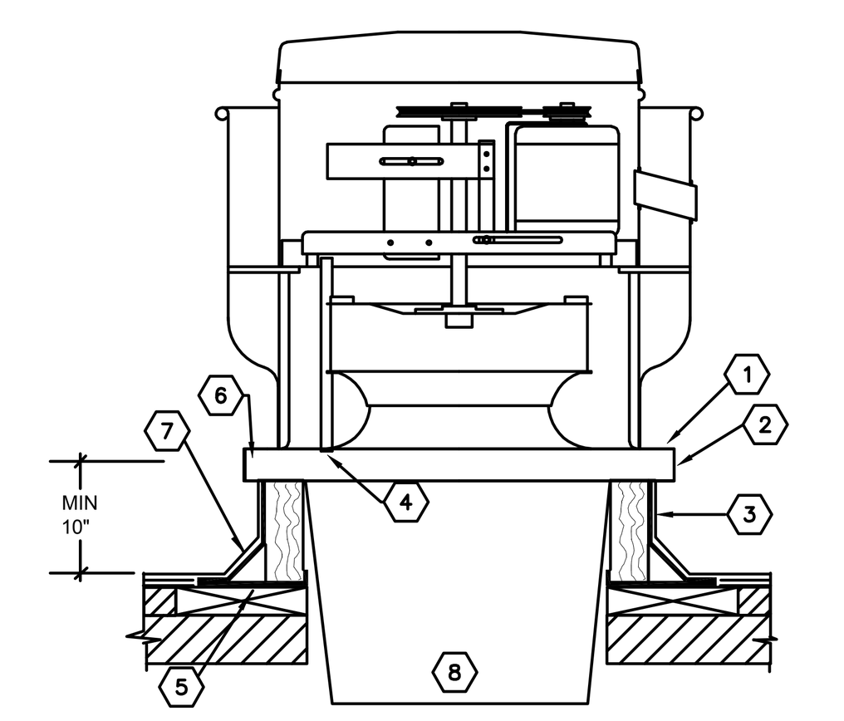
RETURN/EXHAUST REGISTER INSTALLATION
KLH HVAC DETAIL
DATE: 5/26/09
SCALE: NONE
DRAWN:
HD—8



KEYED NOTES:

1. ½" ACOUSTIC LINING, SEAL AROUND ALL WALL PENETRATIONS
2. SEE NEW WORK PLAN FOR REGISTER SIZE
3. SEE NEW WORK PLAN FOR DUCT SIZE
4. x + y DIMENSIONS SHALL BE DETERMINED FROM FLOOR PLANS
5. INTERIOR WALL/PARTITION

TRANSFER GRILLE INSTALLATION
KLH HVAC DETAIL
DATE: 2/16/07
SCALE: NONE
DRAWN: IKF
HD—11



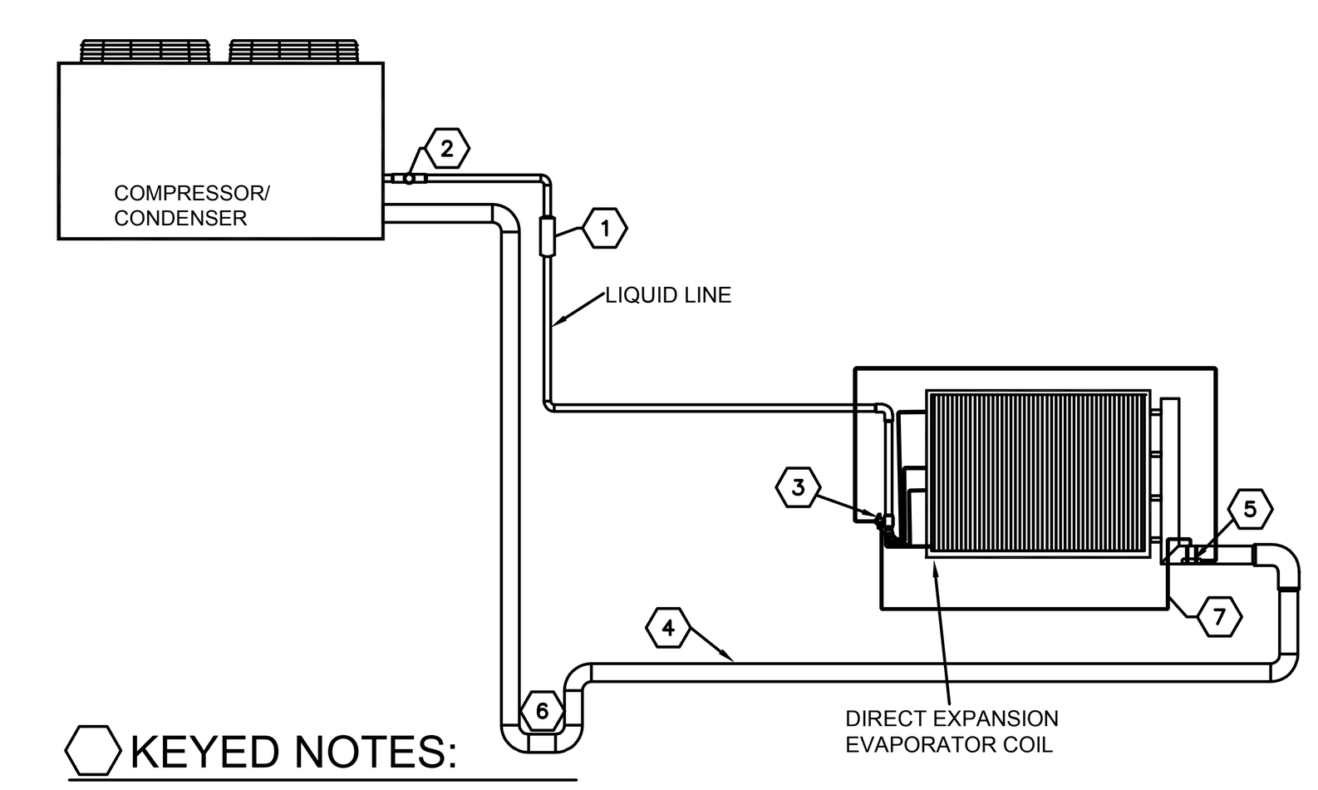
KEYED NOTES:

1. HINGED BASE FOR ACCESS – HINGES TO BE ATTACHED DURING INSTALLATION.
2. ANCHOR ALL FOUR SIDES WITH SCREWS 12" O.C.
3. PREFABRICATED ACOUSTIC INSULATED ALUMINUM CURB.
4. CONDUIT HOLE
5. ANCHOR TO ROOF DECK AS REQUIRED
6. RUBBER GASKET APPLIED TO TOP OF CURB
7. ROOF UP UNDER FLASHING, CURB TYPE AND FLASHING PER ROOFING MFG'R RECOMMENDATIONS
8. CENTER TRANSITION TO DUCTWORK FROM DAMPER OR CURB. PROVIDE 3 DIAMETER STRAIGHT RUN MINIMUM.

GENERAL NOTES:

A. DELETE CANT FOR SINGLE MEMBRANE ROOFS.
B. TOP OF CURB MUST BE LEVEL. FABRICATE PITCH IN CURB IF NECESSARY
C. CONTRACTOR HAS THE OPTION TO INCREASE THE HEIGHT OF THE CURB OR ADD BLOCKING TO THE CURB. THE ADDITIONAL HEIGHT REQUIRED SHALL EQUAL THE ROOF ASSEMBLY THICKNESS. THE CURB INTAKE OPENING SHALL BE AT A MINIMUM 12" ABOVE THE FINISHED ROOF.
D. LOCATE A MINIMUM OF 10'–0" FROM EDGE OF ROOF AND INTAKES

UPBLAST EXHAUST FAN
KLH HVAC DETAIL
DATE: 5/26/09
SCALE: NONE
DRAWN:
HD—15



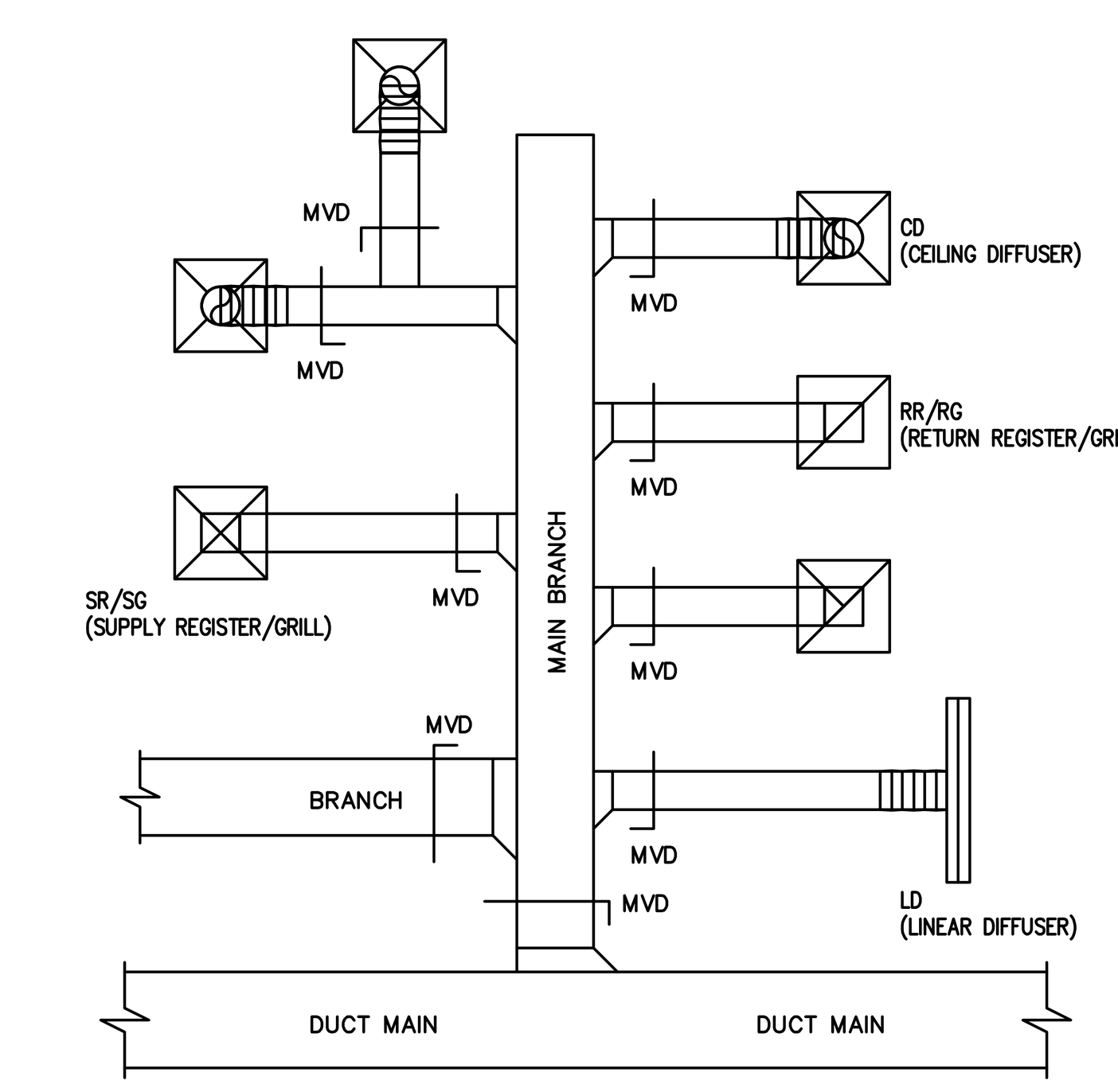
KEYED NOTES:

1. FIELD SUPPLIED FILTER DRIER, UNLESS PROVIDED INTERNALLY BY THE EQUIPMENT MANUFACTURER.
2. SIGHT GLASS
3. EXPANSION VALVE
4. SUCTION LINE W/ FLEXIBLE CLOSED CELL ELASTOMER INSULATION
5. EXPANSION VALVE THERMAL BULB
6. TRAP FOR LONG VERTICAL RUNS (PER MFG. RECOMMENDATIONS)
7. EXPANSION VALVE EQUALIZER LINE

GENERAL NOTES:

A. PIPE SIZES SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
B. PROVIDE 4" CONCRETE PAD FOR ALL EXTERIOR UNITS ON GRADE.
C. PIPING LAYOUT AND CONFIGURATION SHALL BE INSTALLED PER MFGR'S RECOMMENDATIONS.
D. REFRIGERANT SPECIALITIES ARE SHOWN FOR SCHEMATIC PURPOSES ONLY AND SHALL BE COORDINATED PER MFGR'S INSTALLATION INSTRUCTIONS.

REFRIGERANT PIPING
KLH HVAC DETAIL
DATE: 4/29/13
SCALE: NONE
DRAWN:
HD—18



DAMPER LOCATIONS
KLH HVAC DETAIL
DATE: 8/23/13
SCALE: NONE
DRAWN:
HD—25

HOOD INFORMATION

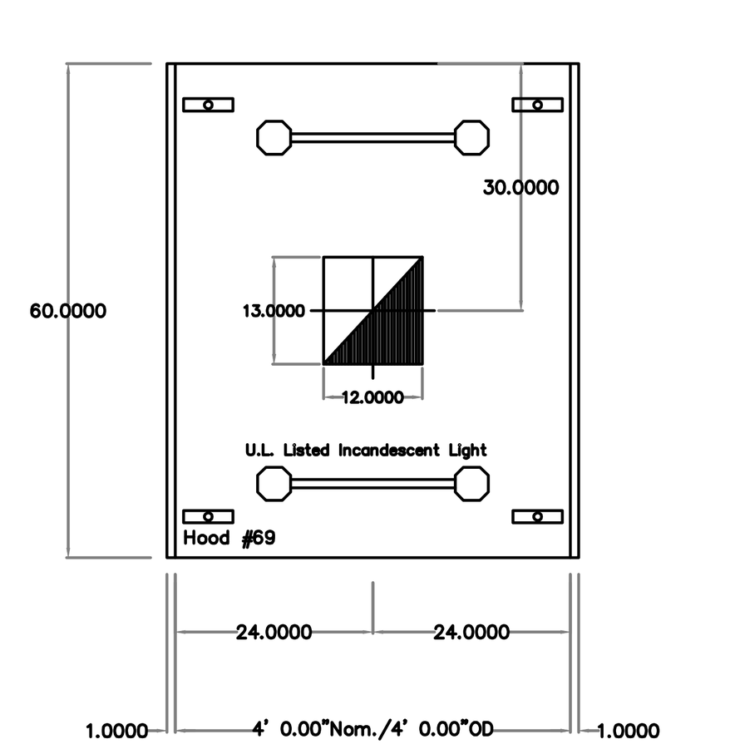
HOOD NO.	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	LIGHT(S) TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	SWITCHES LOCATION	FIRE SYSTEM PIPING	HOOD WEIGHT
69	SS Baffle with Handles	6	20"	16"	4	Incandescent Light	NO							YES	307 LBS.

HOOD INFORMATION

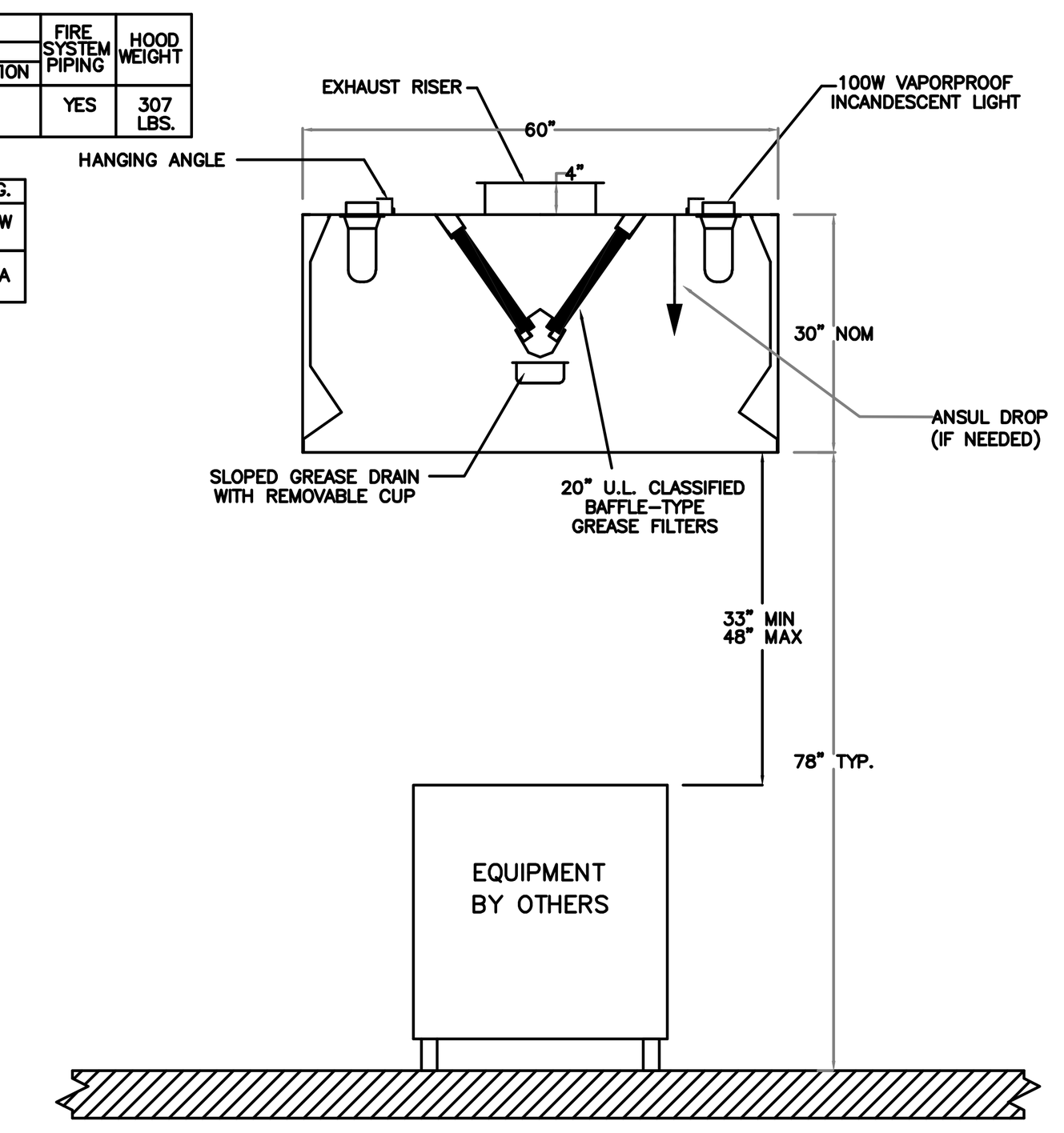
HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM TOTAL EXH. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	SUPPLY PLENUM TOTAL SUP. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
69	6030 NDI	4' 0.00"Nom. 4' 0.00"OD	600 Deg.	2000	13"	12"		2000	-0.411"	0						304 SS Where Exposed	ALONE	N/A

HOOD OPTIONS

HOOD NO.	OPTION
69	LEFT END STANDOFF(FIN/INS– ISLAND) 1" Wide Insulated
	RIGHT END STANDOFF(FIN/INS– ISLAND) 1" Wide Insulated
	FIELD WRAPPER 12.00" High Front, Left, Right, Back



PLAN VIEW – 4' 0.00" LONG 6030NDI

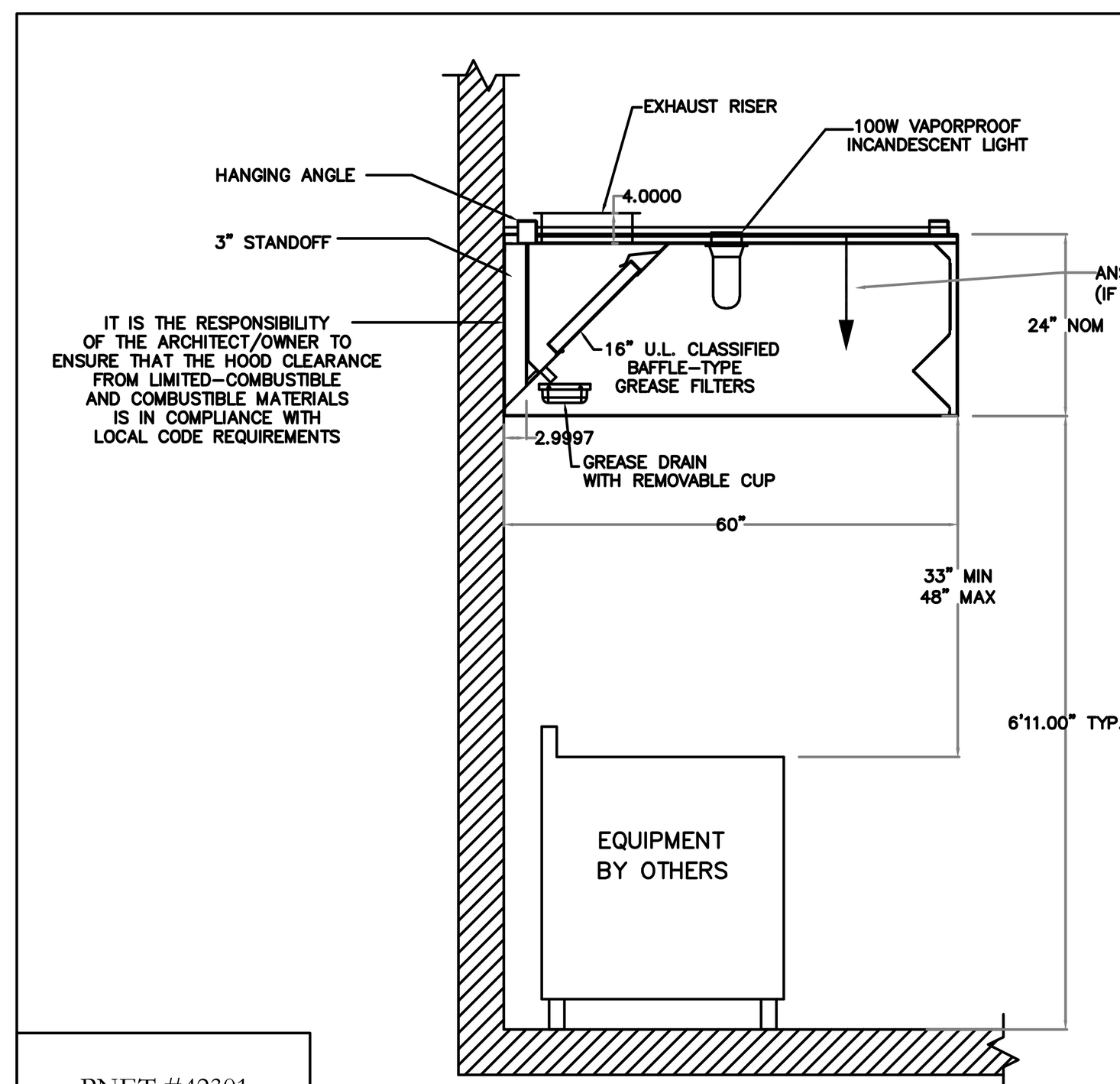


SECTION VIEW – MODEL 6030NDI

H–5 CUTSHEET

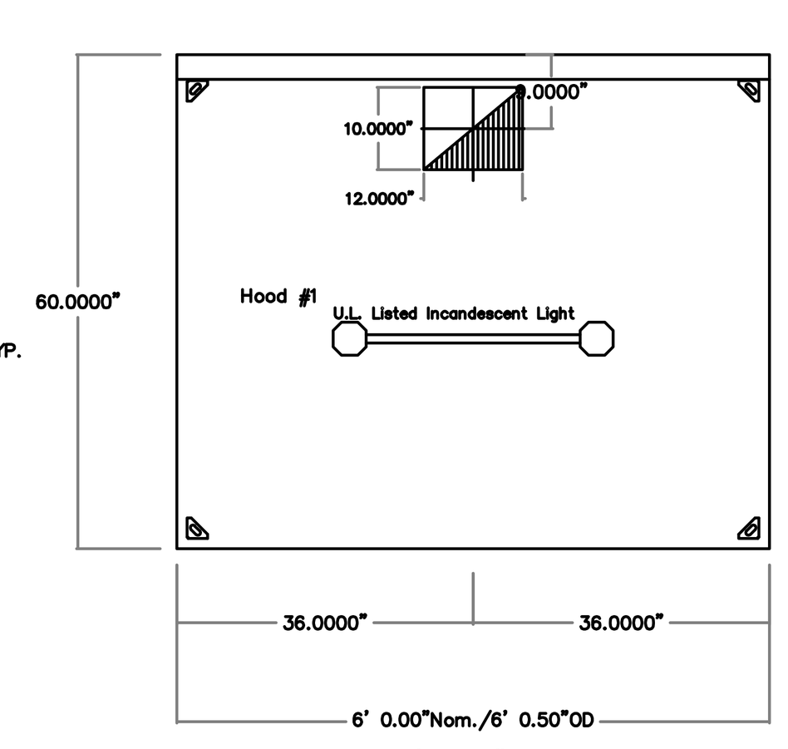
CAPTIVEAIRE

JOB	KROGER		
LOCATION			
DATE	12/23/2013	JOB #	0
DWG #	ITEM 42548	DRAWN BY	CRC
REV.		SCALE	NTS



SECTION VIEW – MODEL 6024-ND-2

PNET #42301
K-00023XX



PLAN VIEW – 6' 0.00" LONG 6024ND-2
(MEDIUM)

HOOD INFORMATION

HOOD NO.	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	LIGHT(S) TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	SWITCHES LOCATION	FIRE SYSTEM PIPING	HOOD WEIGHT
1	Alum. Baffle w/ Handles	2 2	16" 16"	16" 20"	2	Incandescent Light	NO							NO	275 LBS.

HOOD INFORMATION

HEAVY →

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM TOTAL EXH. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	SUPPLY PLENUM TOTAL SUP. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
1	6024 ND–2	6' 0.00"Nom. 6' 0.50"OD	600 Deg.	1350	10"	12"		1350	-0.399"	0						304 SS Where Exposed		

RESEARCH PRODUCTS FILTER INFORMATION
KLEEN GUARD ALUMINUM & STAINLESS BAFFLE FILTER.

NOMINAL SIZE (H x W)	ACTUAL DIMENSIONS (H x W x D)	FREE AREA (SQ. FEET)		VELOCITY (FEET PER MINUTE)	STATIC PRESSURE (WATER GAUGE)
16 x 20	15-5/8" x 19-5/8" x 1-7/8"	1.73		150	0.20
16 x 16	15-5/8" x 15-5/8" x 1-7/8"	1.35		150	0.20

UL LISTED TO MEET UL STANDARD #1046

HOOD OPTIONS

HOOD NO.	OPTION
1	FIELD WRAPPER 18.00" High Front, Left, Right,

ETL LISTING DESCRIPTION BLOCK
THE CAPTIVE AIRE MODEL ND-2 HAS BEEN E.T.L. TESTED, LISTED, AND APPROVED TO EXHAUST 175 CFM PER LINEAR FOOT OVER 450 DEGREE COOKING EQUIPMENT

H–3 CUTSHEETS

CAPTIVE–AIRE HOODS ARE ETL SANITATION LISTED AND BUILT IN COMPLIANCE WITH NSF/ANSI STANDARD 2, AND TO UL 710 & ULC710 STANDARDS.

E.T.L. LISTED 3054804-001

CAPTIVEAIRE

JOB	KROGER R-524		
LOCATION			
DATE	12/30/2013	JOB #	1938971
DWG #	ITEM 425XX T	DRAWN BY	WAH-15
REV.		SCALE	N.T.S.

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KROGER STORE
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Granbury, TX 76049

COMMISSION NO. 514041
ISSUE DATE 05/20/14
SHEET TITLE
HVAC DETAILS

SHEET NO.
M3.1

HOOD INFORMATION

	HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	END TO END	ROW
MEDIUM →	17		6024 ND-2-PSP-F	8' 0.00"	450 Deg.	1400	10"	13"		1400	-0.338"	980	430 SS Where Exposed	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
17		SS Baffle with Handles	5	16"	16"	3	L55 Series E26	NO						YES	403 LBS

HOOD EXHAUST SIZING CALCULATIONS:
HOOD #17 6024 ND-2, MAX COOKING TEMP AT 450 deg F, MANUFACTURER RECOMMENDS A MIN 150/LINEAR FT
8'X150 CFM/FT =1,200 CFM (PLANS SPECIFY 1,400 CFM, EXCEEDS MANUFACTURER MINIMUM RECOMMENDATIONS)

HOOD OPTIONS

HOOD NO.	OPTION
17	FIELD WRAPPER 18.00" High Front, Left, Right,

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.
17		Front	96"	12"	6"	MUA	10"	24"		490	0.133"
						MUA	10"	24"		490	0.133"

RESEARCH PRODUCTS FILTER INFORMATION
KLEEN GUARD STAINLESS BAFFLE FILTER.

NOMINAL SIZE (H x W)	ACTUAL DIMENSIONS (H x W x D)	FREE AREA (SQ. FEET)	VELOCITY (FEET PER MINUTE)	STATIC PRESSURE (WATER GAUGE)
16 x 20	15-5/8" x 19-5/8" x 1-7/8"	1.73	150	0.20
16 x 16	15-5/8" x 15-5/8" x 1-7/8"	1.35	150	0.20

UL LISTED TO MEET UL STANDARD #1046

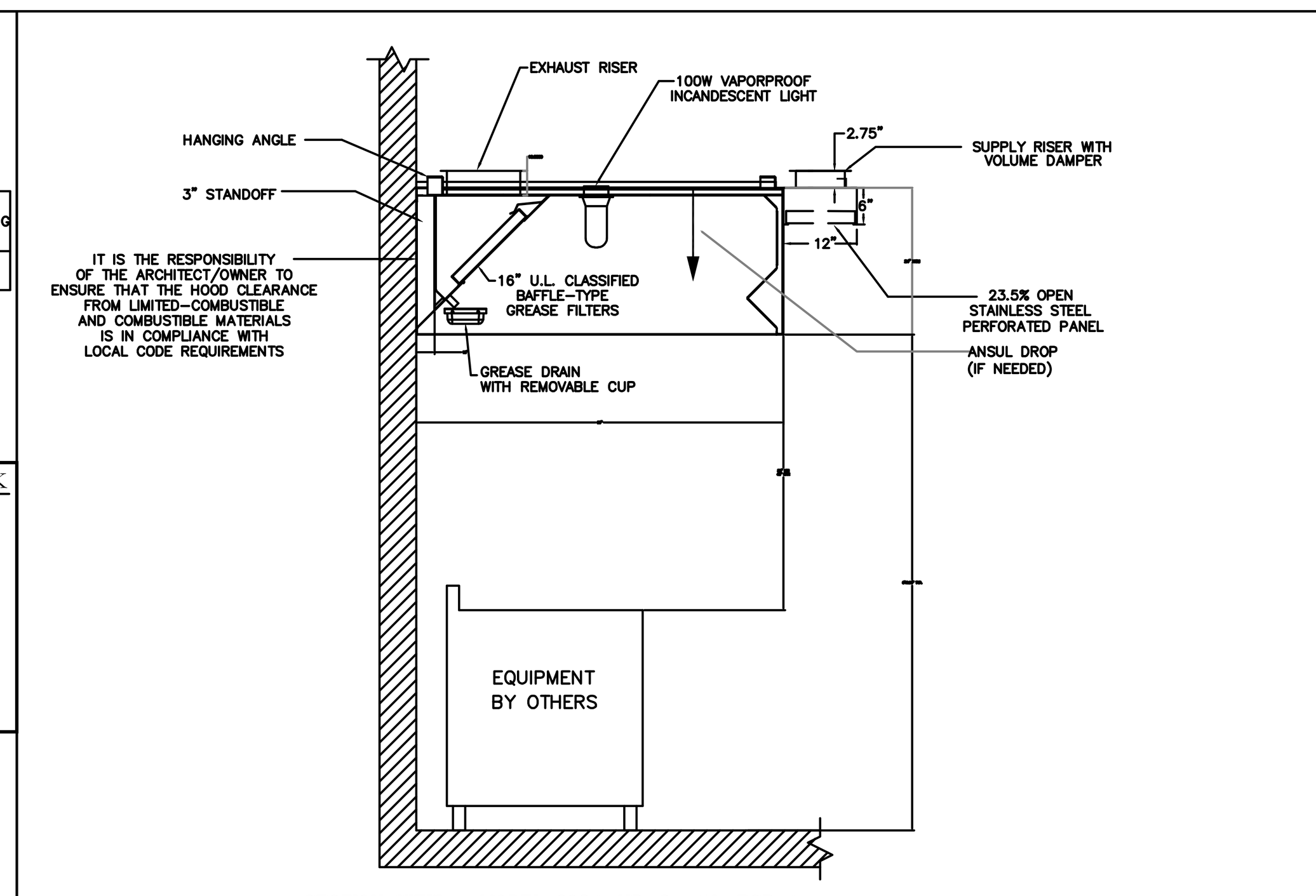
ETL LISTING DESCRIPTION BLOCK
THE CAPTIVE AIRE MODEL
ND-2 HAS BEEN E.T.L.
TESTED, LISTED, AND
APPROVED TO EXHAUST
175 CFM PER
LINEAR FOOT
OVER 450 DEGREE COOKING
EQUIPMENT

CAPTIVE-AIRE HOODS ARE ETL SANITATION LISTED AND BUILT IN COMPLIANCE WITH NSF/ANSI STANDARD 2, AND TO UL 710 & ULC710 STANDARDS.

E.T.L. LISTED 3054804-001

PNET #42505
K-0009629

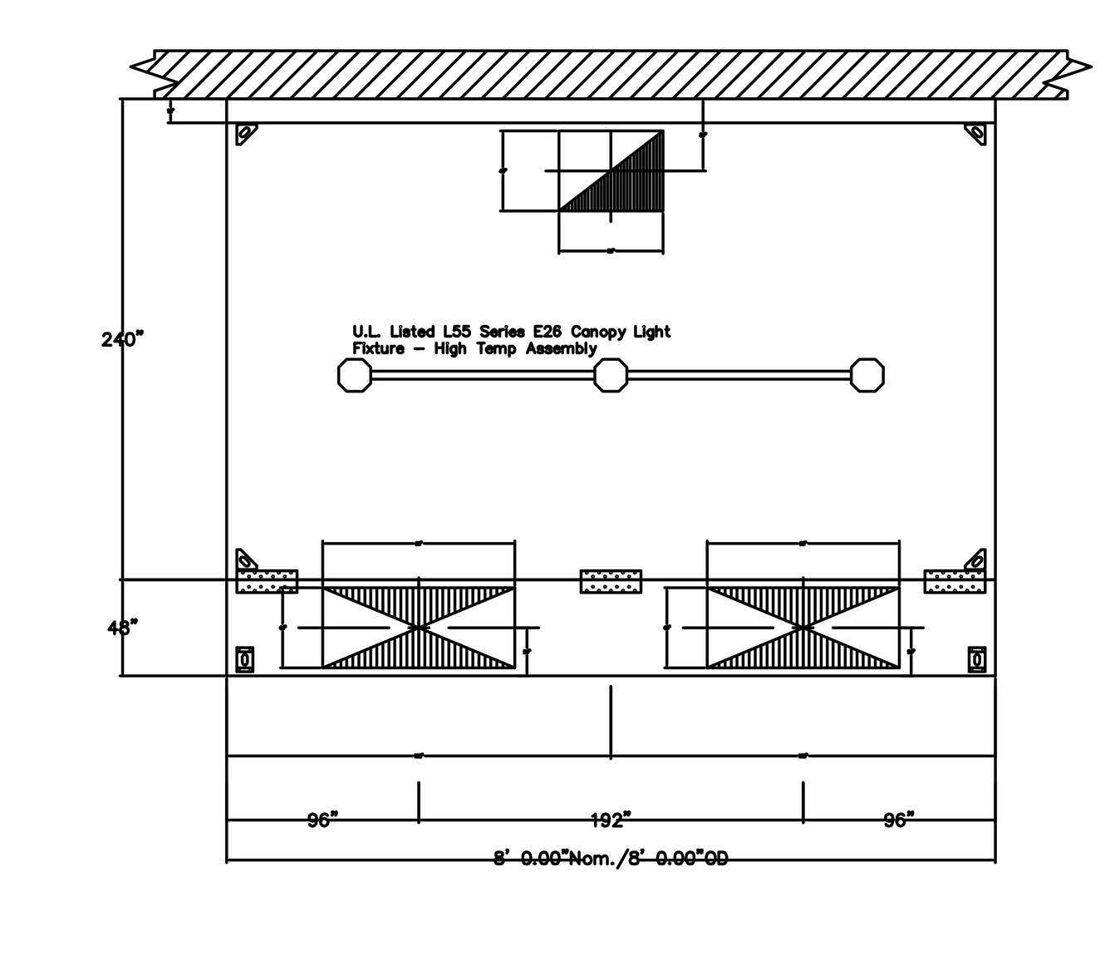
CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42505 T DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



SECTION VIEW – MODEL 6024–ND–2 with PSP Accessory

PNET #42505
K-0009629

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42505 S DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



PLAN VIEW – 8' 0.00" LONG 6024ND–2–PSP–F
(MEDIUM)

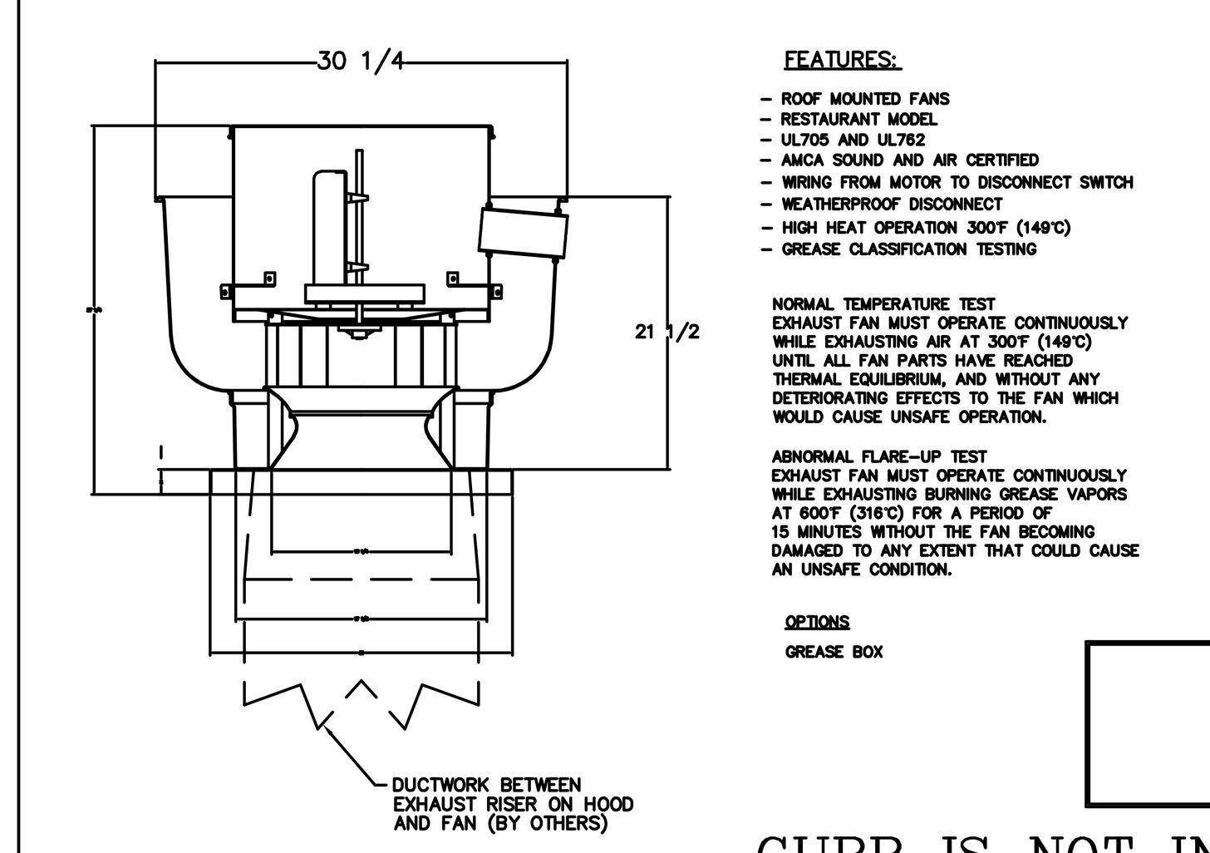
PNET #42505
K-0009629

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42505 P DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"

EXHAUST FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	ø	VOLT	FLA	WEIGHT (LBS.)	SONES
7	42830	NCA10FA	1400	0.500	1137	0.500	3	208	1.8	105	11.6

NCA10FA – EXHAUST FAN (UL762)

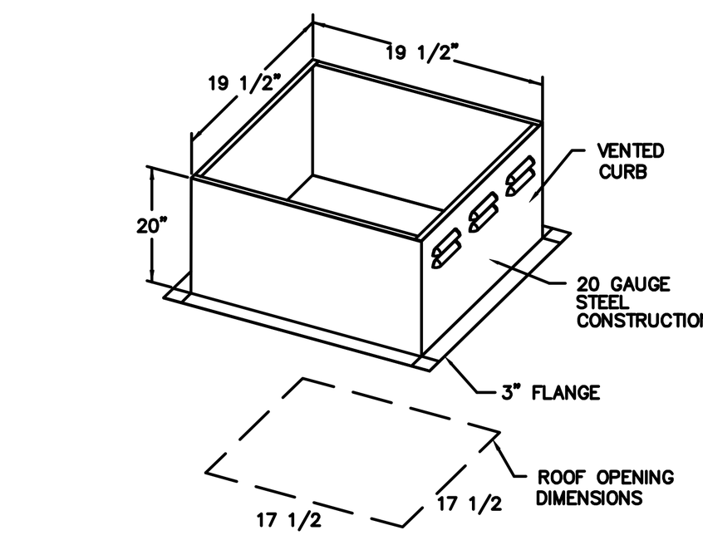


FEATURES:
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
GREASE BOX



H-2
CUTSHEETS

CURB IS NOT INCLUDED WITH FAN ORDER

PNET #42830
K-0002374

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (FAN)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42830 F DRAWN BY CRC
REV. 04/21/14 JAC SCALE NTS

HOOD INFORMATION

	HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	END TO END	ROW
MEDIUM →	52		6024 ND-2-PSP-F	9' 0.00"	450 Deg.	1575	10"	15"		1575	-0.349"	1102	430 SS Where Exposed	LEFT	ALONE
MEDIUM →	53		6024 ND-2-PSP-F	9' 0.00"	450 Deg.	1575	10"	15"		1575	-0.349"	1102	430 SS Where Exposed	RIGHT	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
52		SS Baffle with Handles	6	16"	16"	3	L55 Series E26	NO						YES	436 LBS
53		SS Baffle with Handles	6	16"	16"	3	L55 Series E26	NO	Right	Ansul R102	3.0/3.0	SC-321110FP	1 Light 1 Fan	YES	588 LBS

HOOD EXHAUST SIZING CALCULATIONS:
HOODS #52 & #53: 6024 ND-2, MAX COOKING TEMP AT 450 deg F, MANUFACTURER RECOMMENDS A MIN 150/LINEAR FT
9'X150 CFM/FT =1350 CFM (PLANS SPECIFY 1,575 CFM, EXCEEDS MANUFACTURER MINIMUM RECOMMENDATIONS)

HOOD OPTIONS

HOOD NO.	OPTION
52	FIELD WRAPPER 18.00" High Front, Left,
53	FIELD WRAPPER 18.00" High Front, Right,

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.
52		Front	108"	12"	6"	MUA	10"	24"		551	0.142"
						MUA	10"	24"		551	0.142"
53		Front	120"	12"	6"	MUA	10"	24"		551	0.142"
						MUA	10"	24"		551	0.142"

RESEARCH PRODUCTS FILTER INFORMATION
KLEEN GUARD STAINLESS BAFFLE FILTER.

NOMINAL SIZE (H x W)	ACTUAL DIMENSIONS (H x W x D)	FREE AREA (SQ. FEET)	VELOCITY (FEET PER MINUTE)	STATIC PRESSURE (WATER GAUGE)
16 x 20	15-5/8" x 19-5/8" x 1-7/8"	1.73	150	0.20
16 x 16	15-5/8" x 15-5/8" x 1-7/8"	1.35	150	0.20

UL LISTED TO MEET UL STANDARD #1046

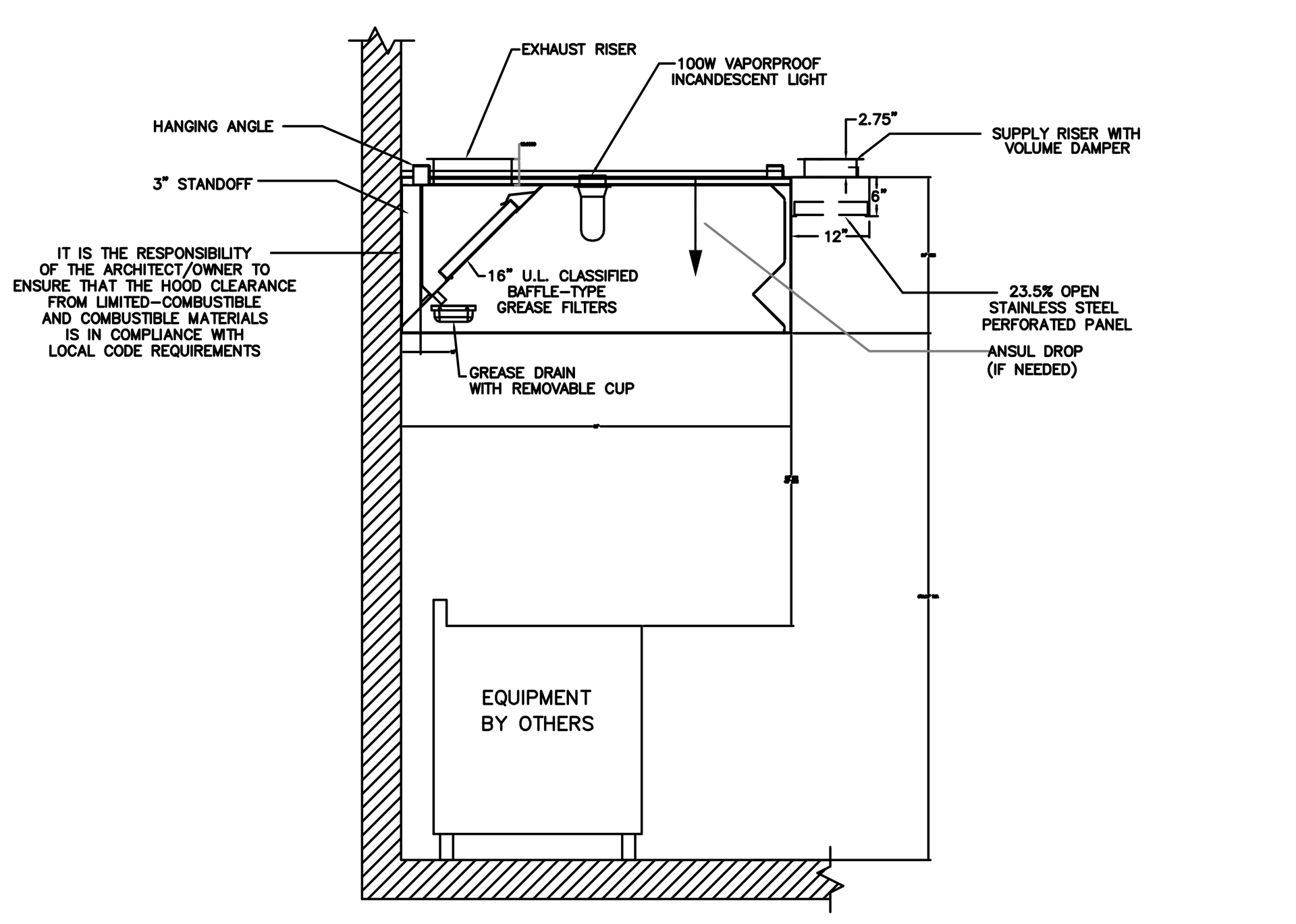
ETL LISTING DESCRIPTION BLOCK
THE CAPTIVE AIRE MODEL
ND-2 HAS BEEN E.T.L.
TESTED, LISTED, AND
APPROVED TO EXHAUST
175 CFM PER
LINEAR FOOT
OVER 450 DEGREE COOKING
EQUIPMENT

CAPTIVE-AIRE HOODS ARE ETL SANITATION LISTED AND BUILT IN COMPLIANCE WITH NSF/ANSI STANDARD 2, AND TO UL 710 & ULC710 STANDARDS.

E.T.L. LISTED 3054804-001

PNET #42525
K-0002322

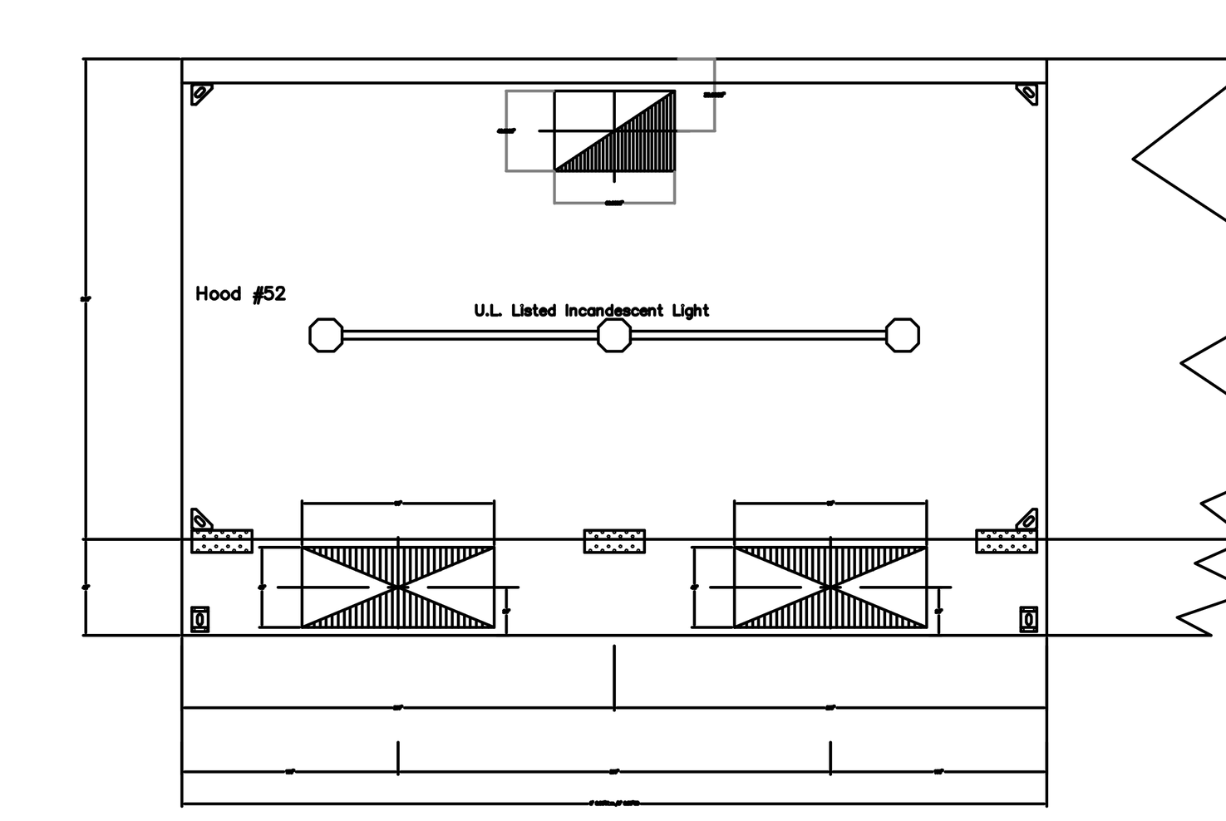
CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42525 T DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



SECTION VIEW – MODEL 6024–ND–2 with PSP Accessory

PNET #42525
K-0002322

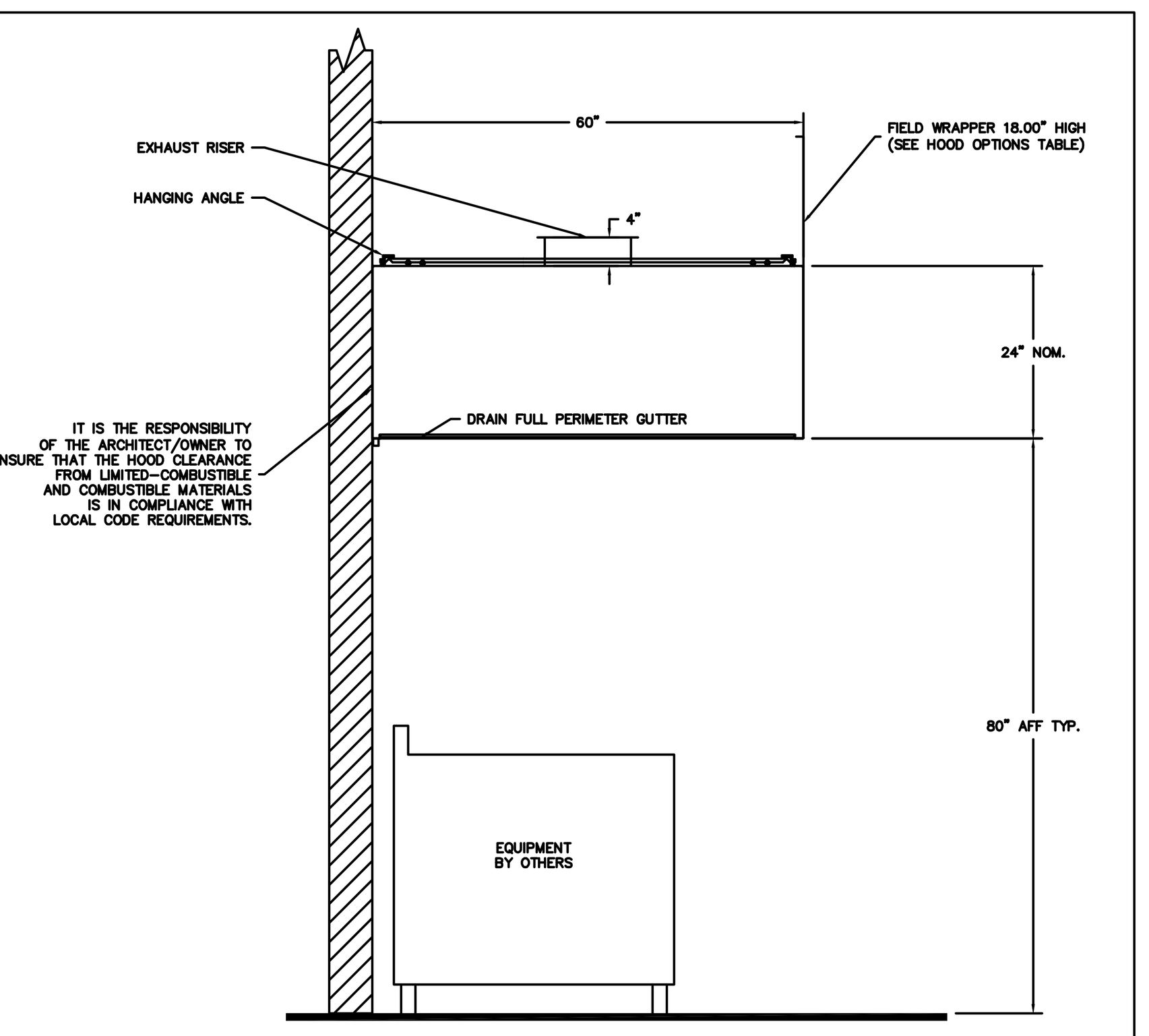
CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42525 S DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



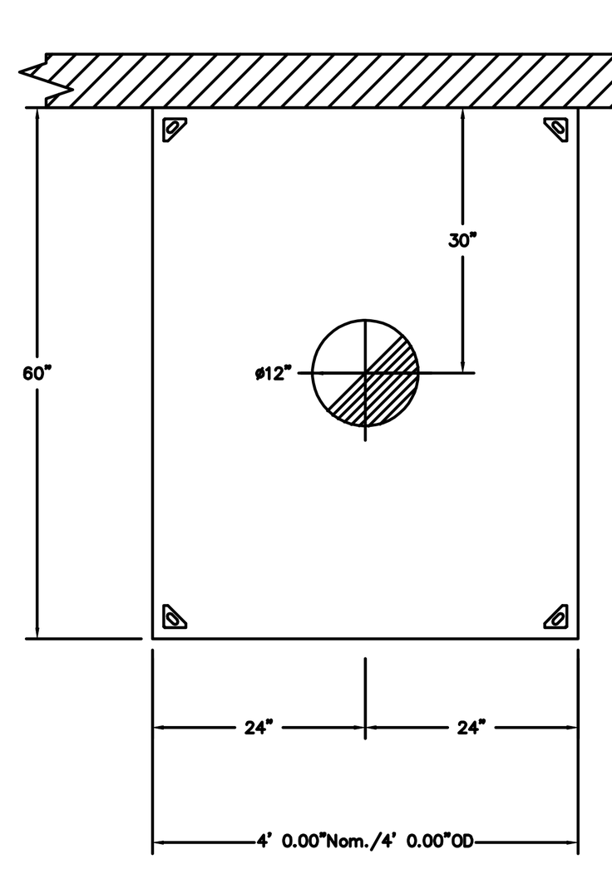
PLAN VIEW – 9' 0.00" LONG 6024ND–2–PSP–F
(MEDIUM)

PNET #42525
K-0002322

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42525 PL DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



SECTION VIEW – MODEL 6024VHB–G
HOOD – #1



PLAN VIEW – Hood #1
4' 0.00" LONG 6024VHB–G

HOOD INFORMATION – Job#1825644

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	HOOD CONSTRUCTION	END TO END	ROW
1	6024 VHB-G	4' 0.00"	700 Deg.	600			12"	600	-0.066"	304 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1					0								NO	215 LBS

HOOD OPTIONS

HOOD NO.	OPTION
1	FIELD WRAPPER 18.00" High Front, Left, Right

H-4
CUTSHEET

REVISIONS
DESCRIPTION DATE

CAPTIVEAIRE
National Accounts

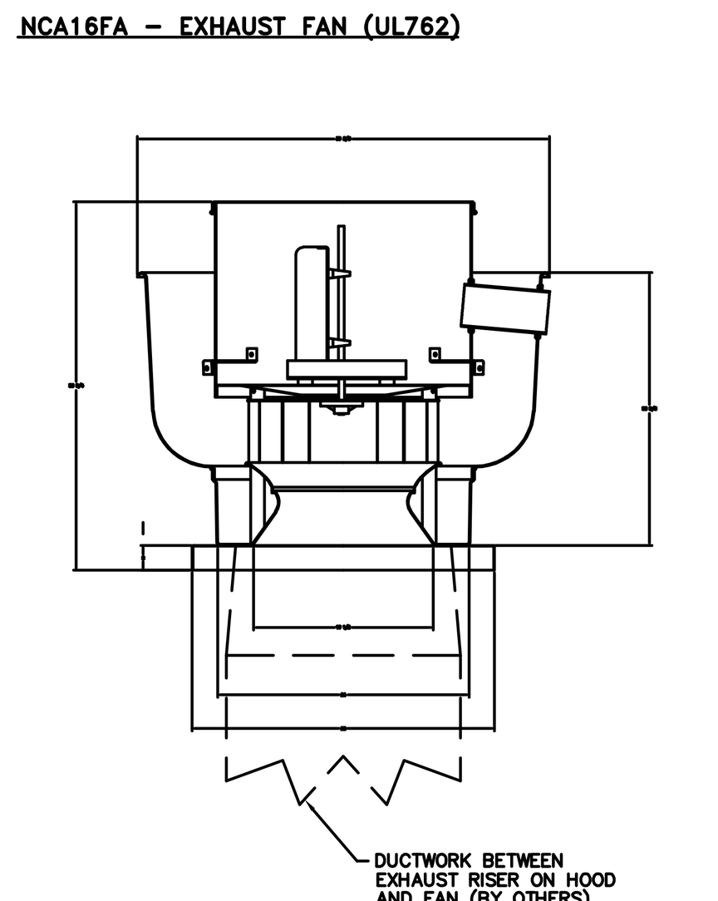
KROGER

DATE: 7/18/2013
DWG.#: 1825644
DRAWN BY: TP-15
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

EXHAUST FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	ø	VOLT	FLA	WEIGHT (LBS.)	SONES
14	42839	NCA16FA	3150	1.000	1098	1.500	3	208	4.7	152	13.1

NCA16FA – EXHAUST FAN (UL762)

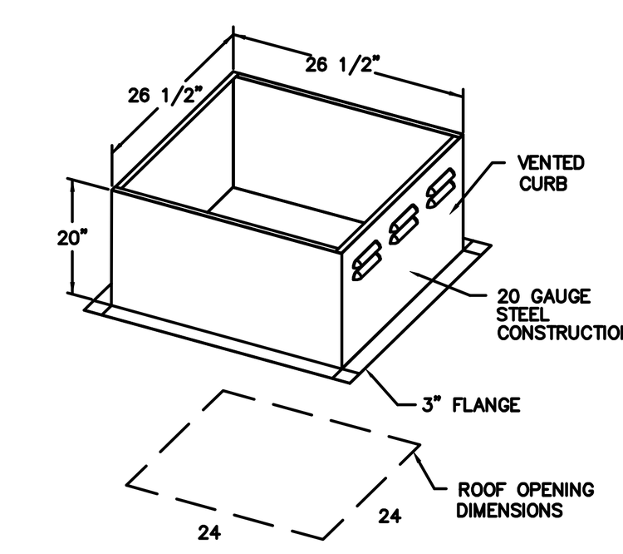


FEATURES:
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

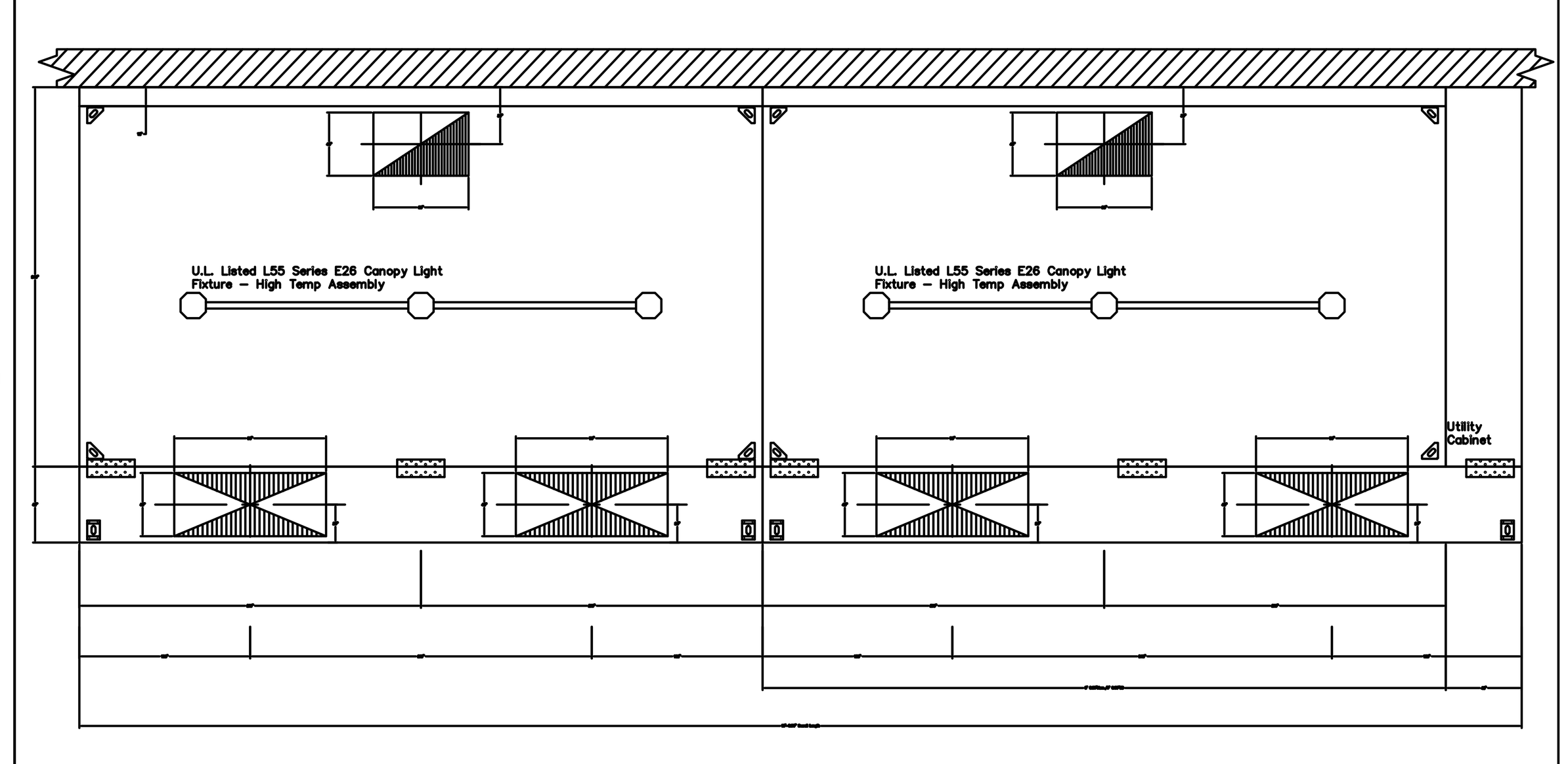
OPTIONS
GREASE BOX



CURB IS NOT INCLUDED WITH FAN ORDER

PNET #42839
K-0002381

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (FAN)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42839 F DRAWN BY CRC
REV. 04/21/14 JAC SCALE NTS

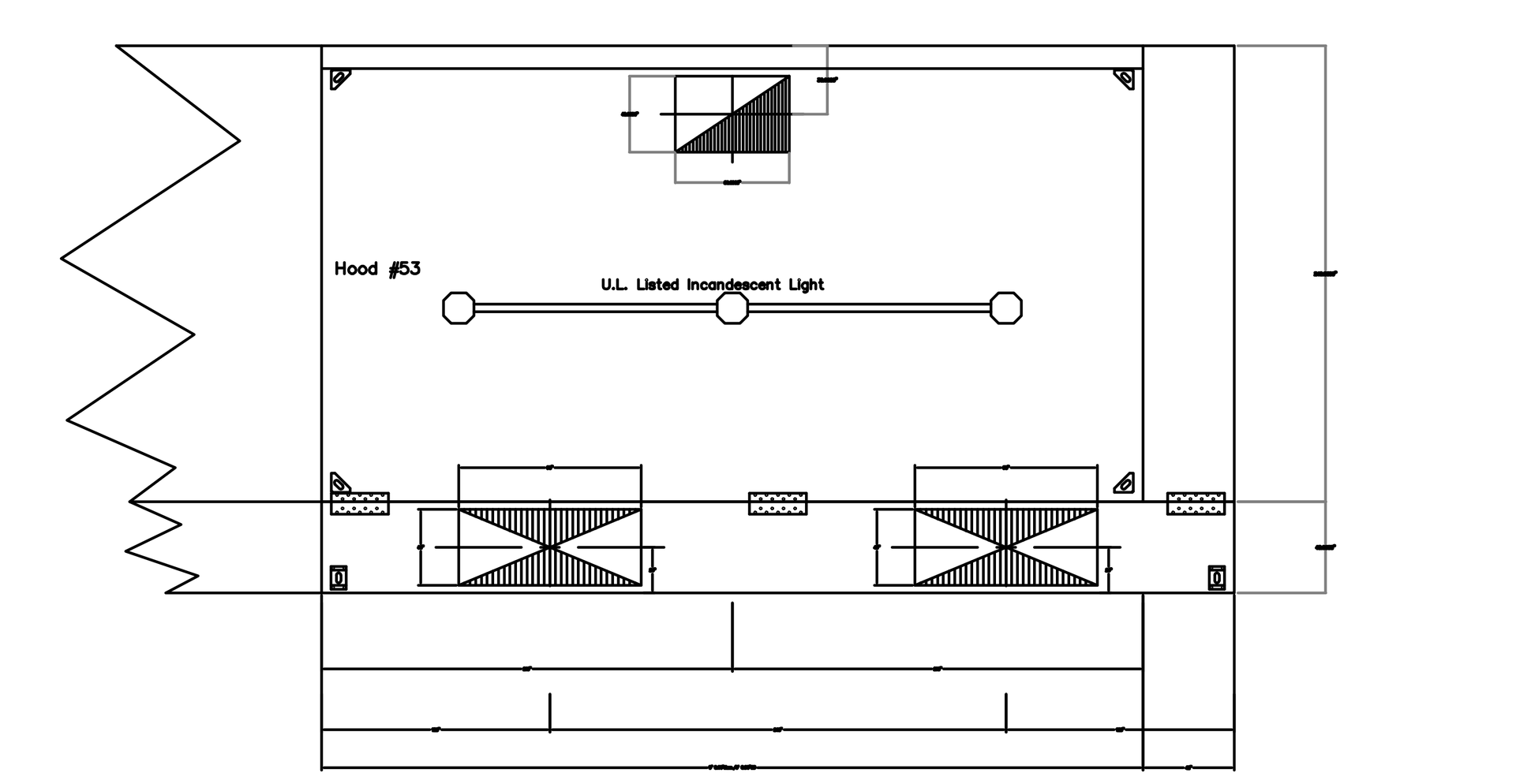


PLAN VIEW – 9' 0.00" LONG 6024ND–2–PSP–F

PLAN VIEW – 9' 0.00" LONG 6024ND–2–PSP–F

PNET #42525
K-0002322

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42525 P DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"



PLAN VIEW – 9' 0.00" LONG 6024ND–2–PSP–F
(MEDIUM)

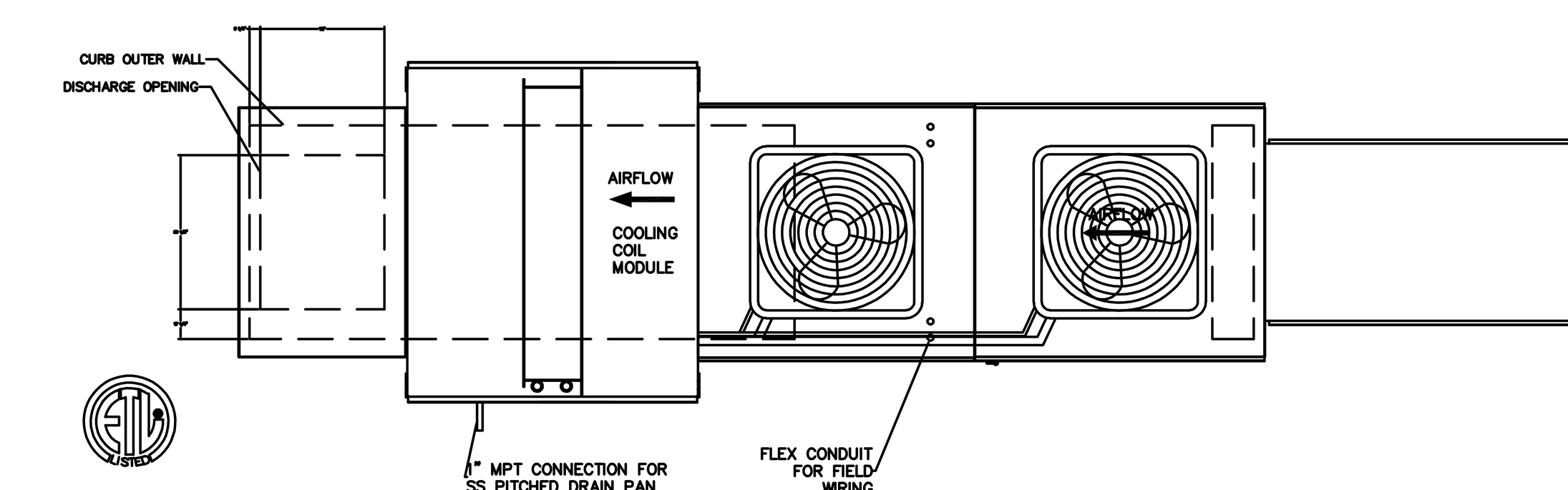
H-1
CUTSHEETS

PNET #42525
K-0002322

CAPTIVEAIRE
JOB KROGER – QUICK SELECT (HOOD)
LOCATION
DATE 12/23/2005 JOB # 0
DWG # ITEM 42525 PR DRAWN BY CRC
REV. 09/04/07 CRC SCALE 3/4"

FAN #3 A2-D.250-G15-MPU – HEATER
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" BLOWER
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE – AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR DIRECT FIRED HEATERS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LF120S ACTUATOR INCLUDED
5. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
8. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
9. DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT – SET POINT FOR THERMOSTAT SHOULD BE 85°F.
10. 8 TON, DUAL CIRCUIT (3/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 2 MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (2,900 TO 4,800 CFM) NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY. COIL = 3EZ1101D
11. FULL CRATING FOR COMMERCIAL HEATERS FOR SHIPPING.
12. DOWNTURN PLENUM FOR SIZE 2 COOLING COIL MODULE – REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS

SUPPLY SIDE HEATER INFORMATION:
WINTER TEMPERATURE = 20°F. TEMP. RISE = 55°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 187028
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 203291



MUA FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	CFM	ESP.	RPM	H.P.	ø	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES
3		A2-D.250-G15-MPU	G15-PB	A2-D.250	3184	0.500	917	2.000	3	208	6.2	95.0°F	78.0°F	76.0°F	71.0°F	89.9 MBH	63.7 MBH	26.2 MBH	1770	15.7

CONDENSER DETAILS

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CONDENSER NO.	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX. FUSE SIZE	MIN. WIRE SIZE
3		A2-D.250-G15-MPU	1	3	208-230	3 PHASE	60 Hz	14.5 Amps	11.9 Amps	20 Amps	14 AWG
			2	5	208-230	3 PHASE	60 Hz	21.4 Amps	17.4 Amps	30 Amps	12 AWG

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	ACTUAL AIR DENSITY?	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
3		YES	203291	187028	55 deg F	7 in. w.c. – 14 in. w.c.	Natural

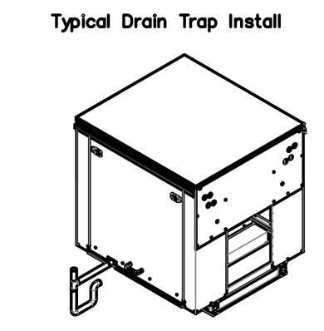
FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. – Descr.)
3		1 – Motorized Backdraft Damper for A2-D Housing
		1 – AC Interlock Relay – 24VAC Coil
		1 – Low Fire Start
		1 – Inlet Pressure Gauge, 0–35"
		1 – Manifold Pressure Gauge, –5 to 15" wc
		1 – Cooling Thermostat and Relay (Not req for evap)
		1 – 8 Ton 2 Circuit (3/5) Modular Packaged Cooling Option for Size 2 MUA (2,900 to 4,800 cfm), 208V/230V, 3 phase. Cooling Thermostat or Programmable Stat Required for Proper Operation.
		1 – Full Crating For Commercial Heater
		1 – Downturn Plenum for Size 2 DX Coil Module

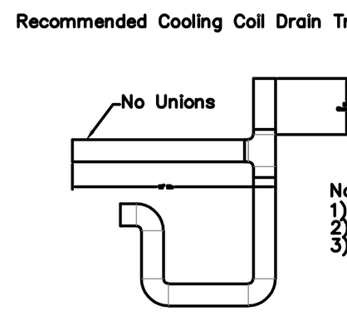
FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST GREASE CUP	EXHAUST GRAVITY DAMPER	EXHAUST WALL MOUNT	SUPPLY SIDE DISCHARGE	SUPPLY GRAVITY DAMPER	SUPPLY MOTORIZED DAMPER	SUPPLY WALL MOUNT
3							YES	

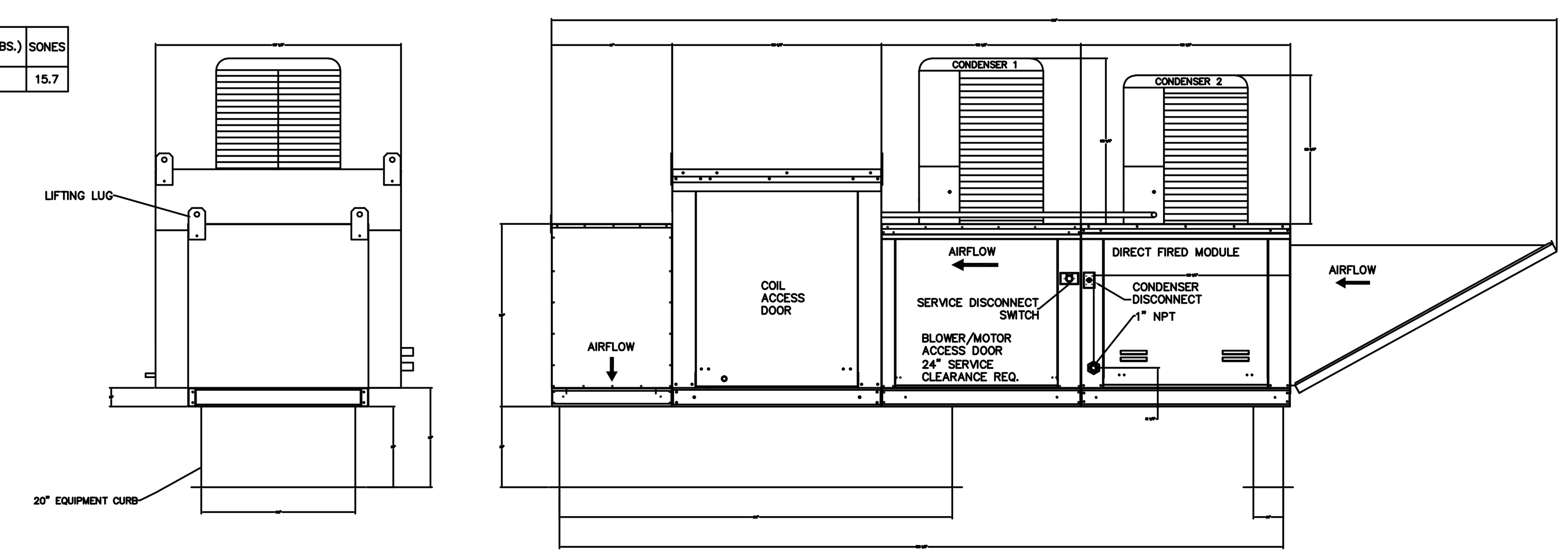
Typical Drain Trap Install



Recommended Cooling Coil Drain Trap Configuration



Notes:
1) 1" diameter PVC Pipe only
2) Use only low profile couplings
3) Add clean out as shown



MUA-1
CUTSHEETS

PNET #42845
K-0000000

CAPTIVEAIRE
JOB KROGER – SW917
LOCATION
DATE 4/21/2014 JOB #
DWG # MUA-2 DRAWN BY JAC
REV. SCALE NTS

STATE OF TEXAS
ROBERT J. LONNEMANN
65060
LICENSED
PROFESSIONAL ENGINEER
5-20-2014

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Columbus 2 Miranova Place, Suite 280 | Columbus, OH 43215 v 614.228.2180

OWNER

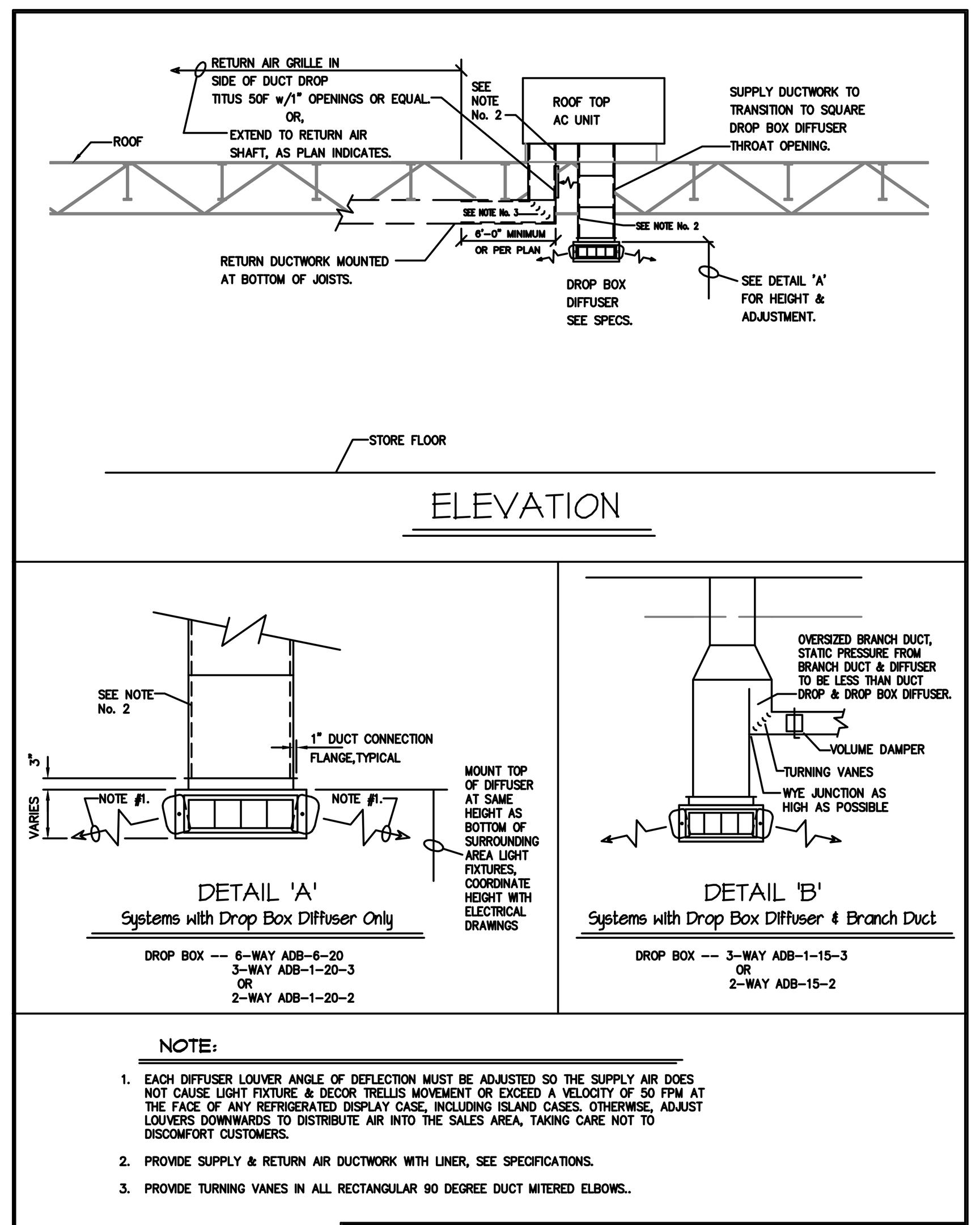
Kroger

ISSUE/REVISION
04/23/2014
90% OWNER REVIEW
05/20/2014
BID/PERMIT ISSUE

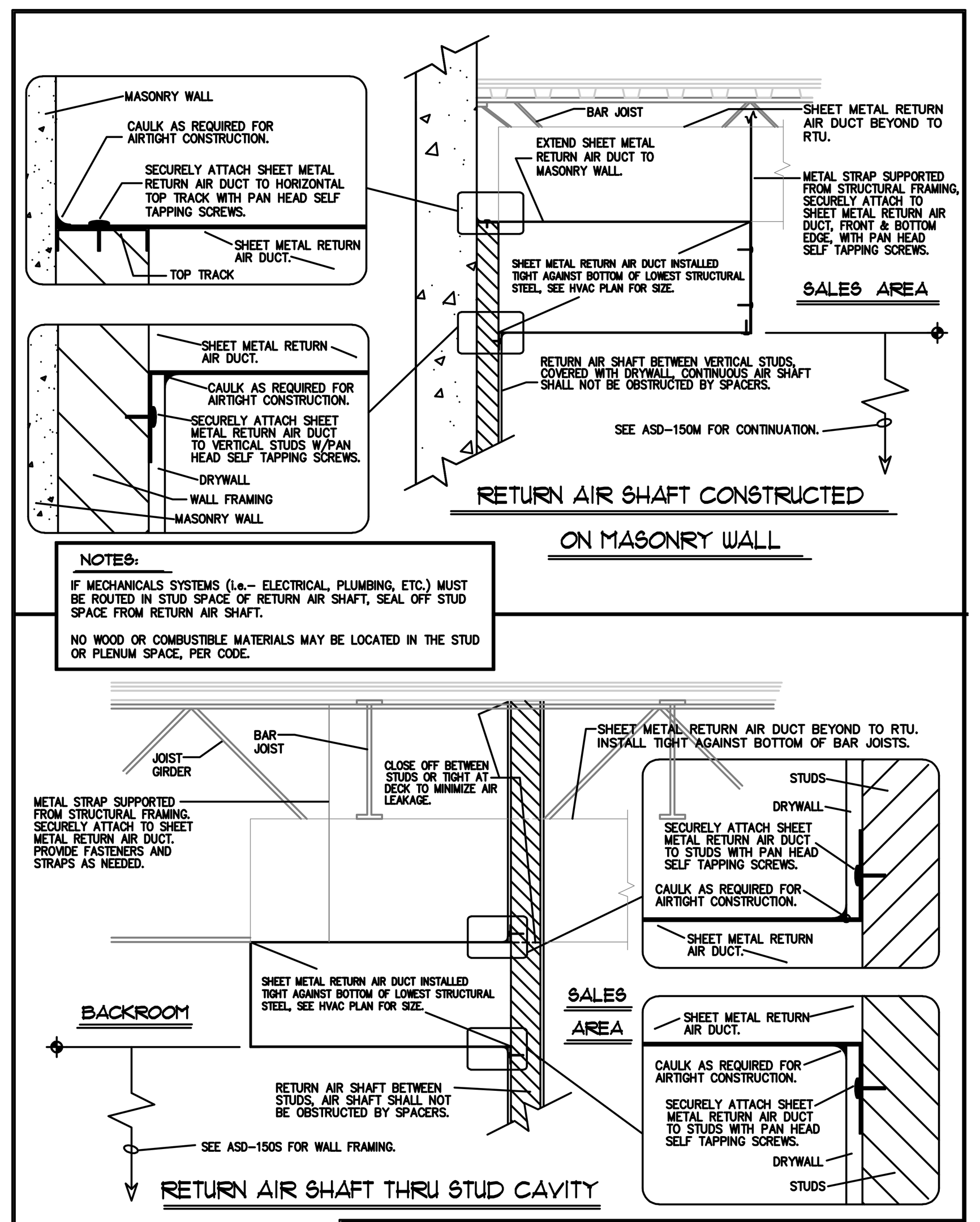
PROJECT TITLE
KROGER STORE
SW917
E Corner Hwy 377 & FM 4
Granbury, TX 76049

COMMISSION NO. 514041
ISSUE DATE 05/20/14
SHEET TITLE
HVAC DETAILS

SHEET NO.
M3.2

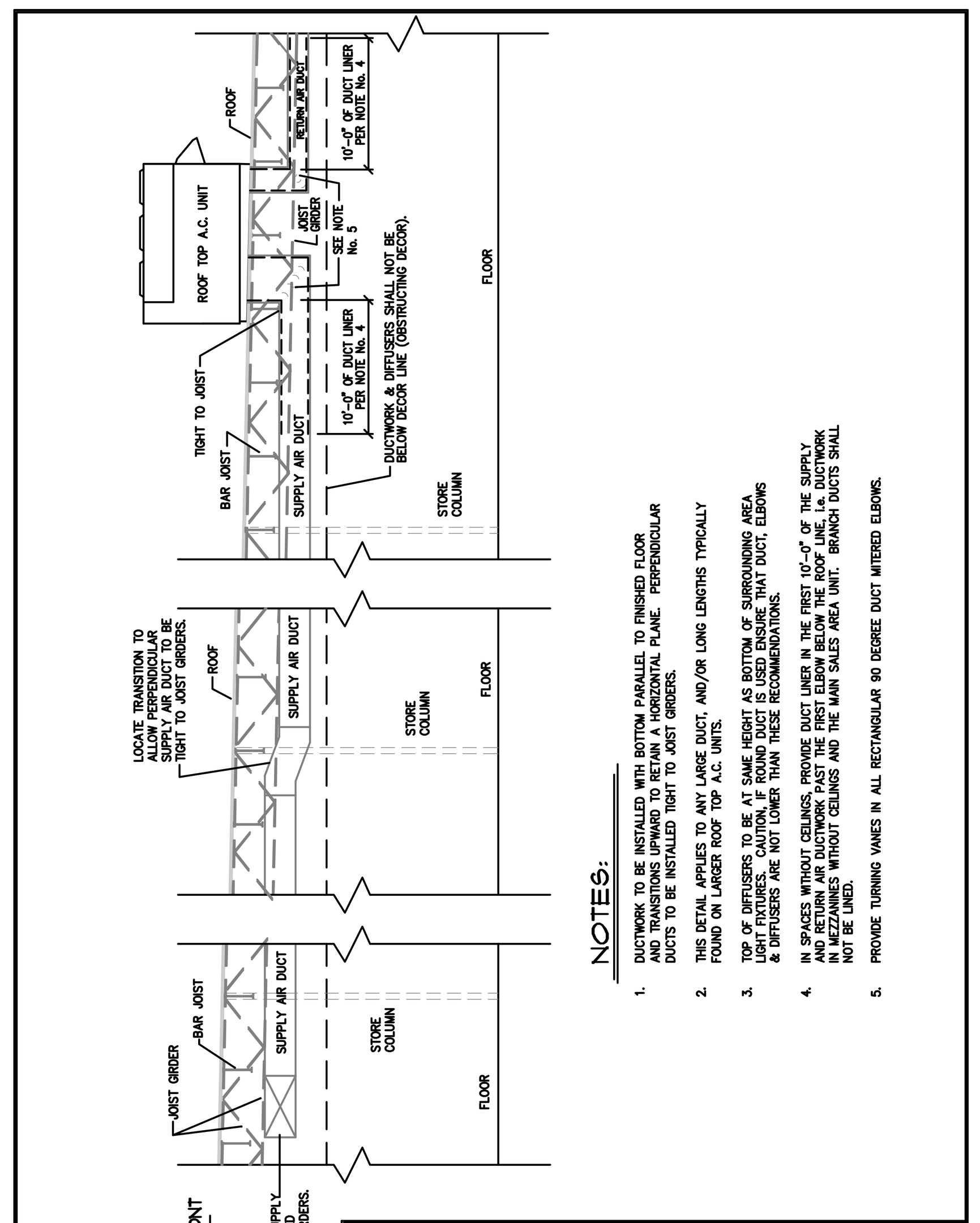


DROP BOX DIFFUSER — DATE: 10/11/12 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-1

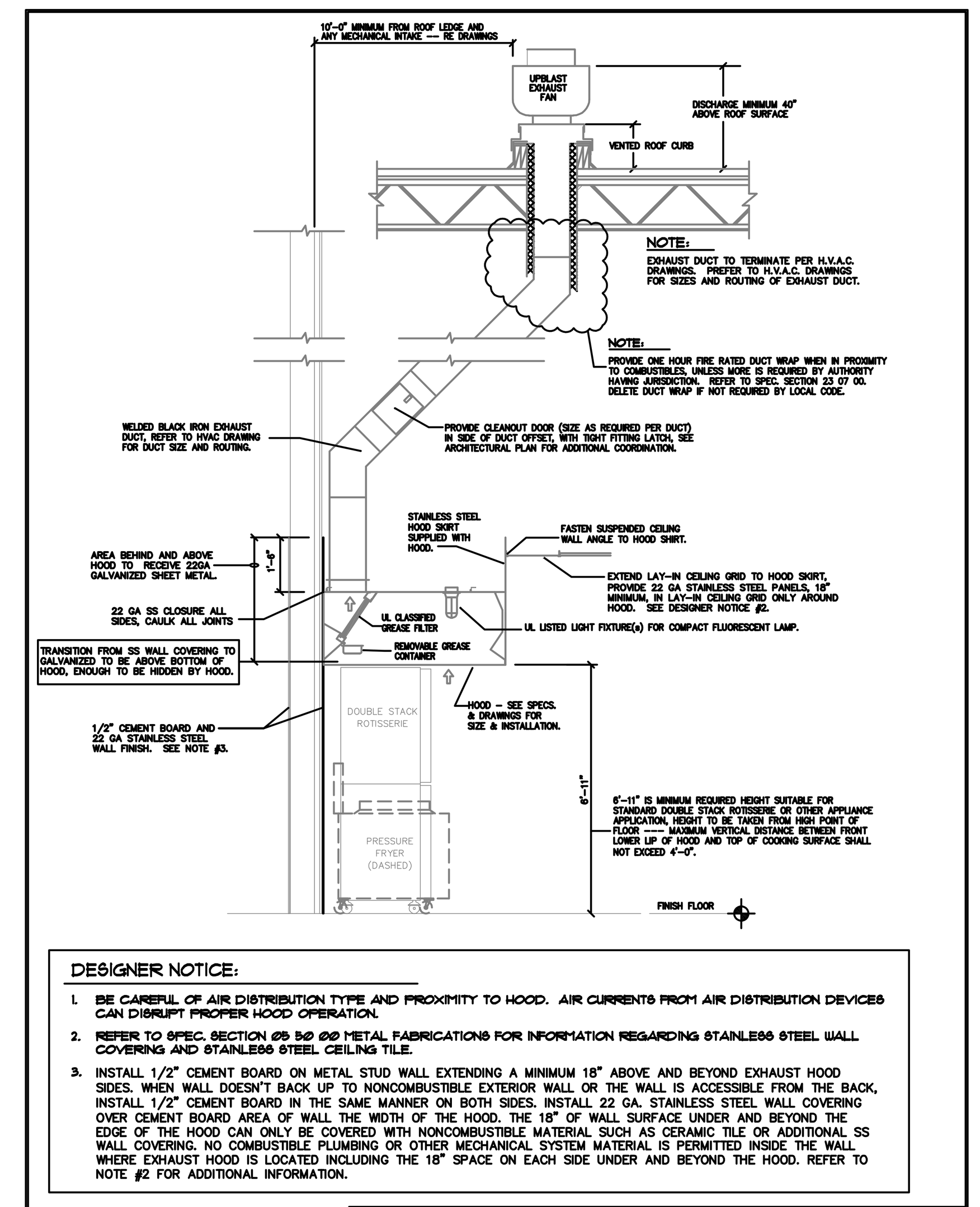


SHEET METAL RETURN AIR DUCT CONNECTION TO AIR SHAFT — DATE: 1/14/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-2

ORIGINAL ISSUE DATE 2/20/06

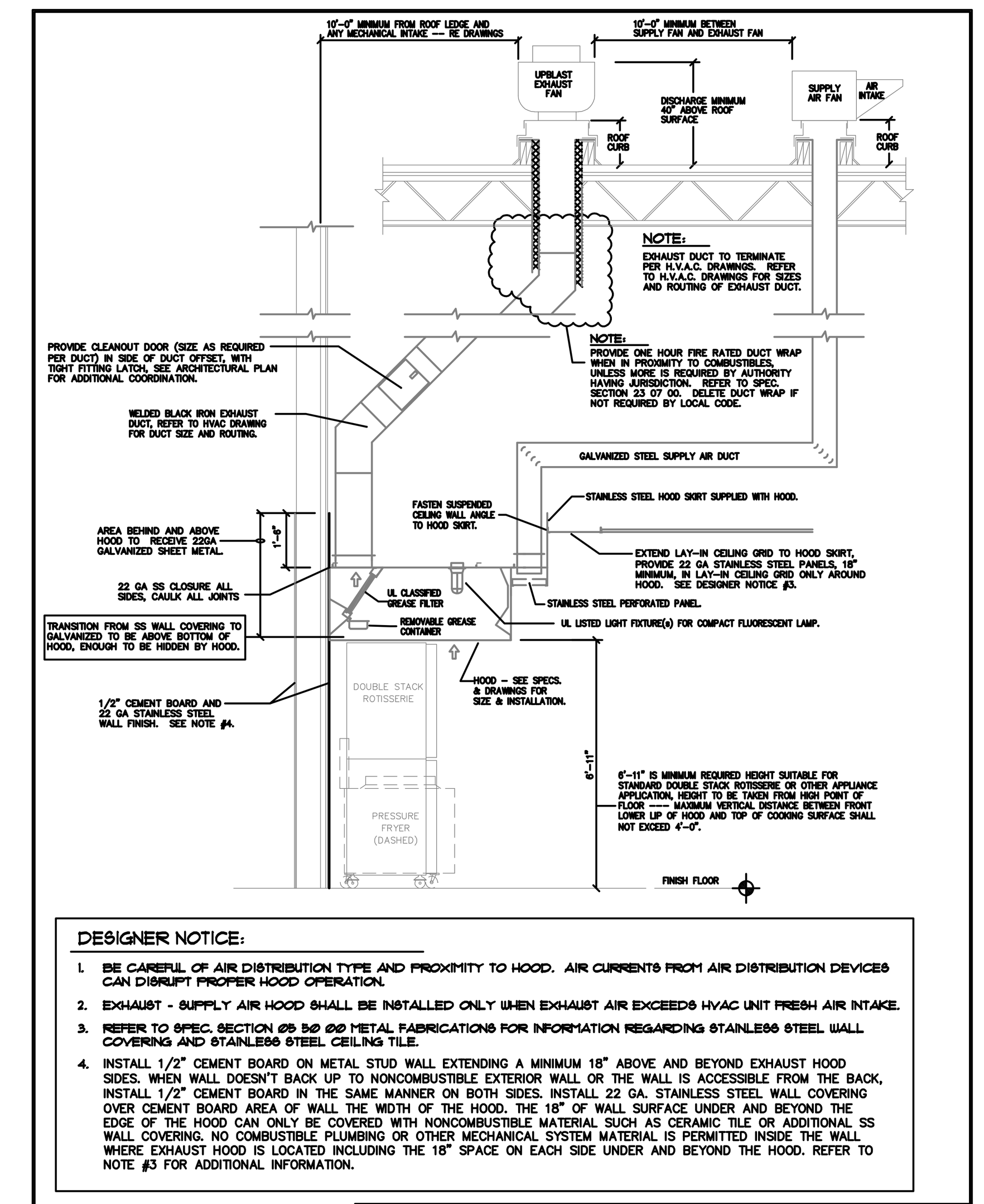


MAIN DUCT ELEVATION — DATE: 9/22/10 — SCALE: NONE — DRAWN: JFQ — MASTER SPECIFICATION DETAIL — HSD-3



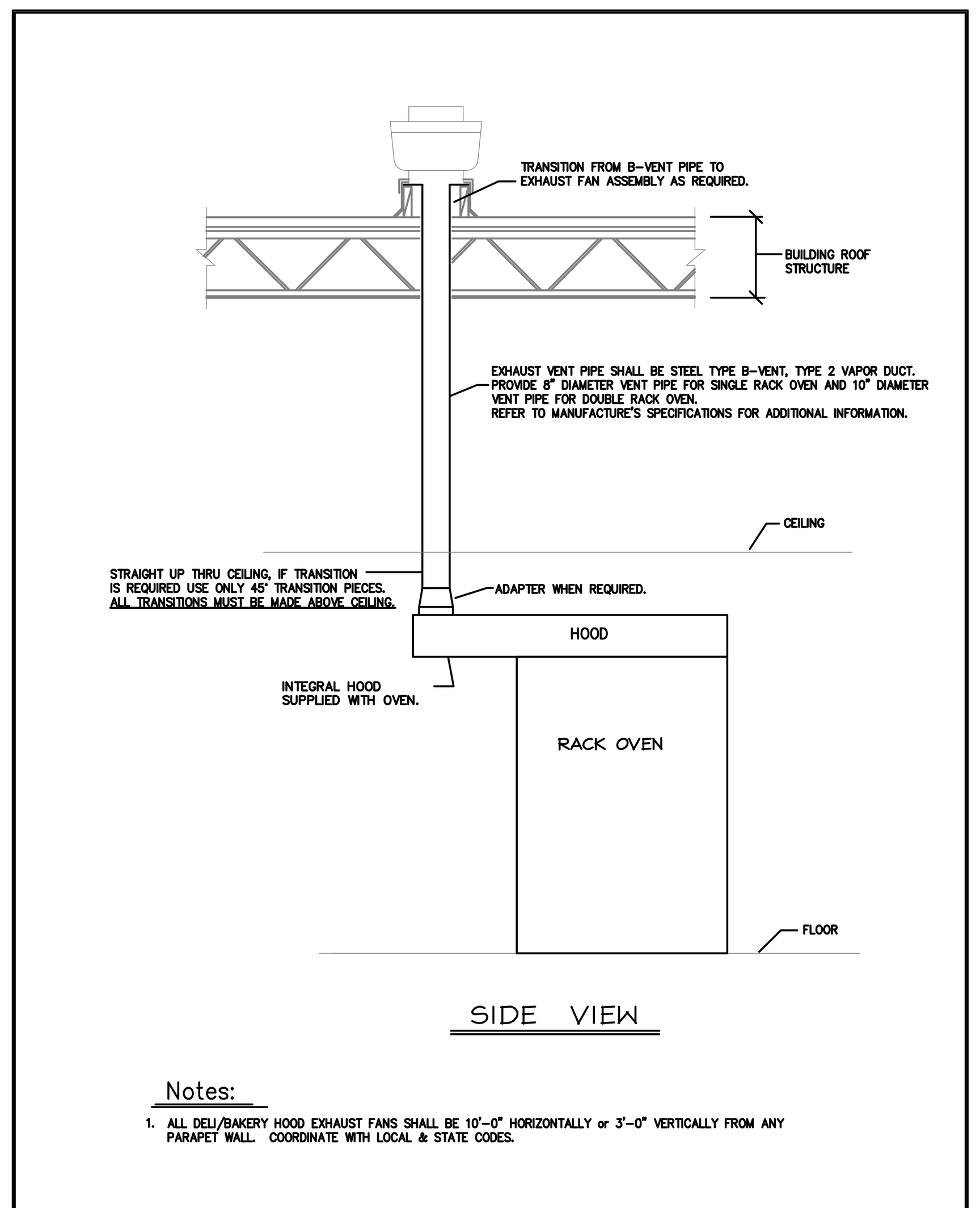
DELI-BAKERY EXHAUST HOOD INSTALLATION — DATE: 7/29/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-4

ORIGINAL ISSUE DATE 6/1/07

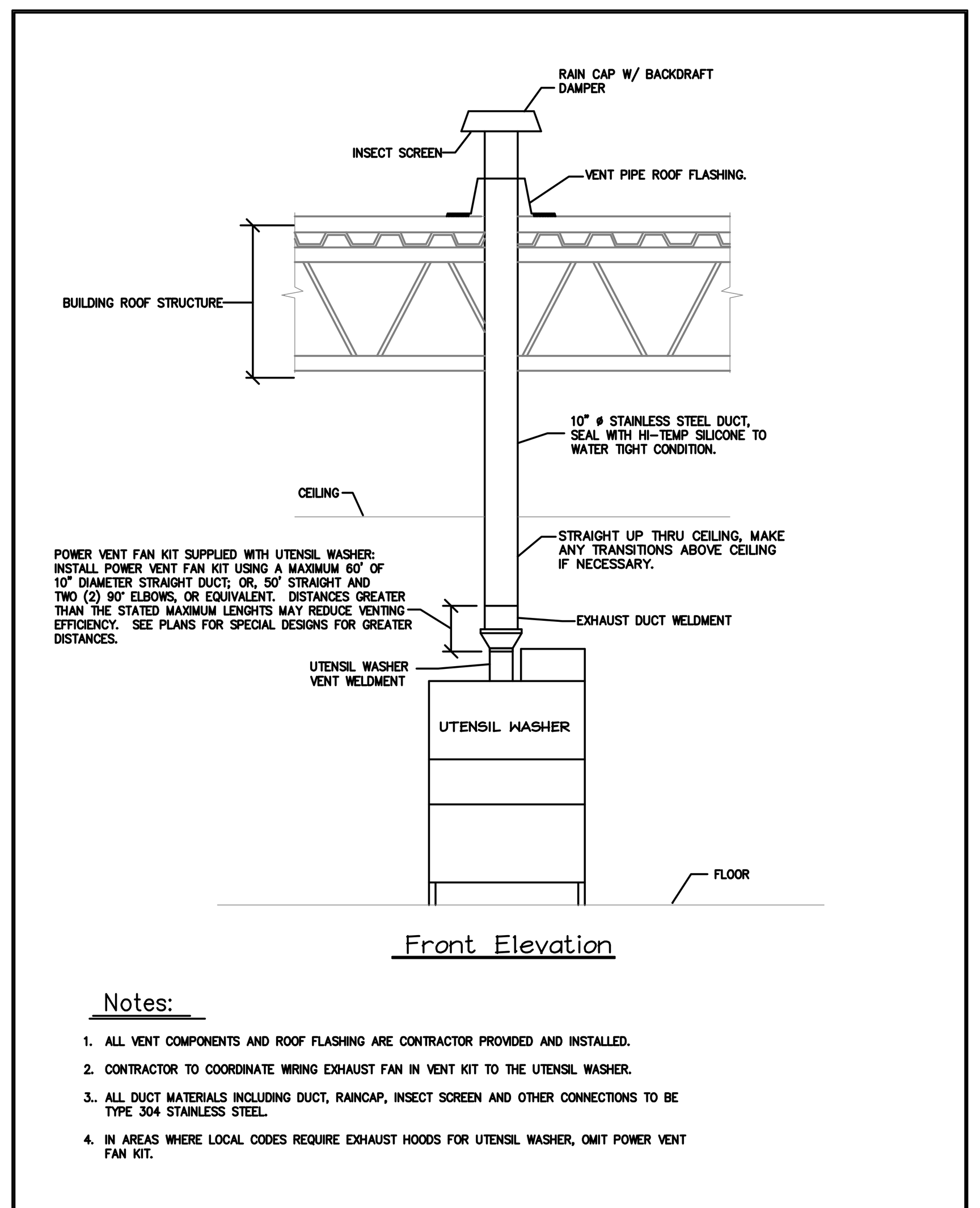


DELI-BAKERY EXHAUST – SUPPLY AIR HOOD INSTALLATION — DATE: 7/29/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-5

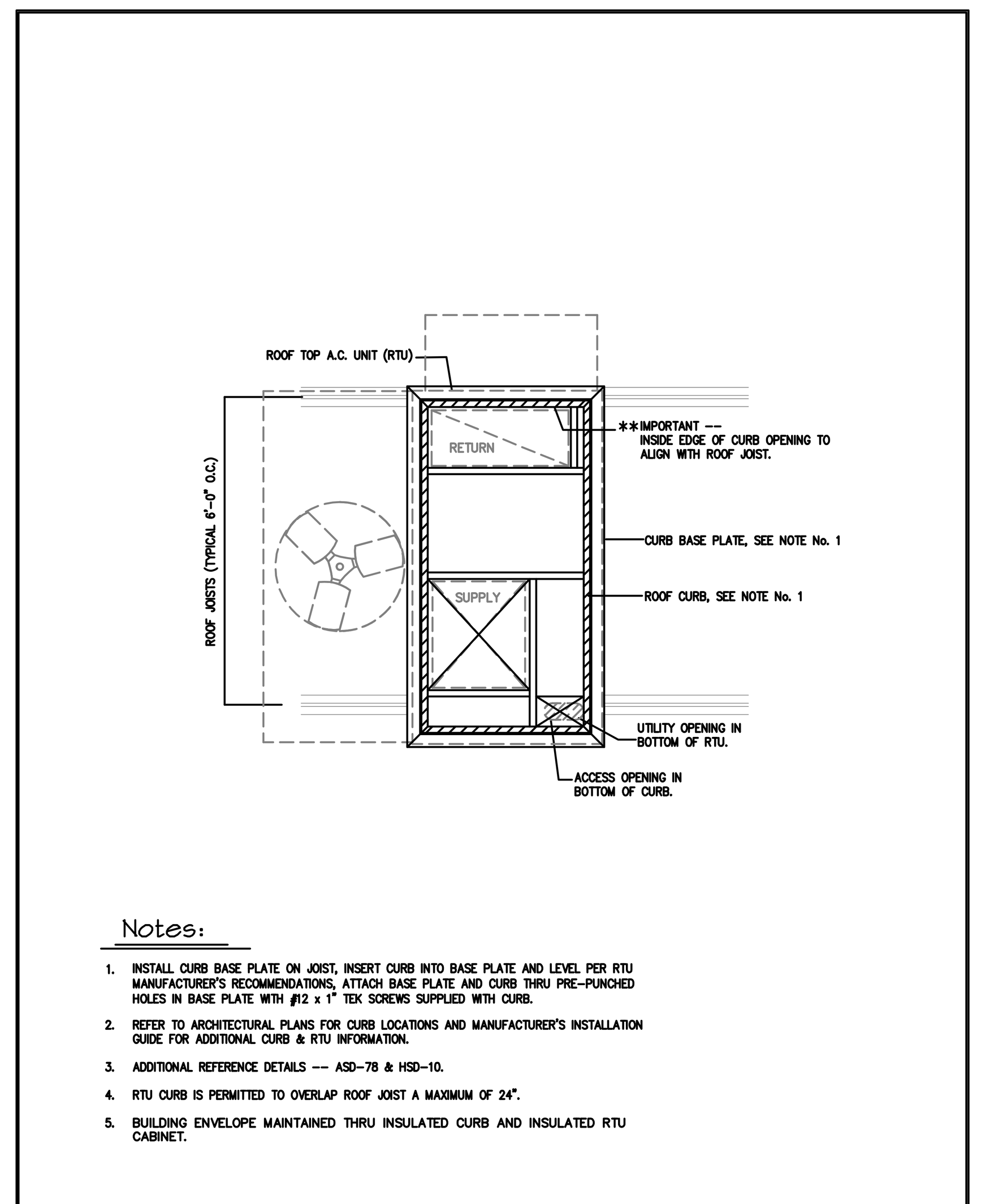
ORIGINAL ISSUE DATE 6/1/07



BAKERY RACK OVEN EXHAUST — DATE: 10/11/12 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-7

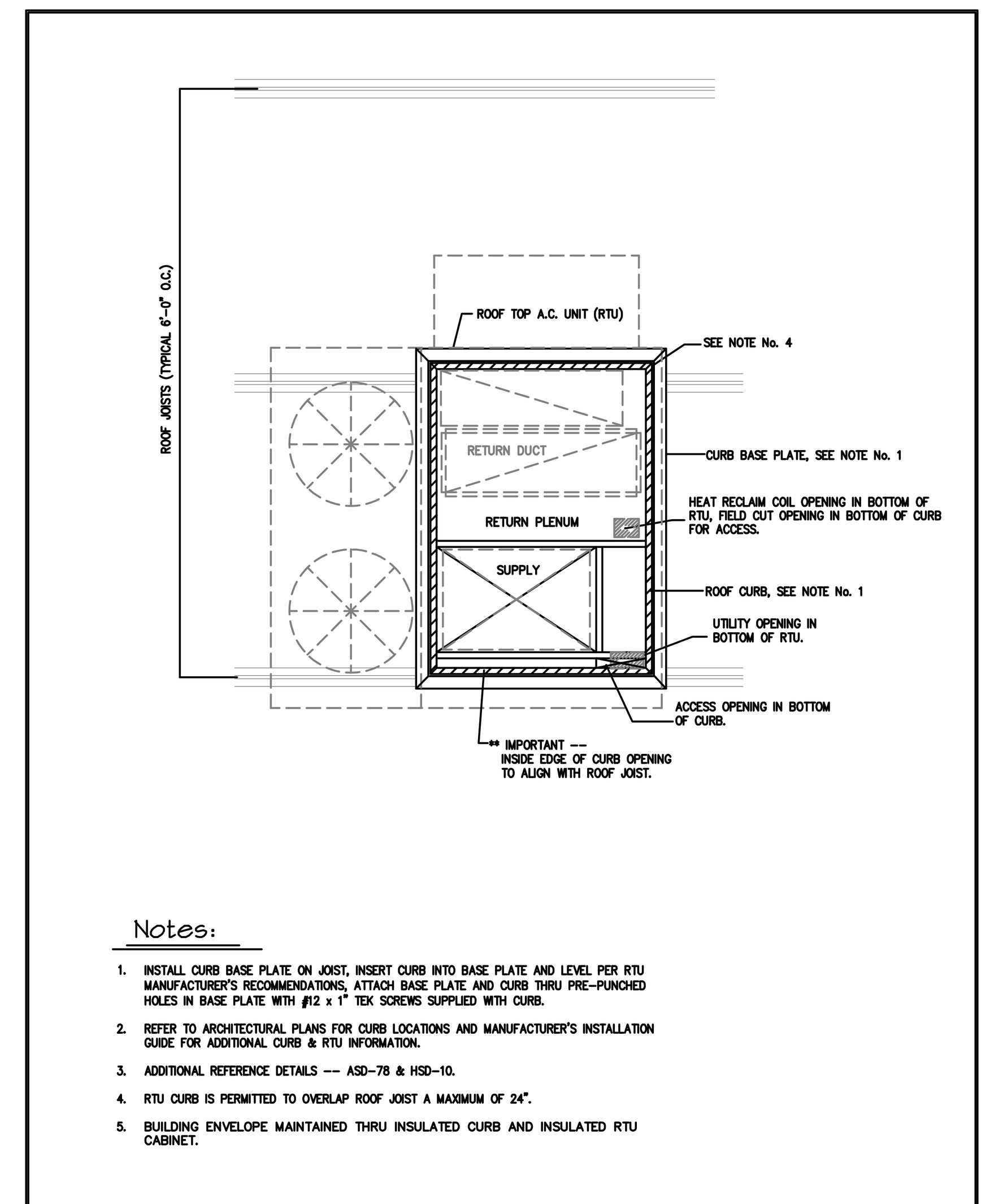


UTENSIL WASHER EXHAUST — DATE: 9/22/10 — SCALE: NONE — DRAWN: jq — MASTER SPECIFICATION DETAIL — HSD-8



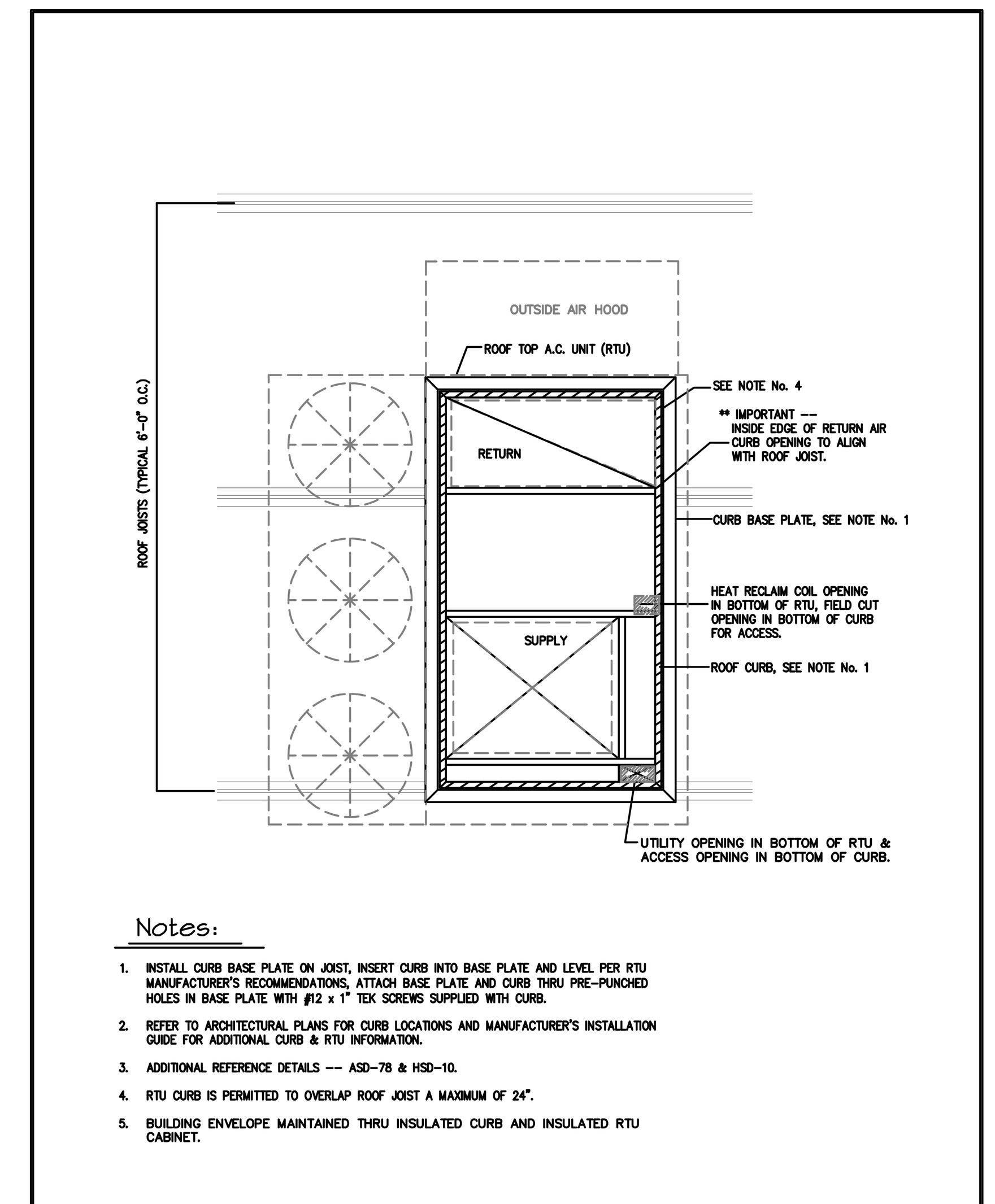
ADJUSTABLE ROOF CURB FOR A-CABINET RTU — DATE: 1/14/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-9A

ORIGINAL ISSUE DATE 10/1/09



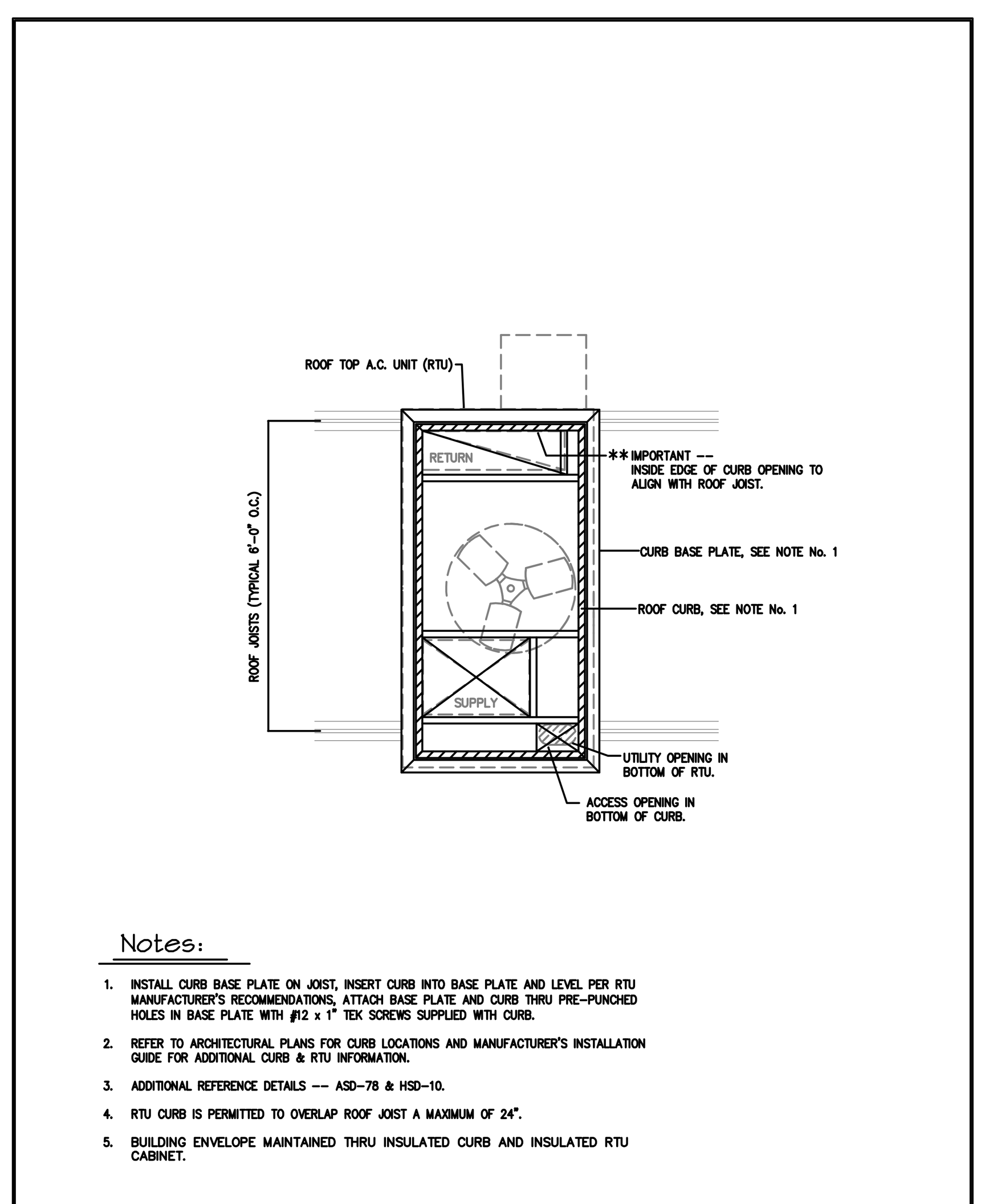
ADJUSTABLE ROOF CURB FOR B-CABINET RTU — DATE: 1/14/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-9B

ORIGINAL ISSUE DATE 10/1/09



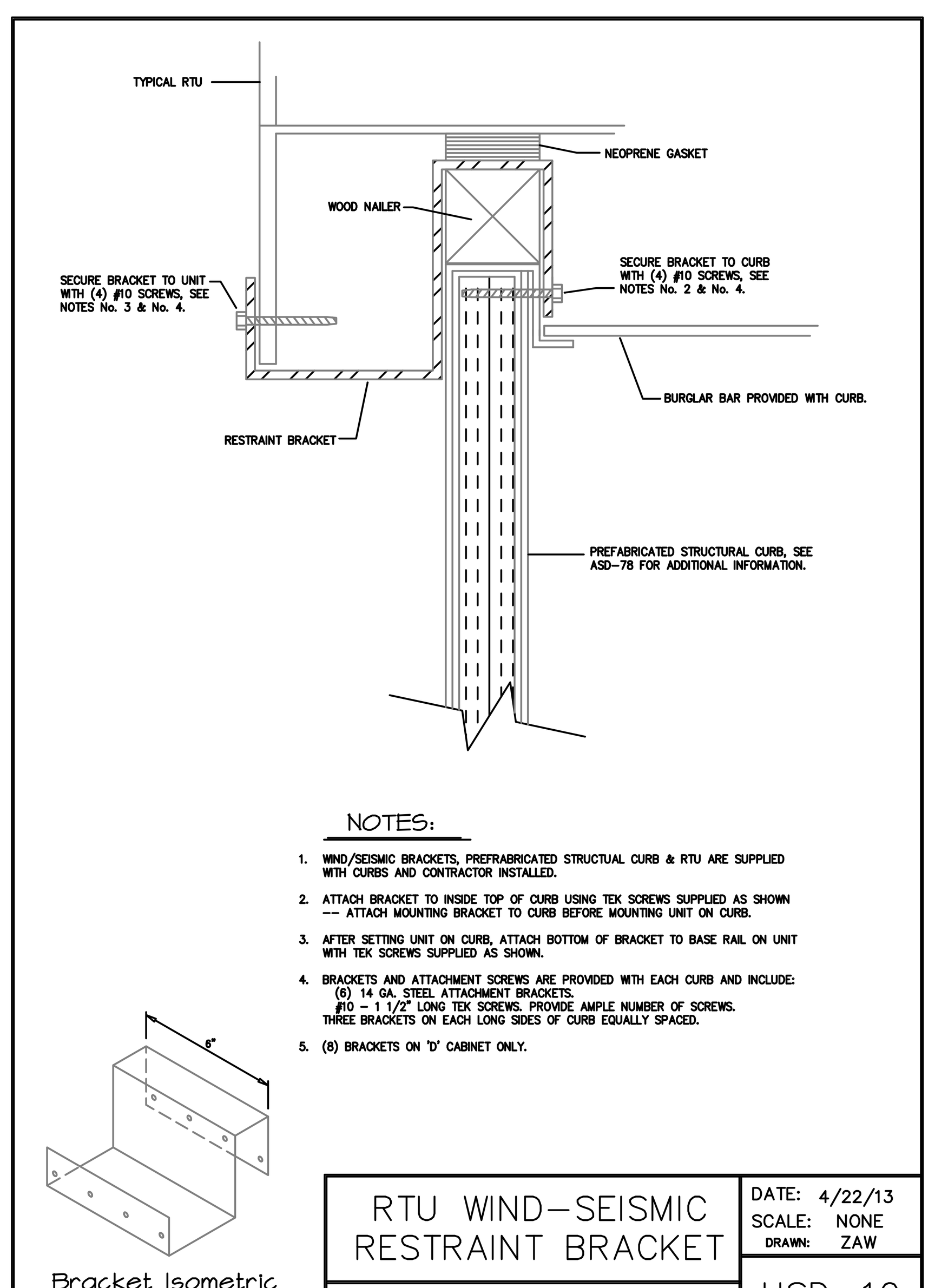
ADJUSTABLE ROOF CURB FOR C-CABINET RTU — DATE: 1/14/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-9C

ORIGINAL ISSUE DATE 10/1/09



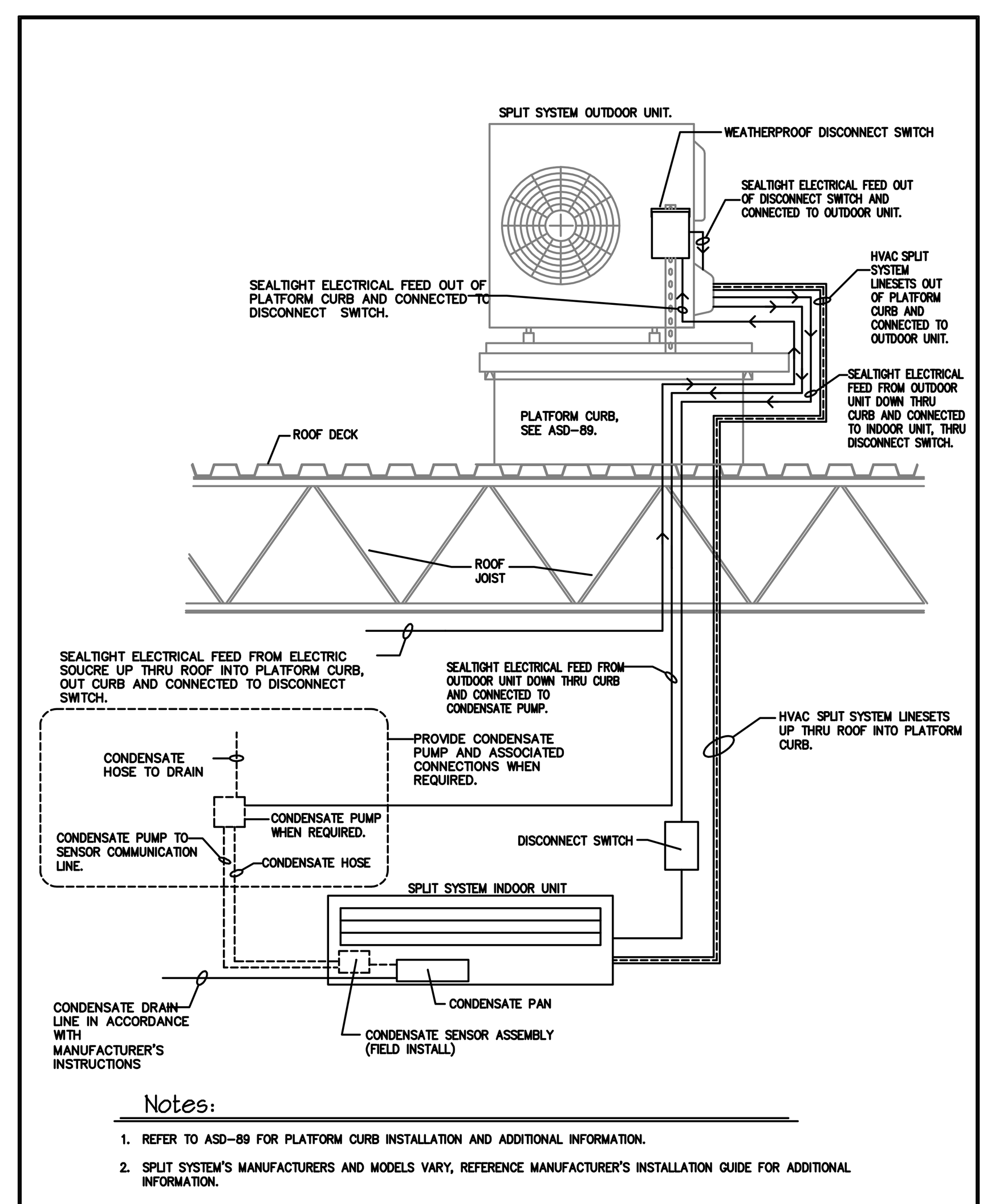
ADJUSTABLE ROOF CURB FOR RQ-CABINET RTU — DATE: 1/14/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-9RQ

ORIGINAL ISSUE DATE 5/7/10



RTU WIND-SEISMIC RESTRAINT BRACKET — DATE: 4/22/13 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-10

ORIGINAL ISSUE DATE 10/1/09



HVAC SPLIT SYSTEM DIAGRAM — DATE: 10/11/12 — SCALE: NONE — DRAWN: ZAW — MASTER SPECIFICATION DETAIL — HSD-11

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MECHANICAL/ELECTRICAL ENGINEERS

OWNER

Kroger

ISSUE/REVISION

04/23/2014
90% OWNER REVIEW

05/20/2014
BID/PERMIT ISSUE

PROJECT TITLE

KROGER STORE
SW917

E Corner Hwy 377 & FM 4
Granbury, TX 76049

COMMISSION NO. 514041

ISSUE DATE 05/20/14

SHEET TITLE

HVAC HSD DETAILS

SHEET NO.

M5.1

HVAC VENTILATION SCHEDULE

ROOMNUM	ROOMNAME	SYSTEM	AREA	PEOPLE DES	PEOPLE RED	OA PER	OA SQFT	REQ SUP	ACT SUP	REQ OA	ACT OA	ACT RET	ACT EXH	CRITICAL	PRESSURE	NOTES
100/101	VESTIBULE 1/CART 1	22	2500	0	0	0	0	1100	7250	11	72	7250	0	0	E	
103	FLORAL STOR.	18	129	0	0	0	0.06	100	100	21	21	100	0	0.1	E	
105	RESTROOM ALCOVE	18	213	1	1	5	0.06	100	100	21	21	100	0	0.22	E	
106	CUSTOMER WOMEN	18	178	0	0	0	0	148	150	31	32	0	240	0	N	
107	CUSTOMER MEN	18	149	0	0	0	0	148	150	31	32	0	240	0	N	
109	SEATING	18	1653	50	50	7.5	0.06	1986	2000	417	420	2000	0	0.296	E	
110	VESTIBULE 3	18	74	0	0	0	0	200	200	42	42	200	0	0	E	
111	DELI SERVICE	16	1112	9	9	7.5	0.06	982	1000	108	110	1000	0	0.168	E	
112	DELI PREP	16	1167	9	9	7.5	0.06	1100	1120	121	123	1120	0	0.1535	E	
117	ORDERING OFFICE	16	63	1	1	5	0.06	100	100	11	11	100	0	0.11	E	
119	HALL 'B'	16	476	0	0	0	0.06	373	380	41	42	380	0	0.0947	E	
120	BAKERY PREP	16	1287	10	10	7.5	0.06	1955	2000	215	220	2000	0	0.095	E	
128C	FAMILY	18	69	0	0	0	0	0	0	0	0	0	100	0	N	
129	BACKROOM	17	7236	0	0	0	0	3689	4000	332	360	4000	0	0	E	
130	EMPLOYEE MEN	17	51	0	0	0	0	0	0	0	0	0	100	0	N	
131	EMPLOYEE WOMEN	17	51	0	0	0	0	0	0	0	0	0	100	0	N	
134	DOCK	17	4483	0	0	0	0.12	3133	3400	282	306	3400	0	0.1976	E	
146	PHARMACY	15	946	9	9	5	0.18	1750	1800	245	252	1800	0	0.1494	E	
147	RX STORAGE	15	113	0	0	5	0.12	100	100	14	14	100	0	0.18	E	
148	RX WAITING	15	654	15	15	5	0.06	729	750	102	105	750	0	0.1893	E	
149	RX COUNSEL	15	122	1	1	5	0.06	143	150	20	21	150	0	0.1	E	
150	TRIAGE	15	116	1	1	5	0.06	100	100	14	14	100	0	0.15	E	
151	TLC	13	513	7	7	7.5	0.12	1100	1200	121	132	1200	0	0.1183	E	
151A	TLC RR	13	79	0	0	5	0.06	0	0	0	0	0	100	0	N	
152	HALL 'D'	15	113	0	0	0	0.06	100	100	14	14	100	0	0.09	E	
154	FAMILY 1	15	75	1	1	5	0.06	57	60	8	8	0	100	0.2	N	
155	FAMILY 2	15	75	1	1	5	0.06	57	60	8	8	0	100	0.2	N	
158	JEWELRY	14	1321	11	11	7.5	0.12	1908	2000	248	260	2000	0	0.1505	E	
159/160	VESTIBULE 2/CART 2	21	973	0	0	0	0	0	3000	0	0	3000	0	0	E	1
161A	SALES	1	12201	98	98	7.5	0.06	10133	10500	1520	1575	10500	0	0.1746	E	
161B	SALES	2	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161C	SALES	3	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161D	SALES	4	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161E	SALES	5	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161F	SALES	6	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161G	SALES	7	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161H	SALES	8	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161I	SALES	9	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161J	SALES	10	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161K	SALES	11	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
161L	SALES	12	6364	50	50	7.5	0.06	4919	5000	787	800	5000	0	0.1892	E	
163	ACCT.	22	101	1	1	5	0.06	0	250	0	2	250	0	0.056	E	
200	OPEN OFFICE	19	904	14	14	5	0.06	1364	1500	150	165	1500	0	0.1033	E	
201	MANAGER	19	117	1	1	5	0.06	91	100	10	11	100	0	0.15	E	
203	CBT	19	199	4	4	5	0.06	273	300	30	33	300	0	0.1333	E	
204	HR OFFICE	19	143	1	1	5	0.06	91	100	10	11	100	0	0.18	E	
205	HALL 'E'	20	374	0	0	0	0.06	200	200	26	26	200	0	0.14	E	
208	EMPLOYEE SECURE STOR.	20	277	0	0	0	0.12	300	300	39	39	300	0	0.1366	E	
209	MEZZANINE MEN	20	159	0	0	0	0	100	100	13	13	0	200	0	N	
210	MEZZANINE WOMEN	20	159	0	0	0	0	100	100	13	13	0	200	0	N	
211	KTV CONFERENCE ROOM	20	412	26	26	5	0.06	992	1000	129	130	1000	0	0.194	E	
212	QUIET ROOM	20	64	1	1	5	0.06	100	100	13	13	100	0	0.11	E	
213	BREAK ROOM	20	489	22	22	5	0.06	1192	1200	155	156	1200	0	0.145	E	

NOTES: 1) UNIT SERVING VESTIBULE UTILIZES NATURAL VENTILATION.

HVAC ELECTRICAL COORDINATION SCHEDULE (HECS)

ABBREVIATIONS

DC	LOCAL DISCONNECT
MC	MOTOR CONTROL (POWER)
SD	DUCT SMOKE DETECTOR
CN	CONTROLS
TS	TOGGLE SWITCH
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)
FLA	OPERATING FULL LOAD AMPS
MCA	MINIMUM CIRCUIT AMPACITY
CP	CORD AND PLUG CONNECTION

CONTRACTOR TYPE

EC	ELECTRICAL CONTRACTOR
EX	EXISTING
FC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
MFR	MANUFACTURER
PC	PLUMBING CONTRACTOR
OR	OWNER OR OTHERS

MOTOR CONTROL TYPE

CS	COMBINATION STARTER
MCC	MOTOR CONTROL CENTER
MG	MAGNETIC STARTER OR CONTACT
MS	MANUAL STARTER
VFD	VARIABLE FREQUENCY DRIVE
MSR	MANUAL STARTER W/CONTROL RELAY
OV	OVERCURRENT PROTECTION

CONTROL TYPE

TC	TIMECLOCK
CPT	CONTROL POWER TRANSFORMER
BAS	BUILDING AUTOMATION SYSTEM
LOW	LOW VOLTAGE CONTROLS
LINE	LINE VOLTAGE CONTROLS
RLINE	REVERSE ACTING LINE VOLTAGE STAT
MAN	MANUAL
FA	FIRE ALARM
CO	CARBON MONOXIDE SENSOR
INT	INTEGRAL TO EQUIPMENT
SCP	SMOKE CONTROL PANEL

MARK	DESCRIPTION	EXISTING	VOLTS	PHASE	EMERG	BHP	HP	HTG KW	WATTS	FLA	MCA	OCP	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	SD QUAN
AC-1	AIR COND. UNIT		208	1						0.76	1		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	0
AC-2	AIR COND. UNIT		208	1						0.76	1		EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	0
CU-1	CONDENSING UNIT		208	1							21	25	EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	0
CU-1 for MAU-1	CONDENSER		208	3							14.5		EC	EC	EC	MG	MFR	MFR	MFR	INT	MFR	MFR	MFR	0
CU-2	CONDENSING UNIT		208	1							12	15	EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	HC	HC	0
CU-2 for MAU-1	CONDENSER		208	3							21.4		EC	EC	EC	MG	MFR	MFR	MFR	INT	MFR	MFR	MFR	0
EF-CC	EXHAUST FAN		120	1			.080			1			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-E	EXHAUST FAN		120	1			.180			2			EC	EC	EC	MS	MFR	MFR	MFR	LINE	HC	HC	EC	0
EF-ER	EXHAUST FAN		120	1			.180			2			EC	EC	EC	MS	MFR	MFR	MFR	LINE	HC	HC	EC	0
EF-G1	EXHAUST FAN		120	1			.5			8			MFR	MFR	MFR	MSR	MFR	MFR	MFR	LINE	MFR	HC	EC	0
EF-G2	EXHAUST FAN		120	1			.5			8			MFR	MFR	MFR	MSR	MFR	MFR	MFR	LINE	MFR	HC	EC	0
EF-H1	EXHAUST FAN		208	3			1.5			4.7			MFR	EC	EC	CS	EC	EC	EC	MAN	MFR	HC	EC	0
EF-H2	EXHAUST FAN		208	3			.5			1.8			MFR	EC	EC	CS	EC	EC	EC	MAN	MFR	HC	EC	0
EF-H3	EXHAUST FAN		208	3			.75			2.7			MFR	EC	EC	CS	EC	EC	EC	MAN	MFR	HC	EC	0
EF-H4	EXHAUST FAN		120	1			.25			4			MFR	EC	EC	CS	EC	EC	EC	MAN	MFR	HC	EC	0
EF-H5	EXHAUST FAN		208	3			.75			2.7			MFR	EC	EC	CS	EC	EC	EC	MAN	MFR	HC	EC	0
EF-J	EXHAUST FAN		120	1			.18			2			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-P	EXHAUST FAN		120	1			.5			2			EC	EC	EC	MS	MFR	MFR	MFR	LINE	HC	HC	EC	0
EF-R1	EXHAUST FAN		120	1			.180			2			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-R2	EXHAUST FAN		120	1			.180			2			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-R3	EXHAUST FAN		120	1			.180			2			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-R4	EXHAUST FAN		120	1			.180			2			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
EF-S	EXHAUST FAN		120	1			.180			4			MFR	MFR	MFR	MSR	EC	EC	EC	MAN	EC	HC	EC	0
H-1	KITCHEN HOOD (18')		120	1									MFR	EC	EC					MAN	MFR	HC	EC	0
H-2	KITCHEN HOOD (8')		120	1									MFR	EC	EC					MAN	MFR	HC	EC	0
H-3	KITCHEN HOOD (6')		120	1									MFR	EC	EC					MAN	MFR	HC	EC	0
H-4	KITCHEN HOOD (5')		120	1									MFR	EC	EC					MAN	MFR	HC	EC	0
H-5	KITCHEN HOOD (5')		120	1									MFR	EC	EC					MAN	MFR	HC	EC	0
MAU-1	MAKEUP AIR UNIT		208	3			2			6.2			EC	EC	EC	MG	MFR	MFR	MFR	LOW	HC	EC	EC	0
RTU-1	ROOFTOP UNIT		480	3						80	87	110	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-10	ROOFTOP UNIT		480	1						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-11	ROOFTOP UNIT		480	1						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-12	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-13	ROOFTOP UNIT		208	3						19	22	30	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-14	ROOFTOP UNIT		480	3						12	14	20	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-15	ROOFTOP UNIT		480	3						19	22	30	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-16	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-17	ROOFTOP UNIT		480	3						59	64	80	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-18	ROOFTOP UNIT		480	3						22	27	40	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-19	ROOFTOP UNIT		480	3						12	14	20	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-2	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-20	ROOFTOP UNIT		480	3						22	27	40	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-21	ROOFTOP UNIT		480	3						19	22	30	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-22	ROOFTOP UNIT		480	3						50	55	70	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	1
RTU-3	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-4	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-5	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-6	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-7	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-8	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0
RTU-9	ROOFTOP UNIT		480	3						37	40	50	MFR	MFR	MFR	MG	MFR	MFR	MFR	BAS	OR	HC	EC	0

DESIGN AMBIENT TEMP'S:
SUMMER: 102° DRY BULB
75° WET BULB
WINTER: 18° DRY BULB

ITEM	OA	RA	SA	EA	PRESSURE
HOOD EXHAUST	--	--	--	8,500	-8,500
TOILET	--	--	--	1,500	-1,500
MISC EXHAUST	--	--	--	4,500	-4,500
RTU-1 THRU RTU-22	13,635	88,445	102,080	--	+13,635
MAU			3,184		+3,184
TOTAL	13,635	88,445	105,264	14,500	+2,319

AIR BALANCE SCHEDULE CFM

HVAC DIRECT BUY EQUIPMENT ORDERING INFORMATION (ALL OTHER EQUIPMENT CONTRACTOR SUPPLIED)

MARK	TYPE	ePRO#	CURB AES MODEL# (CONTRACTOR SUPPLIED)
AC-1	AIR COND. UNIT	K-0013853	N/A
AC-2	AIR COND. UNIT	K-0017247	N/A
CU-1	CONDENSING UNIT	K-0013854	42486
CU-2	CONDENSING UNIT	K-0017248	42486
EF-CC	EXHAUST FAN	K-0002358	42408
EF-E	EXHAUST FAN	K-0002357	42408
EF-ER	EXHAUST FAN	K-0002386	42413
EF-G1	EXHAUST FAN	K-0002387	42413
EF-G2	EXHAUST FAN	K-0002387	42413
EF-H1	EXHAUST FAN	COORDINATE WITH CAPTIVE AIRE	
EF-H2	EXHAUST FAN	COORDINATE WITH CAPTIVE AIRE	
EF-H3	EXHAUST FAN	K-0017441	42402
EF-H4	EXHAUST FAN	COORDINATE WITH CAPTIVE AIRE	42408
EF-H5	EXHAUST FAN	K-0016928	42408
EF-P	EXHAUST FAN	K-0002357	42408
EF-R1	EXHAUST FAN	K-0002357	42408
EF-R2	EXHAUST FAN	K-0002386	42413
EF-R3	EXHAUST FAN	K-0002357	42408
EF-R4	EXHAUST FAN	K-0002357	42408
EF-S	EXHAUST FAN	K-0002386	42413
H-1	KITCHEN HOOD	COORDINATE WITH CAPTIVE AIRE	N/A
H-2	KITCHEN HOOD	COORDINATE WITH CAPTIVE AIRE	N/A
H-3	KITCHEN HOOD	K-0017436	N/A
H-4	KITCHEN HOOD	COORDINATE WITH CAPTIVE AIRE	N/A
H-5	KITCHEN HOOD	K-0002347	N/A
MUA-1	MAKEUP AIR UNIT	COORDINATE WITH CAPTIVE AIRE	
RTU-1	ROOFTOP UNIT	N/A	42473
RTU-2	ROOFTOP UNIT	N/A	42472
RTU-3	ROOFTOP UNIT	N/A	42472
RTU-4	ROOFTOP UNIT	N/A	42472
RTU-5	ROOFTOP UNIT	N/A	42472
RTU-6	ROOFTOP UNIT	N/A	42472
RTU-7	ROOFTOP UNIT	N/A	42472
RTU-8	ROOFTOP UNIT	N/A	42472
RTU-9	ROOFTOP UNIT	N/A	42472
RTU-10	ROOFTOP UNIT	N/A	42472
RTU-11	ROOFTOP UNIT	N/A	42472
RTU-12	ROOFTOP UNIT	N/A	42472
RTU-13	ROOFTOP UNIT	N/A	42475
RTU-14	ROOFTOP UNIT	N/A	42460
RTU-15	ROOFTOP UNIT	N/A	42460
RTU-16	ROOFTOP UNIT	N/A	42475
RTU-17	ROOFTOP UNIT	N/A	42472
RTU-18	ROOFTOP UNIT	N/A	42475
RTU-19	ROOFTOP UNIT	N/A	42460
RTU-20	ROOFTOP UNIT	N/A	42475
RTU-21	ROOFTOP UNIT	N/A	42472
RTU-22	ROOFTOP UNIT	N/A	42473

Heat Reclaim Coil Design Information

Store Number	SW917	
Refrigeration Designer	J. KINTNER	
Date	3/24/2014	
Refrigeration Side Information		
Refrigeration Application Type		IPAC
Number of Circuits		2
Inlet Gas Temperature (° F)		160
RTU-1		
System	IPAC "A"	IPAC "D"
Refrigerant	R404a	R404a
Condensing Temp. (° F)	115	115
THR (MBH)	475.8	421.4
*Derated THR (MBH)	237.9	210.7
Mass Flow Rate (lb/Hr)	6900	6120
*Racks Derated to 60%		
*Singles Derated to 80%		
*IPACs Derated to 50%		
Air Side Information		
Design CFM	10,500	
EAT (° F)	55.0	
LAT (° F)	94.4	
Total Reclaim Heat (Btu/Hr) = 448.600		

Heat Reclaim Coil Design Information

Store Number	SW917	
Refrigeration Designer	J.KINTNER	
Date	3/24/2014	
Refrigeration Side Information		
Refrigeration Application Type		IPAC
Number of Circuits		1
Inlet Gas Temperature (° F)		160
RTU-6		
System	IPAC "E"	
Refrigerant	R404a	
Condensing Temp. (° F)	110	
THR (MBH)	221.4	
*Derated THR (MBH)	110.7	
Mass Flow Rate (lb/Hr)	2360	
*Racks Derated to 60%		
*Singles Derated to 80%		
*IPACs Derated to 50%		
Air Side Information		
Design CFM	5,000	
EAT (° F)	55.0	
LAT (° F)	75.4	
Total Reclaim Heat (Btu/Hr) = 110,700		

Heat Reclaim Coil Design Information

Store Number	SW917	
Refrigeration Designer	J.KINTNER	
Date	3/24/2014	
Refrigeration Side Information		
Refrigeration Application Type		IPAC
Number of Circuits		1
Inlet Gas Temperature (° F)		160
RTU-20		
System	IPAC "F"	
Refrigerant	R404a	
Condensing Temp. (° F)	115	
THR (MBH)	212.6	
*Derated THR (MBH)	110.7	
Mass Flow Rate (lb/Hr)	5760	
*Racks Derated to 60%		
*Singles Derated to 80%		
*IPACs Derated to 50%		
Air Side Information		
Design CFM	2,800	
EAT (° F)	55.0	
LAT (° F)	91.4	
Total Reclaim Heat (Btu/Hr) = 110,700		

Heat Reclaim Coil Design Information

Store Number	SW917	
Refrigeration Designer	J.KINTNER	
Date	3/24/2014	
Refrigeration Side Information		
Refrigeration Application Type		IPAC
Number of Circuits		1
Inlet Gas Temperature (° F)		160
RTU-22		
System	IPAC "G"	
Refrigerant	R404a	
Condensing Temp. (° F)	115	
THR (MBH)	237.9	
*Derated THR (MBH)	110.7	
Mass Flow Rate (lb/Hr)	6900	
*Racks Derated to 60%		
*Singles Derated to 80%		
*IPACs Derated to 50%		
Air Side Information		
Design CFM	2,800	
EAT (° F)	55.0	
LAT (° F)	91.4	
Total Reclaim Heat (Btu/Hr) = 110,700		

HVAC SYSTEM EQUIPMENT SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MFGR	MODEL	VOLTS	PHASE	CFM	STATIC	OACFM	CLG MBH	CLG SENS	CLG GPM	HTG MBH	HTG GPM	GAS HTG IN	GAS HTG OUT	FLA	MCA	OCP
RTU-1	ROOFTOP UNIT	SALES	AAON	RN-030	480	3	10500	1	1575	316	271	0.00	224	0.00	405	328.1	80	87	110
RTU-10	ROOFTOP UNIT	SALES	AAON	RN-015	480	1	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-11	ROOFTOP UNIT	SALES	AAON	RN-015	480	1	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-12	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156			
RTU-13	ROOFTOP UNIT	TLC	AAON	RQ-003	208	3	1200	0.5	132	33	29	0.00	32	0.00	60	48.6	19	22	30
RTU-14	ROOFTOP UNIT	JEWELRY	AAON	RQ-005	480	3	2000	0.5	500			0.00	35	0.00	60	48.6	12	14	20
RTU-15	ROOFTOP UNIT	PHARMACY	AAON	RN-008	480	3	3000	1	420	88	76	0.00	51	0.00	90	72.9	19	22	30
RTU-16	ROOFTOP UNIT	DELI/BAKERY	AAON	RN-015	480	3	4600	1	506	127	113	0.00	60	0.00	195	156	37	40	50
RTU-17	ROOFTOP UNIT	DOCK/BACKROOM	AAON	RN-020	480	3	7400	0.55	592	185	176	0.00	168	0.00	270	218.7	59	64	80
RTU-18	ROOFTOP UNIT	SEATING	AAON	RN-010	480	3	2700	1	568	94	74	0.00	62	0.00	90	72.9	22	27	40
RTU-19	ROOFTOP UNIT	MEZZ OFFICE	AAON	RQ-005	480	3	2000	0.5	220	55	48	0.00	30	0.00	60	48.6	12	14	20
RTU-2	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	111	0.00	195	156	37	40	50
RTU-20	ROOFTOP UNIT	MEZZ BREAK	AAON	RN-010	480	3	2800	1	392	87	71	0.00	53	0.00	90	72.9	22	27	40
RTU-21	ROOFTOP UNIT	VESTIBULE	AAON	RN-008	480	3	3000	1	0	64	64	0.00	65	0.00	90	72.9	19	22	30
RTU-22	ROOFTOP UNIT	VESTIBULE	AAON	RN-016	480	3	7500	1	74	164	163	0.00	123	0.00	270	218.7	50	55	70
RTU-3	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-4	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-5	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-6	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-7	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-8	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50
RTU-9	ROOFTOP UNIT	SALES	AAON	RN-015	480	3	5000	0.5	800	150	127	0.00	94	0.00	195	156	37	40	50

HVAC EXHAUST FAN SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MFGR	MODEL	VOLTS	PHASE	CFM	STATIC	BHP	HP	FLA
EF-CC	EXHAUST FAN	CLEANING CENTER	CAPTIVE-AIRE	DR10HFA	120	1	100	0.125		.080	1
EF-E	EXHAUST FAN	ELECTRIC ROOM	CAPTIVE-AIRE	DR12HFA	120	1	600	0.125		.180	2
EF-ER	EXHAUST FAN	ELEVATOR ROOM	CAPTIVE-AIRE	DR12HFA	120	1	400	0.125		.180	2
EF-G1	EXHAUST FAN	DOUBLE RACK OVEN	CAPTIVE-AIRE	NCA14HPFA	120	1	900	1.2		.5	8
EF-G2	EXHAUST FAN	DOUBLE RACK OVEN	CAPTIVE-AIRE	NCA14HPFA	120	1	900	1.2		.5	8
EF-H1	EXHAUST FAN	18' HOOD	CAPTIVE AIRE	NCA16FA	208	3	3150	0.349		1.5	4.7
EF-H2	EXHAUST FAN	8' HOOD	CAPTIVE AIRE	NCA10FA	208	3	1400	0.338		.5	1.8
EF-H3	EXHAUST FAN	6' HOOD	CAPTIVE AIRE	NCA24HPFA	208	3	1350	1		.75	2.7
EF-H4	EXHAUST FAN	SEAFOOD HOOD	CAPTIVE AIRE	DU30HFA	120	1	600	0.25		.25	4
EF-H5	EXHAUST FAN	SEAFOOD GRILLER	CAPTIVE AIRE	NCA18HPFA	208	3	2000	1		.75	2.7
EF-J	EXHAUST FAN	JEWELRY STORE	CAPTIVEAIRE	DR12HFA	120	1	600	0.125		.18	2
EF-P	EXHAUST FAN	EQUIPMENT	CAPTIVE AIRE	DR12HFA	120	1	400	0.125		.5	2
EF-R1	EXHAUST FAN	EMPLOYEE RR	CAPTIVE-AIRE	DR12HFA	120	1	200	0.125		.180	2
EF-R2	EXHAUST FAN	CUSTOMER RR	CAPTIVE-AIRE	DR12HFA	120	1	600	0.125		.180	2
EF-R3	EXHAUST FAN	FAMILY RR	CAPTIVE-AIRE	DR12HFA	120	1	300	0.125		.180	2
EF-R4	EXHAUST FAN	MEZZANINE RR	CAPTIVE-AIRE	DR12HFA	120	1	400	0.125		.180	2
EF-S	EXHAUST FAN	SEAFOOD	CAPTIVE-AIRE	DR30HFA	120	1	600	0.125		.180	4

HVAC MISCELLANEOUS EQUIPMENT SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MFGR	MODEL	VOLTS	PHASE	CFM	HP	CLG MBH	CLG SENS	GAS HTG IN	GAS HTG OUT	MIN GAS PRESSURE	MAX GAS PRESSURE	FLA	MCA	OCP
AC-1	AIR COND. UNIT	ECR	MITSUBISHI	MSY-D36NA	208	1									0.76	1	
AC-2	AIR COND. UNIT	LOSS PREVENTION	MITSUBISHI	MSZ-GE09NA	208	1									0.76	1	
CU-1	CONDENSING UNIT	AC-1	MITSUBISHI	MUY-D36NA	208	1										21	25
CU-1 for MAU-1	CONDENSER	DELI PREP	CAPTIVE AIRE	A2-D.250-G15-MPU	208	3										14.5	
CU-2	CONDENSING UNIT	AC-2	MITSUBISHI	MUZ-GE09NA	208	1										12	15
CU-2 for MAU-1	CONDENSER	DELI PREP	CAPTIVE AIRE	A2-D.250-G15-MPU	208	3										21.4	
H-1	KITCHEN HOOD (18')	DELI PREP	CAPTIVE AIRE	6024 ND-2-PSP-F	120	1											
H-2	KITCHEN HOOD (8')	DELI PREP	CAPTIVE AIRE	6024 ND-2-PSP-F	120	1											
H-3	KITCHEN HOOD (6')	DELI	CAPTIVE AIRE	6030 NDI	120	1											
H-4	KITCHEN HOOD (5')	SEAFOOD PREP	CAPTIVE AIRE	6024 VHB-G	120	1											
H-5	KITCHEN HOOD (5')	SEAFOOD GRILLER	CAPTIVE AIRE	6030 NDI	120	1	2000										
MAU-1	MAKEUP AIR UNIT	DELI PREP	CAPTIVE AIRE	A2-D.250-G15-MPU	208	3	3184	2	90	64	203.291	187.028	7	14	6.2		

AIR DEVICE SCHEDULE

GENERAL NOTES:
A. ALL AIR DEVICES ARE 4-WAY THROW UNLESS OTHERWISE NOTED IN SCHEDULES OR ON DRAWINGS.
B. REFER TO SPECIFICATION SECTION 23 37 00 FOR ADDITIONAL INFORMATION AND APPROVED ALTERNATES.
C. CONFIRM AIR DEVICE MOUNTING STYLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
D. BORDER STYLE:
"A": SURFACE MOUNTED (FOR DRYWALL MOUNTED DIFFUSERS ONLY).
"B": LAY-IN, PROVIDE WITH TRIM FRAME FOR DRYWALL CEILING. SEE HD-4 AND HD-7, SHEET M3.1 FOR ADDITIONAL INFORMATION.
"C": DIFFUSER MOUNTED ON RIGID DUCT.

REMARKS:
1. WITH ADJUSTABLE DISCHARGE PATTERN.
2. WITH 45-DEGREE ANGLE BLADES. INSTALL WITH BLADES ANGLED UPWARD.
3. WITH FACE-OPERABLE DAMPER.
4. PROVIDE OPPOSED BLADE DAMPER IN NECK OF GRILLE IN DRYWALL CEILING.
5. BOTTOM FACE DIMENSION: 56x56, NECK SIZE: 28x28.
6. BOTTOM FACE DIMENSION: 58x58, NECK SIZE: 38x38.
7. BOTTOM FACE DIMENSION: 59x59, NECK SIZE: 38x38.
8. BOTTOM FACE DIMENSION: 30x30, NECK SIZE: 24x24.

SYMBOL	TYPE	BASIS OF DESIGN (TITUS, UNLESS NOTED OTHERWISE):	MOUNTING			BORDER	REMARKS
			CEILING	DUCT	WALL		
RG	RETURN GRILLE	50F		○		C	
CD	CEILING DIFFUSER	TDC-A	○			B	
TG-1	TRANSFER GRILLE	23RL0A25			○	B	2
TG-2	TRANSFER GRILLE	350RL	○			A/B	
SD	SUPPLY DIFFUSER	TDC-A	○			A/B	
RR	RETURN REGISTER	350RL	○			B	
ER	EXHAUST REGISTER	350RL	○	○	○	A/B/C	4
SR	SUPPLY REGISTER	300RS		○	○	C	1,3
RD	ROUND DIFFUSER	TMRA		○		C	1,3
VAV-DIFF	VAV DIFFUSER	ACCUTHERM TF-HC	○			B	
DB-1	DROPBOX DIFFUSER, 6-WAY THROW	AES INDUSTRIES ADB-6-20		○		C	5
DB-2	DROPBOX DIFFUSER, 3-WAY THROW	AES INDUSTRIES ADB-1-20-3		○		C	6
DB-3	DROPBOX DIFFUSER, 2-WAY ADJACENT THROW	AES INDUSTRIES ADB-1-20-2B		○		C	7
DB-4	DROPBOX DIFFUSER, 2-WAY OPPOSED THROW	AES INDUSTRIES ADB-1-20-2A		○		C	7
DB-5	DROPBOX DIFFUSER, 3-WAY THROW	AES INDUSTRIES ADB-1-8-3		○		C	8

HVAC SYMBOLS LEGEND

SYMBOL	DESCRIPTION
SR ☒	SUPPLY REGISTER
RR ▨	RETURN REGISTER
ER ▨	EXHAUST REGISTER
RG ▨	RETURN GRILLE
TG ▨	TRANSFER GRILLE
CD ☒	CEILING DIFFUSER
CD–10"ø	2'x2' SQUARE CEILING DIFFUSER WITH 10" NECK
	SUPPLY DUCT WITH ELBOW TURNED DOWN
	RETURN DUCT WITH ELBOW TURNED DOWN
	EXHAUST DUCT WITH ELBOW TURNED DOWN
	BRANCH TAKEOFF
Ⓢ	TEMPERATURE SENSOR

REFER TO PLUMBING SHEET P1.3 FOR GAS SHUTOFF VALVES FOR EQUIPMENT BELOW KITCHEN HOODS.

HVAC ACCESSORIES

ACCESSORIES:
1. MOTOR DAMPER
2. ECONOMIZER
3. ROOF CURB
4. SMOKE DETECTOR
5. INTAKE HOOD
6. VIBRATION ISOLATION
7. FLAT FILTER
8. FILTER/MIXING BOX
9. ACCESS DOOR
10. FLEX CONNECTIONS
11. MOUNTING COLLAR
12. HOT GAS BYPASS
13. FACE/BYPASS DAMPER
14. CONDENSATE PUMP
15. MOTOR GUARD
16. GREASE TRAP
17. DUCT FLANGES
18. BASE RAIL
19. HUMIDIFIER
20. CO2 SENSORS
21. ECON POWERED EXHAUST
22. ECON BAROMETRIC RELIEF
23. HEAT RECLAIM COIL

HVAC STANDARD ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AC	AIR CONDITIONING UNIT
AMP	AMPERGE
AP	ACCESS PANEL
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CI	CAST IRON
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
C	CENTIGRADE (CELCIUS)
CD	CEILING DIFFUSER
D	DAMPER – AUTOMATIC
DB	DECIBELS
Db	DRY-BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DF	DIFFUSER
DIA	DIAMETER
DP	DEW POINT TEMPERATURE
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EH	EXHAUST HOOD
ENT	ENTERING
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
F	FAHRENHEIT
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FT-LB	FOOT-POUND
GA	GAUGE
GS	GALVANIZED STEEL
H	HUMIDIFER
HD	HEAD
HD	HOOD
HP	HEAT PUMP
HP	HORSEPOWER
HSTAT	HUMIDISTAT
HVU	HEATING AND VENTILATING UNIT
HW	HOT WATER
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN-LB	INCH-POUND
IS	INSECT SCREEN
kW	KILOWATT
kWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LH	LATENT HEAT
LVG	LEAVING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MIN	MINIMUM
MVD	MANUAL VOLUME DAMPER
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAG	OUTSIDE AIR GRILLE
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
P	PUMP
PD	PRESSURE DROP
PF	PRE-FILTER
PG	PRESSURE GAGE
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAGE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
R/E	RETURN OR EXHAUST
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
REA	RELIEF AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SAD	SOUND ATTENUATING DEVICE
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SD	SMOKE DETECTOR
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
SG	SUPPLY AIR GRILLE
SH	STEAM HUMIDIFIER
SHC	STEAM HEATING COIL
SI	SQUARE INCHES
SP	STATIC PRESSURE
SP GR	SPECIFIC GRAVITY
SQ FT	SQUARE FOOT (FEET)
SR	SUPPLY AIR REGISTER
TAB	TESTING, ADJUSTING, BALANCE
TD	TEMPERATURE DIFFERENCE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
Wb	WET-BULB (TEMPERATURE)

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Granbury, TX 76049

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SHEET TITLE
HVAC SCHEDULES

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M6.1