CODE INFORMATION

APPLICABLE CODES:
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL GREEN CONSTRUCTION CODE
BUILDING CODE OF BALTIMORE COUNTY, MARYLAND

OCCUPANCY TYPE:	A-2: ASSEMBLY (NON-SPRINKLED)
CONSTRUCTION TYPE:	V-B: WOOD FRAME
NUMBER OF STORIES	1
BUILDING HEIGHT:	22'-0"
FLOOD HAZARD CLASSIFICATION:	AREA OF MINIMAL HAZARD
UTILITY PROVIDERS:	EXISTING
DESIGN LOADS & CATEGORIES:	EXISTING

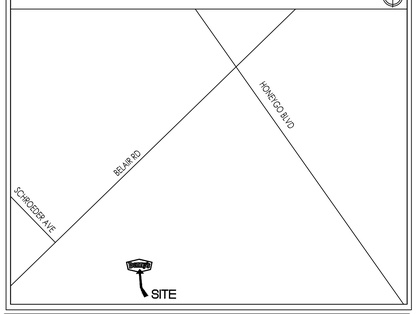
PROJECT DATA

OWNER:	ARCHITECT:	DESIGN GROUP:
MICHAEL ROMMEL MSBROMMEL@GMAIL.COM ROMMEL RESTAURANT GROUP I, INC. DENTZ INC., ATLANTIC INVESTMENT CO. PMAZZA@ROMMEL-OPS.COM OFFICE:410-472-2307	DUSTIN CURTIS 8686 SUITE 166-N CENTRAL AVE PHOENIX, AZ 85020 P:602-266-2712 ONEARCHITECTURE.US	TECHNICAL GROUP INC. 27300 SUITE F-2 HAGGERTY RD. FARMINGTON HILLS, MI 48331 P:(248)426-8000 F:(248) 426-7004 MAIL@TECHNICALGROUPINC.NET

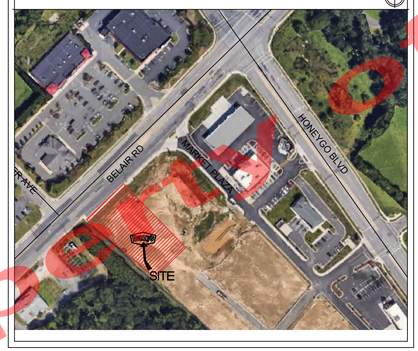
LOCAL AUTHORITIES

ZONING DIVISION	HEALTH DEPARTMENT
COUNTY OFFICE BUILDING 111 WEST CHESAPEAKE AVENUE ROOM 124 TOWSON, MARYLAND 21204 PAIZONING@BALTIMORECOUNTYMD.GOV	DRUMCASTLE GOVERNMENT CENTER 6401 YORK ROAD, THIRD FLOOR BALTIMORE, MARYLAND 21212 EHS@BALTIMORECOUNTYMD.GOV P: 410-887-3663
BUILDING DEPT.	
111 WEST OFFICE BUILDING AVE. TOWSON, MARYLAND 21204 P: 410-887-3353 p:410-887-3351 PAIENFORCE@BALTIMORECOUNTYMD.GOV	

LOCATION MAP (N.T.S.)



VICINITY MAP (N.T.S.)



PROJECT SCOPE

THE PROJECT SCOPE OUTLINED IN THIS SET OF DOCUMENTS INCLUDES A NEW 4,400 SQ. FT. FREE STANDING DENNY'S RESTAURANT TO BE LOCATED IN 9801 BELAIR ROAD PERRY HALL, MD. SITE WORK INCLUDES INSTALLATION OF NEW PAVEMENT, PARKING AND LANDSCAPING. THE PROPOSED BUILDING IS A WOOD FRAMED STRUCTURE WITH STONE, EXTERIOR INSULATION FINISH, AND METAL PANELS ON THE EXTERIOR FASCADES. THE EXTERIOR SIGNS, AWNINGS, AND INTERIOR FINISHES ARE PER THE DENNY'S PROTOTYPE DESIGN STANDARDS.

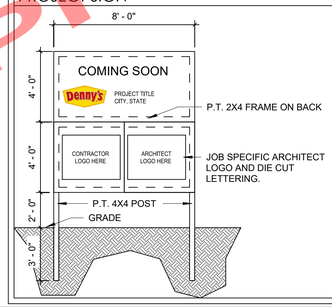
DEFERRED SUBMITALS AND SEPARATE PERMITS

THE FOLLOWING ITEMS ARE DEFERRED SUBMITTALS OR SEPARATE PERMITS:
1. FIRE SPRINKLER SYSTEM DRAWINGS AND CALCULATIONS
2. KITCHEN HOOD FIRE EXTINGUISHING SYSTEM
3. FIRE ALARM AND DETECTION SYSTEM
4. EXTERIOR SIGN PERMIT
5. CANOPIES AND AWNINGS
6. CONTRACTOR TO PROVIDE ALL MANUFACTURER'S ENGINEERING, SHOP DRAWINGS, AND CALCULATIONS FOR BUILDING DEPARTMENT APPROVAL FOR THE ROOF STEEL JOIST SYSTEM. SUBMIT DRAWINGS AND CALCULATIONS TO ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL.

GENERAL NOTES

1. THE TERM "WORK" AS USED IN THESE NOTES SHALL INCLUDE ALL PROVISIONS AS DRAWN OR SPECIFIED IN THESE DOCUMENTS AS WELL AS ALL OTHER PROVISIONS SPECIFICALLY INCLUDED BY THE OWNER IN THE FORM OF DRAWINGS, SPECIFICATIONS, AND WRITTEN INSTRUCTIONS AND APPROVED BY THE ARCHITECT.
2. THE TERM "CONTRACTOR" AS USED IN THESE NOTES SHALL REFER TO THE GENERAL CONTRACTOR OR TO THE SUB-CONTRACTORS. THE OWNER MAY ELECT TO CONTRACT DIRECTLY WITH A SUB-CONTRACTOR FOR ANY PART OF THE WORK.
3. SCOPE OF WORK: THE CONTRACTOR SHALL INCLUDE AND PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, AND PAY ALL EXPENSES INCURRED IN THE PROPER COMPLETION OF WORK UNLESS SPECIFICALLY NOTED TO BE THE WORK OF OTHERS. CONTRACTOR SHALL PERFORM ALL WORK NECESSARY FOR PRODUCING A COMPLETE, HABITABLE PROJECT, INCLUDING BUT NOT LIMITED TO SITE WORK, ARCHITECTURAL, STRUCTURAL, FIRE PROTECTION, PLUMBING, HVAC, AND ELECTRICAL.
4. BEFORE CONSTRUCTION BEGINS, THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND SHALL NOTIFY THE ARCHITECT, IN WRITING, OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK AND SHALL BE RESPONSIBLE FOR SAME.
5. IF THE CONTRACT DOCUMENTS ARE FOUND TO BE UNCLEAR, AMBIGUOUS OR CONTRADICTORY, THE CONTRACTOR MUST REQUEST CLARIFICATION FROM THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH THAT PART OF THE WORK.
6. IF A CONDITION EXISTS THAT REQUIRES OBSERVATION OR ACTION BY THE ARCHITECT, OR OTHER DESIGN PROFESSIONAL, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.
7. CONTRACTOR SHALL BE FAMILIAR WITH PROVISIONS OF ALL APPLICABLE CODES AND SHALL ENSURE THE COMPLIANCE OF THE WORK WITH ALL LOCAL, STATE AND FEDERAL CODES, TRADE STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. IN THE EVENT OF CONFLICT BETWEEN LOCAL, STATE AND NATIONAL CODES, THE MORE STRINGENT SHALL GOVERN. BEFORE COMMENCING WORK NOT SHOWN IN DOCUMENTS, BUT REQUIRED TO ACHIEVE FULL COMPLIANCE WITH CODES, CONTRACTOR SHALL NOTIFY ARCHITECT.
8. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SAFETY AND COMPLIANCE WITH REQUIREMENTS SPECIFIED IN THE OWNER/CONTRACTOR CONTRACT IS, AND SHALL BE, THE CONTRACTOR'S RESPONSIBILITY.
9. CONTRACTOR SHALL PAY ALL TAXES, SECURE ALL PERMITS AND PAY ALL FEES INCURRED IN THE COMPLETION OF THE PROJECT.
10. THE CONTRACTOR SHALL UNCONDITIONALLY WARRANTY ALL MATERIALS, AND WORKMANSHIP FURNISHED OR INSTALLED BY HIM OR HIS SUBCONTRACTORS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND SHALL REPLACE ANY DEFECTIVE WORK WITHIN THAT PERIOD WITHOUT EXPENSE TO THE OWNER AND PAY FOR ALL DAMAGES TO OTHER PARTS OF THE BUILDING RESULTING FROM DEFECTIVE WORK OR ITS REPAIR. THE CONTRACTOR SHALL REPLACE DEFECTIVE WORK WITHIN A REASONABLE, AGREED UPON TIME FRAME, AFTER IT IS BROUGHT TO HIS ATTENTION.
11. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS AND RUBBISH AND AT THE COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE ALL RUBBISH, IMPLEMENTS, AND SURPLUS MATERIALS AND LEAVE THE BUILDING IN NEW AND CLEAN CONDITION.
12. CONTRACTOR IS TO PROVIDE TO THE OWNER A LIST OF ALL SUBCONTRACTORS USED, COMPLETE WITH ADDRESSES, PHONE NUMBERS AND COPIES OF ALL WARRANTIES AND OPERATIONS AND MAINTENANCE MANUALS.

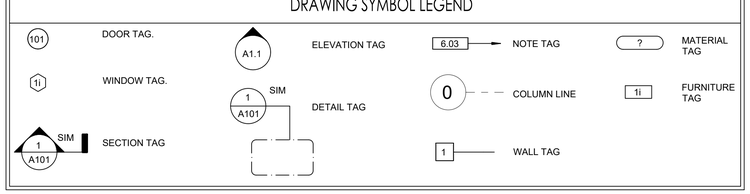
PROJECT SIGN



NOTES:

1. GC TO PROVIDE AND INSTALL ONE PROJECT SIGN. LOCATIONS TO BE DETERMINED IN FIELD. VERIFY LOCATION WITH OWNER.
2. PROJECT SIGN TO REMAIN PROMINENTLY DISPLAYED DURING ENTIRE CONSTRUCTION PERIOD. REMOVE FROM PROJECT SITE WHEN BUILDING OCCUPIED AND OPEN FOR BUSINESS.
3. SIGN PAINTED ON 3/4" EXTERIOR PLYWOOD. LETTER STYLE AND PLACEMENT SHOULD BE SIMILAR TO THAT SHOWN.
4. PROVIDE KICK BACK TREATED WOOD POSTS AS NEEDED. PAINTED WHITE.

DRAWING SYMBOL LEGEND



SHEET INDEX

SHEET	DESCRIPTION
GENERAL	
T-1.1	COVER SHEET
T-1.2	RESPONSIBILITY SCHEDULE & GENERAL ACCESSIBILITY REQUIREMENTS
T-1.3	LIFE SAFETY PLAN
SPECIFICATIONS	
SP-1.1	SPECIFICATIONS
SP-1.2	SPECIFICATIONS
SP-1.3	SPECIFICATIONS
SP-1.4	SPECIFICATIONS
SP-1.5	SPECIFICATIONS
SP-1.6	SPECIFICATIONS
CIVIL (FOR REFERENCE ONLY)	
C-01	COVER SHEET (FOR REFERENCE ONLY)
C-02	EXISTING CONDITIONS AND SITE DEMOLITION (FOR REFERENCE ONLY)
C-13	SITE PLAN TO ACCOMPANY BUILDING PERMIT APPLICATION (FOR REFERENCE ONLY)
C-23	6" D.C. METER, 2" DOMESTIC METER (2" SERVICE) PLANE (FOR REFERENCE ONLY)
C-24	STORM DRAIN DRAINAGE AREA MAP AND COMPUTATIONS (FOR REFERENCE ONLY)
C-32	PRIVATE UTILITY PLAN (FOR REFERENCE ONLY)
E-301	PHOTOMETRIC LAYOUT (FOR REFERENCE ONLY)
E-601	SCHEDULES, TABLES, AND DETAILS (FOR REFERENCE ONLY)
	LOT 1 OVERALL LANDSCAPE PLAN (FOR REFERENCE ONLY)
	LOT 2 NOTES AND DETAILS (FOR REFERENCE ONLY)
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AS-1	PROPOSED SITE PLAN
AS-2	SITE DETAILS
AS-3	TRASH ENCLOSURE PLAN DETAILS
AS-4	SITE UTILITIES
AS-5	SITE GRADING PLAN
STRUCTURAL	
S-0.0	GENERAL NOTES
S-1.1	FOUNDATION PLAN
S-1.2	ROOF FRAMING PLAN
S-2.0	GENERAL DETAILS
S-3.0	FOUNDATION SECTIONS
S-4.0	ROOF FRAMING SECTIONS
S-4.1	ROOF FRAMING SECTIONS
S-5.0	BUILDING SECTIONS
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A-1.1.1	DOOR AND WINDOW SCHEDULES AND DETAILS
A-1.2	WALL TYPE PLAN
A-1.3	CURB AND DRAIN PLAN
A-1.4	ALTERNATE FLOOR FINISH PLAN
A-1.4.1	FLOOR FINISH PLAN
A-1.5	ROOF PLAN
A-2.1	REFLECTED CEILING PLAN
A-2.2	LOW VOLTAGE PLAN
A-3.1	ENLARGED RESTROOM PLANS & RESTROOM ELEVATIONS
A-3.2	ENLARGED OFFICE , ENLARGED BAR AND ENLARGED PLANS AND DETAILS
A-4.1	EXTERIOR ELEVATIONS
A-4.2	EXTERIOR ELEVATIONS
A-4.3	EXTERIOR ELEVATION DETAILS
A-5.1	BUILDING SECTIONS
A-5.2	BUILDING SECTIONS
A-6.1	WALL SECTIONS
A-7.1	EXTERIOR DETAILS
A-8.1	INTERIOR DETAILS
A-9.1	INTERIOR ELEVATIONS
A-9.2	INTERIOR ELEVATIONS
A-10.1	FINISH SCHEDULE
A-10.2	DESIGN GUIDE
A-10.3	DESIGN GUIDE
A-10.4	DESIGN GUIDE
FURNITURE & EQUIPMENT	
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F-1.3	MILLWORK DETAILS
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M-0.3	HVAC SPECIFICATIONS
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P-1.2	DOMESTIC WATER PIPING PLAN
P-1.3	NATURAL GAS PIPING PLAN
P-2.0	SANITARY WAST AND VENT RISER DIAGRAM
P-3.0	PLUMBING DETAILS
ELECTRICAL	
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E-0.2	ELECTRICAL SCHEDULES AND DETAILS
E-0.3	ELECTRICAL SPECIFICATIONS
E-0.4	ELECTRICAL SPECIFICATIONS
E-1.1	RISER DIAGRAM AND PANEL SCHEDULE
E-2.1	LIGHTING PLAN, DETAILS, AND NOTES
E-2.2	LIGHTING SCHEDULE
E-2.3	LIGHTING CONTROL SCHEDULES
E-3.1	POWER AND SPECIAL SYSTEMS PLAN
E-3.2	ENLARGED KITCHEN POWER PLAN, SCHEDULES, AND DETAILS
E-3.3	ELECTRICAL ROOF PLAN

SHEET TITLE
COVER SHEET

SHEET
T-1.1

PROPERTY OF
Denny's
Property Engineering

HVAC GENERAL NOTES

1. ALL DRAWINGS ARE CONCEPTUAL AND SCHEMATIC AND ARE INTENDED FOR USE AS A DESIGN/BUILD GUIDELINE. THE CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS AND ADJUSTING OR MODIFYING THE SPECIFIC ELEMENTS OF THEIR WORK AS REQUIRED TO MEET THE DESIGN INTENT. THE CONTRACTORS ARE RESPONSIBLE FOR THE FOLLOWING:

A COORDINATION WITH OTHER TRADES.

B PROVIDING ADDITIONAL DRAWINGS. CALCULATIONS AND OTHER DOCUMENTATION REQUIRED FOR THE BUILDING DEPARTMENT. THE MECHANICAL CONTRACTOR SHALL DOCUMENT THE INSTALLATION AND PROVIDE ALL TESTS REQUIRED TO SUBSTANTIATE CODE COMPLIANCE AS REQUIRED BY THE BUILDING DEPARTMENT AND LOCAL INSPECTOR. CONTRACTOR SHALL SUBMIT FINAL AS-BUILT DRAWINGS TO BUILDING DEPARTMENT FOR RECORD AT COMPLETION.

2 MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS MUST BE FIELD VERIFIED AND COORDINATED WITH ARCHITECTURAL, HVAC, FIRE PROTECTION, STRUCTURAL, ELECTRICAL AND OTHER BUILDING DRAWINGS.

3 CONTRACTOR TO INCLUDE IN BID ALL COSTS TO MAKE FIELD COORDINATION AND ADJUSTMENT TO DUCTWORK FOR FIT INTO EXISTING STRUCTURE. CONTRACTOR SHALL VERIFY AND FIELD COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT.

4 FURNISH ALL LABOR, MATERIALS, TOOLS, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE HEATING, VENTILATING, AIR CONDITIONING SYSTEM. INCLUDE ANY LABOR AND MATERIAL NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO PROVIDE A COMPLETE AND OPERATING SYSTEM. ALL WORK SHALL BE INSTALLED IN A PROFESSIONAL MANNER AND SHALL MEET ALL THE REQUIREMENTS OF THE STATE BUILDING CODE, CITY BUILDING CODE, SAFETY AND HEALTH CODES, NFPA CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. ALL COSTS FOR SAID REQUIREMENTS SHALL BE INCLUDED IN THIS CONTRACTORS BID PRICE.

5 ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE FOLLOWING CODES:
BUILDING CODE OF BALTIMORE COUNTY, MARYLAND
2021 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL ENERGY CONSERVATION

6 CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AND PERFORM ALL TESTS CALLED FOR OR REQUIRED AS A PART OF HIS WORK. FURNISHED APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.

7 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, LANDLORD REQUIREMENTS, CEILING HEIGHTS AND EXISTING STRUCTURAL CONDITIONS PRIOR TO FABRICATION OF ANY DUCTWORK OR ORDERING OF ANY EQUIPMENT.

8 ALL INSTALLATION OF THE MECHANICAL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND CLEARANCE REQUIREMENTS.

9 ALL HVAC WORK SHALL BE IN ACCORDANCE WITH NFPA 90A, 90B, 96, 54 AND NFC 101, LIFE SAFETY CODE.

10. INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES, AND WITH LATEST ASHRAE PUBLICATIONS. WORK SHALL BE NEAT AND WORKMANSHIP SHALL BE ACCEPTABLE TO BUILDING STANDARDS.

11. CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE TEMPERATURE CONTROL SYSTEM TO INCLUDE: PANELS, MODULES, RELAYS, WIRING, THERMOSTATS, SENSORS, DAMPERS, ACTUATORS AND ALL MISCELLANEOUS ITEMS AS REQUIRED TO FULFILL THE DESIGN INTENT AS INDICATED ON THE PLANS AND IN THE CODED NOTES. THERMOSTATS AND SENSORS SHALL BE LOCATED GENERALLY AS SHOWN BUT THEIR EXACT LOCATION SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL MOUNTED WORK.

12. DURING THE BIDDING PERIOD, EACH CONTRACTOR SHALL VISIT THE SITE TO DETERMINE CONDITIONS AFFECTING THE WORK. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY IN PERFORMANCE OF WORK REQUIRED CONDITIONS IN EVIDENCE THEREBY SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.

13. THE EQUIPMENT SHALL BE LOCATED TO ALLOW FOR EASY ACCESS FOR SERVICING, ADJUSTING OR MAINTENANCE AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES. PROVIDE MINIMUM CLEARANCES FOR ALL EQUIPMENT PER THE MANUFACTURERS RECOMMENDATIONS.

14. PROVIDE ALL CONTROL EQUIPMENT, MOTOR STARTERS, RELAYS, LINE VOLTAGE CONTROLS, TRANSFORMERS, LOW VOLTAGE CONTROLS, AND DEVICES NECESSARY FOR THE COMPLETE OPERATION OF THE HEATING AND AIR CONDITIONING AND VENTILATING SYSTEM.

15. ALL LOW VOLTAGE WIRING AND CONDUIT REQUIRED FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.

16. SMOKE DETECTORS WIRED BY DIVISION 16.

17. PROVIDE ALL FANS AND ROOFTOP UNITS WITH RELAYS TO SHUT DOWN WHEN FIRE ALARM IS INITIATED. COORDINATE LOCATION WITH THE ELECTRICAL CONTRACTOR FOR THE FIRE ALARM WIRING.

18. IN THE EVENT OF FAN SHUT DOWN, ALL DUCT MOUNTED DETECTORS SHALL REMAIN IN OPERATION.

19. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND ORDINANCES AND THE NATIONAL ELECTRIC CODE.

20 ALL THE BARE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING, BUT NOT LIMITED TO, ANGLE FRAMING, UNIT SUPPORTS, MOUNTING HARDWARE, ETC. ANY PAINTING OF DUCTWORK SHALL BE VERIFIED WITH ARCHITECT.

21 CONTRACTOR TO PROVIDE TENANT WITH AS-BUILT DRAWINGS OF ALL CHANGES OR MODIFICATIONS MADE IN THE FIELD, TO THE ORIGINAL SET OF CONSTRUCTION DOCUMENTS, FOR TURN-OVER TO THE ARCHITECT/ ENGINEER UPON COMPLETION OF THE PROJECT. PROVIDE ALL EQUIPMENT SHOP DRAWINGS, INFORMATION ON CONTROL DEVICES, CONTROL WIRING DIAGRAMS AND OTHER PERTINENT INFORMATION AT COMPLETION OF PROJECT.

22 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MECHANICAL EQUIPMENT COMPONENTS ARE INSTALLED AT LOCATIONS AND ELEVATIONS WHICH MAKE THEM READILY ACCESSIBLE FOR ROUTINE MAINTENANCE WITHOUT REQUIRING ANY EXTRAORDINARY MEASURES.

23. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH HE INSTALLS, THIS INCLUDES ALL CONDENSERS, REFRIGERANT PIPES, AND OTHER ITEMS FURNISHED BY OTHERS AS WELL AS THOSE FURNISHED BY HIM.

24 FIELD VERIFY THE EXACT LOCATION OF ALL EQUIPMENT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION. INFORM OWNER OF ANY EQUIPMENT ITEMS THAT REQUIRE RELOCATION.

25 CONTRACTOR SHALL VERIFY THAT ALL EQUIPMENT. AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, VENTS, MECH. PIPING OF ANY KIND, ELECTRICAL, ETC.

26 PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE CONNECTIONS TO ALL MOVING MACHINERY.

27 DUCT DIMENSIONS SHOWN ARE INSIDE NET DIMENSIONS. ADD TO SHEET METAL SIZE FOR INSULATION THICKNESS. HOLD DUCTWORK TIGHT TO UNDERSIDE OF STRUCTURE UNLESS OTHERWISE NOTED OR REQUIRED BY FIELD CONDITIONS, IT IS REQUIRED TO COORDINATE EXACT MOUNTING HEIGHT IN FIELD WITH SITE INVESTIGATION. SUPPLY, RETURN, OUTSIDE AIR AND RELIEF AIR DUCTS SHALL BE SHEET METAL AND BE EXTERNALLY INSULATED WITH OWENS CORNING TYPE 150 2" THICK, FOIL FACED FLEXIBLE FIBROUS GLASS BLANKET INSULATION WITH A MIN R-6.4 VALUE, EQUAL IS APPROVED. INSULATION WRAP SHALL BE SEALED WITH FAB AND MASTIC.

28 ALL DUCTWORK SHALL MAINTAIN SYSTEM PRESSURE. THE AIR DISTRIBUTION COMPONENTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA REQUIREMENTS. TWO INCH PRESSURE CLASS.

29 DUCT INSULATION CLOSURE SYSTEM SHALL CONSIST OF GLASS FABRIC AND NON MIGRATING MASTIC, SEAL AIR TIGHT.

30 ALL FLEXIBLE DUCTS SHALL BE SUPPORTED EVERY 4'-0" WITH 2" WIDE GALVANIZE, STEEL BANDS. MINIMUM ONE PER EACH SECTION OF FLEXIBLE DUCT, MAXIMUM LENGTH OF FLEX DUCT SHALL BE 5'-0" LONG AND SHALL MEET INSTALLATION AND MATERIAL REQUIREMENTS OF LOCAL CODES.

31 NO FLEXIBLE DUCTS SHALL PASS THROUGH FIRE WALLS, OR BE CONNECTED TO ANY METAL DUCT WITH-IN 5'-0" FROM EITHER SIDE OF THE FIREWALL.

32 ALL BRANCH TAKE-OFFS SHALL BE PROVIDED WITH MANUAL BALANCING DAMPERS LOCATED ABOVE ACCESSIBLE CEILINGS AS CLOSE TO MAIN TRUNK AS POSSIBLE. WHEN AIR DEVICE IS NOT ACCESSIBLE PROVIDE DAMPER AT AIR DEVICE.

33 CONTRACTOR IS RESPONSIBLE FOR COORDINATING BOX-OUT LOCATIONS FOR ALL DRYWALL MOUNTED AIR DEVICES WITH GENERAL CONTRACTOR AND CEILING FRAMING. CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHTING LAYOUTS AS REQUIRED.

34 ALL DUCTWORK BEHIND RETURN AIR DEVICE PLENUMS SHALL BE PAINTED FLAT BLACK.

35 ALL SUPPLY DUCT BENDS FROM THE VERTICAL TO HORIZONTAL AND ANGLED TURNS OF DUCTWORK SHALL HAVE TURNING VANES INSTALLED.

36 PROVIDE SMOOTH TRANSITIONS AT EQUIPMENT AND AIR DEVICES TO MATCH CONNECTION SIZES. ALL DUCTWORK SHALL BE SHEET METAL FABRICATED IN ACCORDANCE WITH ASHRAE GUIDE AND SMACNA MANUAL LATEST EDITIONS.

37 THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT AIR BALANCING AGENCY SUBSEQUENT TO THE APPROVAL OF THE OWNERS REPRESENTATIVE. THE T&B AGENCY CAN ONLY ACT AS HIS OWN REPORTING AGENCY IF SUITABLE INSTRUMENTS HEREINAFTER REQUIRED ARE DEMONSTRATED TO BE PART OF HIS NORMAL PROCEDURE TO THE SATISFACTION OF THE OWNERS REPRESENTATIVE. THE T&B AGENCY SHALL BE AABC OR NEBB CERTIFIED. CONTRACTOR SHALL PROVIDE LANDLORD WITH WATER AND AIR BALANCE REPORT.

38 IT SHALL BE THE RESPONSIBILITY OF THIS T&B AGENCY TO PROVIDE THE LOCAL BUILDING DEPARTMENT AND OWNER WITH PROPER TEST & BALANCE DATA ON AABC OR NEBB FORMS.

39 BUILDING AIR SYSTEMS SHALL BE BALANCED PER DATA INCLUDED ON THE DRAWINGS TO ACHIEVE RELATIVE AIR VOLUMES AS INDICATED ON THE DRAWINGS AND SCHEDULED HEREIN. REFER TO AIR FLOW DIAGRAM DETAIL.

40 ALL ROOFTOP EQUIPMENT TO BE SET LEVEL AND PLUMB.

HOOD AND GREASE EXHAUST DUCT NOTES

1. EXHAUST HOODS SHALL BE CONSTRUCTED OF 16 GAUGE GALVANIZED OR 18 GA. STAINLESS STEEL WITH ALL EXTERNAL SEAMS AND JOINTS CONTINUOUSLY WELDED 100% LIQUID TIGHT. EXHAUST HOODS SHALL MEET OR EXCEED THE REQUIREMENTS OF NFPA 96, ALL LOCAL CODES AND SHALL BEAR THE NSF SEAL OF APPROVAL. SEE CAPTIVEAIRE HOOD DRAWING FOR INFORMATION.

2 ALL LIGHTS USED IN THE HOODS SHALL BE U.L. LISTED FOR CANOPY HOOD USE AND OF THE INCANDESCENT TYPE AND SHALL BE WIRED TO COME ON THRU A SWITCH LOCATED ON THE HOOD FACE.

3 THE EXHAUST HOODS SHALL HAVE ALL STAINLESS STEEL BAFFLE FILTERS AND SHALL HAVE A FIRE ACTUATED DAMPER IN THE MAKE-UP AIR COLLAR.

4 THE EXHAUST HOODS SHALL HAVE PREPIPED AUTOMATIC U.L. ANSUL FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF THE EXHAUST PLENUM & DUCT AND COOKING SURFACES. FIRE CONTROL CABINETS SHALL ALSO BE PROVIDED AS SHOWN AND SHALL HAVE MICRO SWITCHES FURNISHED AS REQUIRED FOR EQUIPMENT SHUT OFF. THERE SHALL BE A MANUAL PULL STATION NEAR THE EXIT DOOR AND MINIMUM OF 10'-0" FROM THE HOOD. (MUST BE FLUSH MOUNTED, CONDUIT RUN IN THE WALL).

5 THE SUPPLY FAN SWITCHES, 40 VA TRANSFORMERS, SUPPLY & EXHAUST FAN STARTERS, THERMAL OVERLOADS AND MECHANICAL GAS VALVE SHALL BE FURNISHED BY THE HOOD MANUFACTURER, AND SUPPLY FAN SWITCHES SHALL BE MOUNTED ON THE HOOD FACES. THE 40 VA TRANSFORMERS AND FAN STARTERS SHALL BE MOUNTED IN THE FIRE CONTROL CABINETS AND THE MECHANICAL GAS VALVE SHALL BE INSTALLED AS SHOWN ON THE PLUMBING DRAWINGS.

6 ALL EXHAUST COLLARS AND EXHAUST DUCTWORK ARE SIZED TO MAINTAIN BETWEEN 1500 AND 2000 FPM EXHAUST AIR VELOCITY. ALL GREASE EXHAUST DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH NFPA-96. GREASE EXHAUST DUCTWORK SHALL HAVE ALL SEAMS, JOINTS AND PENETRATIONS CONTINUOUSLY WELDED LIQUID TIGHT.

7 ALL HORIZONTAL RUNS OF GREASE EXHAUST DUCT SHALL SLOPE BACK TOWARD THE HOOD AT A SLOPE OF 1/4" PER FOOT. PROVIDE A RESIDUE TRAP AT THE BASE OF EACH VERTICAL RISER.

8 PROVIDE U.L. LISTED CLEANOUTS IN GREASE EXHAUST DUCTWORK AT A MINIMUM OF 10'-0" INTERVALS, AT EACH CHANGE OF DIRECTION AND AT EACH RESIDUE TRAP.

9 THE DISCHARGE OF THE GREASE EXHAUST FANS SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE.

10. ALL GREASE EXHAUST DUCTWORK SHALL HAVE STANDARD OR RADIUS ELBOWS.

11. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WARRANTIES.

12. THE FOLLOWING EQUIPMENT SHALL BE PROVIDED BY CAPTIVEAIRE SYSTEMS, FURNISHED AND INSTALLED BY THIS CONTRACTOR:

A STAINLESS STEEL HOODS AS SPECIFIED ABOVE WITH FIRE PROTECTION SYSTEMS, CONTROLS, STARTERS, FIRE CONTROL CABINETS CLOSURE STRIP AND MECH. GAS VALVE.

13. THE FOLLOWING SHALL BE SUPPLIED BY CAPTIVEAIRE AND INSTALLED BY GC.:

A) ALL HOODS, HOOD SUPPLY AND EXHAUST FANS WITH ROOF CURBS. PROVIDE ALL HOOD EXHAUST FANS WITH GREASE GUARDS) SUPPLIED BY CAPTIVEAIRE.
B) ALL DUCTWORK BETWEEN HOODS AND FANS - INSTALLED BY GC.
C) WIRING BETWEEN HOODS, FANS AND FIRE SYSTEM - INSTALLED BY GC.

14. KITCHEN HOOD TEST AND BALANCE REPORT SHALL BE SUBMITTED TO BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

15. UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRIC POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. ACTIVATION OF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM MUST IMMEDIATELY SHUT OFF GAS AND ELECTRIC SUPPLY TO ALL APPLIANCES UNDER THE PROTECTED HOOD. THE PLUMBING CONTRACTOR SHALL PROVIDE A MASTER SOLENOID VALVE IN GAS LINE TO DISCONNECT ALL GAS APPLIANCES. MANUAL GAS AND ELECTRIC RESETS ARE REQUIRED.

16. ALL REMOTE MANUAL OPERATING DEVICES SHALL BE IDENTIFIED AS THE "HAZARD PROTECTED" PROVIDE PLAQUE AND SIGN AS REQUIRED BY LOCAL JURISDICTION.

17. ONE PLENUM NOZZLE SHALL BE PROVIDE FOR EVERY 10 FEET OF HOOD. REFER TO HOOD DRAWINGS FOR EXACT LOCATION.

18. THE HOOD INSTALLING CONTRACTOR SHALL PROVIDE THE LATEST SYSTEM MANUAL AS PROVIDED BY THE MANUFACTURER TO VERIFY THE SYSTEM INSTALLATION.

19. A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEXT SHALL VERIFY THE RATE OF EXHAUST AIRFLOW REQUIRED BY CODE, MAKEUP AIR FLOW REQUIRED CODE AND PROPER OPERATION AS REQUIRED BY LOCAL CODE. THE PERMIT HOLDER SHALL THE NECESSARY TEST EQUIPMENT AND DEVICES REQUIRED.

20 THE PERMIT HOLDER SHALL VERIFY CAPTURE AND CONTAINMENT PERFORMANCE OF THE EXHAUST SYSTEM. THIS FIELD TEST SHALL BE CONDUCTED WITH ALL APPLIANCES UNDER THE HOOD AT OPERATING TEMPERATURES, WITH ALL SOURCES OF OUTDOOR AIR PROVIDING MAKEUP AIR FOR THE HOOD OPERATING AND WITH ALL SOURCES OF RECIRCULATED AIR PROVIDING CONDITIONING FOR THE SPACE IN WHICH THE HOOD IS LOCATED OPERATING, CAPTURE AND CONTAINMENT SHALL BE VERIFIED VISUALLY BY OBSERVING SMOKE OR STEAM PRODUCED BY ACTUAL OR SIMULATED COOKING, SUCH AS WITH SMOKE CANDLES, SMOKE PUFFERS AND SIMILAR MEANS.

21 CONTACT CAPTIVEAIRE SYSTEMS (KURT CURTIS) AT PH. (360) 828-5418, EMAIL REG90@CAPTIVEAIRE.COM

VERIFY EXISTING CONDITION

NOTE!
AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

Property of NY Engineers

Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
HVAC GENERAL NOTES

SHEET
M0.1

PACKAGED ROOF TOP UNIT SCHEDULE

EQUIPMENT				NOMINAL TONS	REFRIG. TYPE	E.S.P. (IN. WC)	INDOOR FAN MOTOR (HP)	DESIGN AIRFLOW (CFM)	MIN. OUTDOOR AIR (CFM)	COOLING		HEATING			POWER SUPPLY			SEER/EER	OPER. WEIGHT (LBS.)	ACCESSORIES
TAG	AREA SERVED	MODEL	MANUF.							TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	INPUT MBH	OUTPUT MBH	NUMBER OF STAGES	ELECT (V/HZ/PH)	MCA (AMPS)	MOCP (AMPS)			
RTU-1	DINING	EDK060A3E0A	TRANE	5.0	R454B	0.80	0.33	2,000	420	61.9	47.3	72	58	1	208/60/3Ø	28	40	13.4 SEER2	999	A-M
RTU-2	DINING	EDK120A3E0A	TRANE	10.0	R454B	0.80	1.14	4,000	850	120	96	180	144	2	208/60/3Ø	48	60	14.8 IEER	1,608	A-M
RTU-3	KITCHEN	EDK090A3E0A	TRANE	7.5	R454B	0.80	1.48	3,000	600	94.81	73.76	125	100	2	208/60/3Ø	39	50	14.8 IEER	1,182	B-L
RTU-4	DINING	EDK048A3	TRANE	4.0	R454B	0.80	0.33	1,600	320	49.93	37.02	72	58	1	208/60/3Ø	23	35	13.4 SEER2	976	A-M

* TRANE EQUIPMENT IS BASIS OF DESIGN. THE TRANE NATIONAL ACCOUNT MANAGER FOR DENNY'S PROJECT IS WILL BAILEY (864-672-6132). SUBSTITUTIONS ARE ALLOWED IF EQUAL PERFORMANCE.

* LOAD CALCULATIONS FOR UNIT SIZING WAS BASED ON OUTSIDE CONDITIONS OF 95°F DB/75°F WB (SUMMER) AND 19°F DB (WINTER),

* COOLING IS BASED ON 80° DB AND 67° WB COIL ENTERING AIR, 95° DB ENTERTING CONDENSER

INCLUDED SYSTEM OPTIONS RTU
A. HOT GAS REHEAT - (DINING ROOMS)
B. ENTHALPY ECONOMIZER W/BAROMETRIC RELIEF - FAC
C. UN-POWERED GFCI CONVENIENCE OUTLET - FAC
D. NON-FUSED DISCONNECT - FAC
E. SMOKE DETECTOR SHALL BE INSTALLED IN RETURN AIR SYSTEM
F. HINGED ACCESS PANELS - FAC
G. THROUGH THE BASE CONNECTIONS - FAC
H. 14" HIGH ROOF CURB - FLD
I. HAIL GUARD - FAC
J. PROVIDE HANDLES ON ALL ACCESS PANELS
K. PROVIDE MERV 8 REPL FILTER - FLD
L. CONTRACTOR TO PROVIDE TRANE 7-DAY PROGRAMMABLE THERMOSTAT MODEL FOR ALL ROOFTOP UNITS.
M. CONTRACTOR TO PROVIDE TEMPERATURE/HUMIDITY SENSOR.

RTU NOTES
1. PROVIDE CONDENSATE DRAIN "P" TRAP MINIMUM 4" DEEP, OR TWICE THE TOTAL STATIC PRESSURE, WHICHEVER IS GREATER.
2. COORDINATE MANUFACTURER'S RECOMMENDED CLEARANCES AROUND UNIT.
3. COMPRESSOR SHALL HAVE A MINIMUM 5-YEAR WARRANTY ALL OTHER EQUIPMENT SHALL HAVE MINIMUM 1 YEAR WARRANTY.
4. PROVIDE ONE SET OF ADDITIONAL FILTERS.
5. AIR CONDITIONING UNITS ARE BASED ON ARI STANDARD CONDITIONS OF 80°F DB, 67° WB, INDOOR ENTERING AIR TEMPERATURE AND 95° DB ENTERING AIR FOR OUTDOOR UNIT.
6. MUST MEET THE EER'S MINIMUM EFFICIENCY CODE REQUIREMENTS.
7. ALTERNATE MANUFACTURES AND MODELS WILL BE REVIEW. THERE MAY BE ARCHITECTURAL STRUCTURAL, AND ELECTRICAL CHANGES RESULTING FROM THE ALTERNATES. THE COST OF IMPLEMENTING AND ENGINEERING THESE CHANGES SHALL BE BORNE BY THE MECHANICAL SUBCONTRACTOR.

SYSTEM STANDARD FEATURES
1 HIGH PRESSURE SWITCH (MANUAL RESET)

BUILDING DEPARTMENT NOTE :
1. ALL HVAC UNITS AND REQUIRE INTERLINKING FOR FAN SHUTDOWN UPON ACTIVATION OF SPRINKLER FLOW SWITCH OR GLOBAL ALARM. UNITS OVER 2000 CFM REQUIRE DUCT SMOKE DETECTION ON SUPPLY SIDE PER 2002 NFPA 90A. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL REQUIREMENTS PRIOR TO BID.
2. INTERLOCK ANSUL WITH MAKE-UP AIR UNITS AND KITCHEN ROOFTOP UNITS.

THERMOSTAT SCHEDULE

MARK	SERVICE & LOCATION	OCCUPIED		UNOCCUPIED		REMARKS
		COOLING	HEATING	COOLING	HEATING	
RTU-1	DINING	75	70	78	60	
RTU-2	DINING	75	70	78	60	
RTU-3	KITCHEN	78	68	78	60	
RTU-4	DINING	75	70	78	60	

NOTES:
1. CONTRACTOR SHALL COORDINATE EXACT OPERATIONAL TIMES WITH OWNER/MANAGER PRIOR TO PROGRAMMING.
2. CONTRACTOR SHALL COORDINATE RESTROOM EXHAUST FAN TIMER WITH T-STAT SCHEDULE.
3. CONTRACTOR MUST VERIFY THAT HUMIDITY CONTROLS AND SENSORS FUNCTIONS PER MANUFACTURERS SPECIFICATIONS. SET TO 50% RH IN THE SPACE.

FAN SCHEDULE

MARK	MODEL	MANUF.	LOCATION	FAN FUNCTION	FAN TYPE	AIRFLOW (CFM)	E.S.P. (IN W.C.)	DRIVE	ELECTRICAL (V/PH/HZ)	APPROX MOTOR HP	WEIGHT (LBS)	NOTES
EF-1	GB-081	GREENHECK	RESTROOMS	EXHAUST	ROOF MOUNTED	300	0.375	DIRECT	120/1/60	1/4	58	C,E,F,G
KEF-1	DU85HFA	CAPTIVE-AIRE	HOOD 1	EXHAUST	ROOF MOUNTED	2100	1.0	DIRECT	208/1/60	1.0	97	A,B,C,D,H
KEF-2	DU85HFA	CAPTIVE-AIRE	HOOD 2	EXHAUST	ROOF MOUNTED	2250	1.0	DIRECT	208/1/60	1.0	97	A,B,C,D,H
KEF-3	DU85HFA	CAPTIVE-AIRE	HOOD 3	EXHAUST	ROOF MOUNTED	2100	1.0	DIRECT	208/1/60	1.0	97	A,B,C,D,H
KEF-4	DU33HFA	CAPTIVE-AIRE	HOOD 4	EXHAUST	ROOF MOUNTED	660	0.6	DIRECT	115/1/60	1/3	67	B,C,D,H
MAU-1	A3-D.500-24D	CAPTIVE-AIRE	HOOD 1,2,3	SUPPLY	ROOF MOUNTED	5500	0.65	DIRECT	208/3/60	10	1081	C,D,H,I

NOTES:
A. GREASE EXHAUST FAN AND ACCESSORIES TO BE FURNISHED THRU CAPTIVEAIRE, INSTALLED BY MECHANICAL CONTRACTOR.
B. PROVIDE WITH VENTED ROOF CURB, HINGED BASE CHAIN AND HASP KIT AND BUILT-IN GREASE TROUGH DRAIN FITTING.
C. PROVIDE DISCONNECT SWITCH.
D. PROVIDE WITH HOOD ON/OFF TOGGLE SWITCH. INTERLOCK TO CONTROL PANEL.
E. PROVIDE 12" HIGH PREFABRICATED INSULATED ROOF CURB.
F. PROVIDE BACKDRAFT DAMPER AND STAINLESS STEEL BIRDSCREEN.
G. MECHANICAL CONTRACTOR TO PROVIDE RESTROOM EXHAUST FAN, & WIRED SPEED CONTROLLER.
H. PROVIDE WITH FACTORY CURB, SEE HOOD DRAWING FOR MORE INFORMATION.
I. SET MAU THERMOSTAT TO 78 DEGREES.

OUTSIDE AIR CALCULATIONS

ROOM NUMBER & NAME	AREA SQ. FT.	NO. OF PEOPLE	REQ'D OA CFM/PERSON	REQ'D OA CFM/SQ FT	ZONE EFF.	TOTAL OSA	TOTAL OSA RTU-1	TOTAL OSA RTU-2	TOTAL OSA RTU-3	TOTAL OSA RTU-4
DINING 3	455	12	7.5	0.18	0.8	171.90	214.88			
VESTIBULE	60	0	5	0.06	0.8	3.60	4.50			
RESTROOMS	165	0	0	0	0.8	0.00	0.00			
DINING 1	955	87	7.5	0.18	0.8	824.40		1030.50		
KITCHEN	915	8	7.5	0.12	0.8	169.80			212.25	
SERVICE	365	3	7.5	0.12	0.8	66.30			82.87	
OFFICE	55	1	5	0.06	0.8	8.30			10.38	
CORRIDOR	85	0	0	0.06	0.8	5.10			6.37	
STORAGE	145	0	0	0.06	0.8	8.70			10.88	
DINING 2	485	42	7.5	0.18	0.8	402.30				502.88
TOTALS	REQUIRED OUTSIDE AIR						219.38	1030.50	322.75	502.87
	PROVIDE OUTSIDE AIR						420	850	600	320

NOTES :

1. ESTIMATED MAXIMUM OCCUPANCY AND REQUIRED OUTSIDE AIR BASED ON THE ASHRAE 62.1.

AIR DISTRIBUTION SCHEDULE

MARK	TYPE OUTLET	SIZE	MAX CFM	MANUF.	MODEL NUMBER
A	SUPPLY	24 X 24	SEE PLAN	PRICE	24x24/SCDA/3/3C/B12 FOR LAY IN CEILINGS
B	RETURN	24 x 24	SEE PLAN	PRICE	24x24/PDDR/3/B12
C	RETURN	24 x 24	SEE PLAN	PRICE	12x12/80/3/B12

1. EQUAL PRODUCTS BY EGER, TITUS, METALAIR, KRUEGER, NAILOR, & TUTTLE AND BAILEY.
2. ALL SUPPLY AND RETURN GRILLES TO MATCH CEILING COLOR.

BUILDING AIR BALANCE SCHEDULE

MARK	OUTSIDE AIR	EXHAUST
EF-1		-300
KEF-1		-2100
KEF-2		-2250
KEF-3		-2100
KEF-4		-660
MAU-1	+5500	
RTU-1	+420	
RTU-2	+850	
RTU-3	+600	
RTU-4	+320	
TOTAL:	7690	-7410
BUILDING POSITIVE AIR BALANCE		280

RTU SEQUENCE OF OPERATION

DAY CYCLE - COOLING

1. SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
2 OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION.
3 THERMOSTAT SHALL CYCLE COMPRESSOR(S) TO MAINTAIN ROOM SET TEMPERATURE.

DAY CYCLE - HEATING

1. SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
2 OUTSIDE AIR DAMPER SHALL BE IN MINIMUM POSITION.
3 THERMOSTAT SHALL CYCLE GAS HEATER TO ACHIEVE ROOM SET TEMPERATURE.

ECONOMIZER

1. SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
2 OUTSIDE AIR DAMPER SHALL MODULATE FROM MINIMUM TO 100% OUTSIDE AIR TO MAINTAIN ROOM SET TEMPERATURE.

MORNING WARM-UP

1. SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
2 OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION.
3 WHEN SET TEMPERATURE IS REACHED COOLING OR HEATING CYCLE SHALL COMMENCE.

NIGHT SETBACK

1. ALL HOODS AND EXHAUST FANS SHALL BE DE-ENERGIZED.
2 OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION.
3 THERMOSTAT SHALL CYCLE EITHER COOLING OR HEATING AND SUPPLY AIR FAN TO MAINTAIN ROOM SET TEMPERATURE.

SMOKE DETECTOR

1. WHEN SMOKE DETECTOR IS ACTIVATED SUPPLY AIR FAN SHALL SHUTDOWN.
2 FIRE ALARM SHALL BE SIGNALED.
3 SUPPLY AIR FAN SHALL BE MANUALLY RESET.

DEHUMIDIFICATION

1. SUPPLY AIR FANS SHALL RUN CONTINUOUSLY.
2. OUTSIDE AIR DAMPERDAMPERS SHALL BE IN OPEN POSITION.
3. RESTROOM EXHAUST FAN TO BE ENERGIZED.
4. HUMIDISTAT SHALL CYCLE TO MAINTAIN HUMIDITY SET POINT.

HOOD INFORMATION – JOB#7476645

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	HOOD CONSTRUCTION	HOOD CONFIG END TO END	HOOD CONFIG ROW
1		6024 ND-2	CAPTIVEAIRE	13' 6"	450 DEG	I	MEDIUM	175	2362			4"	16"	2362	1692	-0.500"	430 SS WHERE EXPOSED	LEFT	ALONE
2		6024 ND-2	CAPTIVEAIRE	13' 6"	450 DEG	I	MEDIUM	175	2362			4"	16"	2362	1692	-0.500"	430 SS WHERE EXPOSED	RIGHT	ALONE
3		4824 VHB-G	CAPTIVEAIRE	6' 0"	700 DEG	II	N/A	100	600			4"	10"	300	550	-0.023"	430 SS 100%	ALONE	ALONE
												4"	10"	300	550	-0.023"			

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	LIGHT(S) TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		SS BAFFLE WITH HANDLES	10	16"	16"	30%	4	L55 SERIES E26	NO							YES	536 LBS
2		SS BAFFLE WITH HANDLES	10	16"	16"	30%	4	L55 SERIES E26	NO	RIGHT	12"x60"x24"	TANK FS	4.0/4.0/4.0	DCV-2111	1 LIGHT 1 FAN	YES	967 LBS
3							0									NO	189 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
2		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.

NOTE:
ADDITIONAL HOOD DETAILS CAN BE FOUND ON SHEETS FS-5A AND FS-5B

AIR CURTAIN

AC NO	MODEL	DIMENSIONS	MAX DOOR WIDTH	MAX DOOR HEIGHT	CFM	WATTS	VOLTS	WEIGHT
1	H-5782	47X10X9	48"	10'	1295-1648	350	120	43 LBS

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
HVAC SCHEDULES

SHEET
M0.2

GENERAL MECHANICAL NOTES

1. INTENT: THESE OUTLINE SPECIFICATIONS AND ACCOMPANYING DRAWINGS DESCRIBE SCOPE OF WORK REQUIRED FOR MECHANICAL SYSTEMS. LABOR, MATERIAL, EQUIPMENT, MACHINERY, SUPERVISION, MANAGEMENT AND ALL OTHER ITEMS NECESSARY SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE INSTALLATION OF ALL SYSTEMS SHOWN ON DRAWINGS AND/OR AS SPECIFIED HEREIN.

2. CODES, PERMITS, AND INSPECTIONS: ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE BUILDING CODE OF BALITMORE COUNTY, MARYLAND. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED, GIVE ALL LEGAL NOTICES, AND HAVE ALL WORK INSPECTED AS REQUIRED BY LOCAL OR STATE LAW.

3. EQUIPMENT LOCATIONS AND INSTALLATION: DRAWINGS SHOULD BE INTERPRETED AS GENERAL LAYOUT AND ARRANGEMENT DRAWINGS. THE DRAWINGS ARE NOT INTENDED TO SHOW AND CANNOT SHOW COMPLETE OR PRECISE MEASUREMENTS AND DETAILS OF THE BUILDING AND INSTALLATION IN EVERY RESPECT, AND THEY DO NOT INCLUDE ALL DETAILS OF MANUFACTURED EQUIPMENT, CONSTRUCTION, PIPING, DUCTWORK, ETC. MEASUREMENT FIGURES WRITTEN UPON THE DRAWINGS INDICATING DIMENSIONS SHALL BE USED INSTEAD OF SCALED MEASUREMENTS. NO SCALE MEASUREMENT TAKEN FROM A DRAWING SHALL BE RELIED UPON AS A DIMENSION FOR INSTALLATION PURPOSES. EXACT LOCATIONS AND MEASUREMENTS ARE TO BE DEFINED IN THE FIELD AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACCURACY AND USE IN CONSTRUCTION OF THE WORK. COORDINATE CLOSELY WITH THE GC AND ALL OTHER TRADES.

REFER TO ARCHITECTURAL PLANS AND REFLECTED CEILING PLANS TO COORDINATE ACTUAL LOCATIONS OF MECHANICAL EQUIPMENT WITH LAYOUT OF WALLS, PARTITIONS AND LOCATIONS OF CEILING MOUNTED DEVICES.

THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS AND WRITTEN INSTRUCTIONS FOR THE INSTALLATION OF ALL EQUIPMENT, MATERIALS AND ASSEMBLIES INDICATED ON THESE CONTRACT DOCUMENTS. SHOULD CONFLICTS ARISE BETWEEN THESE DOCUMENTS, CODE REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

4. INTERFERENCES: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES TO ELIMINATE INTERFERENCES. THE CONTRACTOR SHALL EXAMINE IN ADVANCE THE LOCATION OF ELECTRICAL SYSTEMS, DUCTS, PIPING, STRUCTURES, CONDUITS AND OTHER EQUIPMENT AND COMPONENTS TO BE INSTALLED AND PROPERLY COORDINATE THE INSTALLATION OF MECHANICAL WORK TO AVOID INTERFERENCES BEFORE FABRICATING AND INSTALLING WORK. THE ENGINEERS HAVE CONSIDERED EXISTING INTERFERENCES IN MAKING THE DRAWINGS, BUT IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ALL DIMENSIONS BY ACTUAL FIELD CONDITIONS, MEASUREMENTS FROM MANUFACTURER'S CERTIFIED PRINTS AND COORDINATION WITH OTHER TRADES AND TO MODIFY, OFFSET OR OTHERWISE ACCOMMODATE ALL EQUIPMENT TO THE STRUCTURE, UTILITIES AND OTHER EQUIPMENT.

WHEN SHOP PREFABRICATION IS DONE AT CONTRACTOR'S DISCRETION, ANY REQUIRED ADJUSTMENTS DUE TO INACCURACIES IN EQUIPMENT SETTING, VENDOR DATA, DIMENSIONS, OR LOCATION OF EXISTING OBSTRUCTIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

5. HANGERS, SUPPORTS, AND ANCHORS: SUPPORT AND FASTEN ALL DUCTWORK, EQUIPMENT, ETC. SECURELY IN PLACE. SPACE, SECURE AND ADJUST HANGERS AND DUCTS, WITHOUT DEFLECTION OR SAG. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS, OR WOOD PLUGS ARE PROHIBITED.

PROVIDE STEEL SUPPORTS, ANCHORS, FRAMES, BRACING, PLATES, BOLTS, NUTS, WASHERS, ETC., INCIDENTAL TO INSTALLATION OF WORK AS SPECIFIED OR REQUIRED. PROVIDE AUXILLIARY STRUCTURAL MEMBERS WHERE REQUIRED BETWEEN MEMBERS OF THE STRUCTURE.

ALL EQUIPMENT, UNLESS SHOWN OTHERWISE, SHALL BE SECURELY ATTACHED TO THE BUILDING STRUCTURE IN AN APPROVED MANNER. ATTACHMENTS THAT ARE INADEQUATE SHALL BE REPLACED AS DIRECTED.

6. EQUIPMENT SPECIFICATIONS & SUBSTITUTIONS: ITEMS SPECIFIED HEREIN BY MANUFACTURER AND MODEL NUMBER ARE TO BE CONSIDERED THE MINIMUM QUALITY ACCEPTABLE FOR THE SPECIFIED APPLICATION AND ESTABLISH A STANDARD OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, SERVICEABILITY, AVAILABILITY OF SPARE PARTS AND QUALITY TO BE MET BY ANY PROPOSED SUBSTITUTION. FOR SUBSTITUTIONS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT INFORMATION TO THE OWNER'S REPRESENTATIVE TO ESTABLISH "OR EQUAL" STATUS AND TO COORDINATE INSTALLATION OF SAME INTO THE AVAILABLE SPACE. INCREASED COSTS TO THE PROJECT ASSOCIATED WITH CONTRACTOR SUBSTITUTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS SHALL NOT BE ALLOWED WHERE STATED ON THE DRAWINGS.

7. SEQUENCING, SCHEDULING, PROGRESS OF WORK: CONTRACTOR SHALL PLAN AND SCHEDULE HIS WORK TO MAINTAIN PROGRESS WITH OTHER CONTRACTORS ON THE JOB. DILIGENTLY PERFORM THE WORK AS RAPIDLY AS POSSIBLE. COORDINATE EXACT LOCATIONS AND CLEARANCE REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT, DEVICES, ETC. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THIS PROJECT.

8. PLACING IN SERVICE, TESTS, INSTRUCTIONS, AND MAINTENANCE: THE CONTRACTOR SHALL MAKE ALL NECESSARY TESTS, TRIAL OPERATIONS, ETC. REQUIRED TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. ALL COSTS OF TESTS SHALL BE BORNE BY THIS CONTRACTOR. SHOULD TESTS REVEAL ANY DEFECTIVE MATERIAL OR WORKMANSHIP, SUCH WORK SHALL BE REPLACED AND TESTS REPEATED. ALL CORRECTIONS SHALL BE MADE USING NEW MATERIALS.

THE CONTRACTOR SHALL FURNISH ALL NECESSARY ASSISTANCE AS DIRECTED BY THE OWNER WHICH MAY BE REQUIRED TO PROPERLY INSTRUCT THE OWNER IN THE OPERATION OF ALL EQUIPMENT. THIS SHALL INCLUDE PERSONAL INSTRUCTION COVERING ROUTINE MAINTENANCE AND OPERATION OF EQUIPMENT.

THE CONTRACTOR SHALL FURNISH TWO COPIES OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT INCLUDING NECESSARY CUTS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. THESE MAINTENANCE INSTRUCTIONS SHALL BE BOUND IN SUITABLE HARD BACK RING BINDERS, PROPERLY INDEXED, AND DELIVERED TO THE OWNER AT ONE TIME. ADDITIONALLY, CONTRACTOR SHALL OBTAIN MANUFACTURER'S LITERATURE FOR "TYPICAL OWNER" AND SHALL ATTACH ONE COPY OF THIS DATA TO THE MECHANICAL EQUIPMENT AND THERMOSTATS.

9. SHOP DRAWING SUBMITTALS: THE CONTRACTOR SHALL SUBMIT FIVE (5) COPIES OF ALL MATERIALS AND EQUIPMENT SPECIFIED HEREIN TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO SHIPMENT TO THE PROJECT SITE.

SUBMITTALS SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

PRODUCT DATA
PERFORMANCE DATA AT DESIGN CONDITIONS, PUMP CURVES, FAN CURVES, WEIGHT, MATERIALS OF CONSTRUCTION, GAUGES, OPTIONS AND ACCESSORIES.

SHOP DRAWINGS
DIMENSIONS, WEIGHT DISTRIBUTION, REQUIRED CLEARANCES, METHOD OF ASSEMBLY, LOCATION, SIZES AND UTILITY REQUIREMENTS OF ALL CONNECTIONS.

WIRING DIAGRAMS
ELECTRICAL POWER REQUIREMENTS AND ASSOCIATED ELECTRICAL LOADS, LADDER DIAGRAMS INDICATING CONTROL LOGIC, DIFFERENTIATE BETWEEN FACTORY AND FIELD WIRING.

10. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AN ACCURATE SET OF RECORD DRAWINGS ON-SITE AT ALL TIMES DURING CONSTRUCTION WHICH SHALL BE AVAILABLE FOR EXAMINATION BY THE OWNER'S REPRESENTATIVE UPON REQUEST. PROVIDE THE OWNER WITH A COMPLETE MARKED-UP SET OF THE CONTRACT DRAWINGS AT PROJECT COMPLETION.

11. WARRANTY: CONTRACTOR SHALL CORRECT ANY DEFECTS IN WORKMANSHIP AND/OR MATERIAL WHICH OCCUR DURING THE FIRST YEAR OF OPERATION. WARRANTY CERTIFICATE WILL COMMENCE ON THE DATE OF ACCEPTANCE OF WORK BY OWNER. SUBMIT WRITTEN CERTIFICATE WITH MAINTENANCE DATA. THE CONTRACTOR SHALL PROVIDE A WRITTEN MANUFACTURER'S WARRANTY ON ALL PARTS AND LABOR FOR A PERIOD OF 1 YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. WHERE INDICATED, PROVIDE EXTENDED WARRANTIES FOR PERIODS INDICATED.

12. UNDERWRITER'S LABORATORIES APPROVAL: ALL EQUIPMENT FURNISHED SHALL BE UL APPROVED AND SHALL BE LABELED OR LISTED BY UL.

13. RATED ASSEMBLIES: THE CONTRACTOR SHALL RE-ESTABLISH THE INTEGRITY OF ALL RATED ASSEMBLIES IN WHICH HIS WORK REQUIRES ALTERATION OR MODIFICATION.

14. DUCT PENETRATIONS: CONTRACTOR SHALL FRAME AND SEAL ALL DUCT PENETRATIONS THROUGH WALLS AND FLOORS AND ROOF.

HVAC SPECIFICATIONS

1. DUCTWORK (DOES NOT INCLUDE KITCHEN HOOD EXHAUST AND DISH HOOD EXHAUST DUCT)

FABRICATE AND INSTALL SUPPLY, RETURN AND EXHAUST AIR DUCTWORK AS INDICATED ON THE PLANS COMPLYING WITH THE LATEST EDITION OF SMACNA DUCT MANUAL ENTITLED, HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE.

PRESSURE CLASSIFICATIONS:
A. SUPPLY DUCTS: +3" W.G.
B. RETURN DUCTS: -3" W.G.
C. RELIEF DUCTS AND PLENUMS: ±3" W.G.
D. OUTSIDE AIR DUCTS: ±3" W.G.
E. TOILET EXHAUST DUCT: ±2" W.G.

RIGID DUCT:

RECTANGULAR AND ROUND DUCTWORK MATERIAL SHALL BE GALVANIZED STEEL SHEETS, LOCK-FORMING QUALITY PER ASTM A653/A653 M, G90, MILL-PHOSPHATIZED FINISH.

WHERE REQUIRED BY APPLICABLE SMACNA STANDARD, PROVIDE REINFORCEMENT IN ACCORDANCE WITH REFERENCED STANDARD AND OF MATERIAL COMPATIBLE WITH DUCT MATERIAL.

CURVED DUCT ELBOWS SHALL BE CONSTRUCTED WITH 1.5 CENTERLINE RADIUS.

FLEXIBLE DUCT:

WHERE INDICATED ON DRAWINGS, PROVIDE INSULATED FLEXIBLE DUCT OF STEEL-WIRE HELIX WITH POLYETHLYENE INNER LINER. INSULATION SHALL BE 1-1/2" THICK FIBERGLASS WITH MYLAR OR POLYETHYLENE OUTER JACKET. DUCT SHALL BE PRESSURE RATED AT 6" W.G. POSITIVE AND LIMITED BY UNDERWRITER'S LABORATORIES, INC., UNDER UL-181 STANDARDS AS CLASS I AIR DUCT MATERIAL AND COMPLYING WITH NFPA STANDARDS FOR MAXIMUM FLAME SPREAD OF 25 AND MAX. SMOKE DEVLOPED OF 50. MAXIMUM LENGTH OF FLEX DUCT SHALL BE 6'-0".

2. DUCT SEALING:

SEAL ALL DUCT JOINTS (TRANSVERSE AND LONGITUDINAL) WITH AN APPROVED DUCT SEALANT:

DUCT SEALANT:

POLYMERIC RUBBER, HYDROCARBON RESINS, AND INERT REINFORCING MATERIALS DISPERSED IN SOLVENT. SOLVENT BASED
DUCT SEALANT AS MANUFACTURED BY MCGILL AIRFLOW CORP. (UNITED MCGILL)

3. KITCHEN HOOD AND DISH HOOD EXHAUST DUCT:
KITCHEN HOOD EXHAUST SHALL BE 16 GA STEEL WITH WELDED WATER TIGHT JOINTS AND SEAMS, PER THE 2021 INTERNATIONAL MECHANICAL CODE. DISH HOOD EXHAUST SHALL BE 304 STAINLESS STEEL AND SHALL HAVE WELDED WATER TIGHT JOINTS.

4. BALANCING DAMPERS

PROVIDE DAMPERS AT THE BRANCH CONNECTIONS TO EACH DIFFUSER OR GRILLE AND AT CONNECTIONS TO KITCHEN HOOD SUPPLY PLENUM. TAKE-OFF FITTINGS SHALL BE 45 DEGREE CONNECTIONS TO MAIN DUCTS.

BALANCING DAMPERS SHALL HAVE STANDOFF BRACKETS WHERE INSTALLED ON INSULATED DUCTS.

THERE SHALL UNDER NO CIRCUMSTANCES BE ANY BALANCING DAMPERS IN ANY KITCHEN HOOD GREASE EXHAUST DUCT.

5. FLEXIBLE EQUIPMENT CONNECTIONS

WHERE DUCTWORK CONNECTS TO ROTATING EQUIPMENT AND WHERE INDICATED ON THE PLANS, FURNISH AND INSTALL FACTORY FABRICATED METAL EDGED CONNECTORS SUITABLE FOR PRESSURE CLASSIFICATION AND DUCT MATERIAL AT INSTALLATION. CONNECTORS SHALL BE FABRICATED OF FLAME RETARDANT OR NON-COMBUSTIBLE FABRICS, COATINGS AND ADHESIVES COMPLYING WITH UL 181, CLASS I. WHERE REQUIRED FOR OUTDOOR INSTALLATION, PROVIDE GLASS FABRIC DOUBLE COATED WITH SYNTHETIC RUBBER WEATHER-PROOF COATING RESISTANT TO SUN'S ULTRAVIOLET AND OZONE ENVIRONMENT.

6. AIR DISTRIBUTION

REGISTERS, DIFFUSERS, GRILLES, ETC.: PROVIDE MODEL AND MANUFACTURE INDICATED ON THE REGISTER AND DIFFUSER SCHEDULE OR APPROVED EQUAL AS LISTED ON THE SCHEDULE.

7. INSULATION - DUCTWORK

INSULATE ALL SUPPLY, RETURN, TOILET ROOM EXHAUST, DISH HOOD EXHAUST AND MAKE-UP AIR DUCT 2" FIBERGLASS BLANKET DUCT WRAP INSULATION WITH FOIL-REINFORCED-KRAFT (FRK) VAPOR RETARDANT FACING; FLAME SPREAD RATING - 25; SMOKE DEVELOPED RATING - 50; DENSITY - 1 PCF; R VALUE - 6.0; OWENS-C0RNING TYPE 100 OR EQUAL.

INSTALL ACCORDING TO MANUFACTURER'S REQUIREMENTS AND AS FOLLOWS:
INSTALL WELD PINS AND SPEED WASHERS 16" OC EACH WAY ON BOTTOMS AND SIDES OF DUCTS.
APPLY VAPOR BARRIER MASTIC TO ALL JOINTS, SEAMS, TEARS AND HANGER PENETRATIONS.
INSTALL DUCT HANGERS BETWEEN DUCT AND INSULATION.

8. INSULATION - GREASE EXHAUST DUCT

INSULATE GREASE EXHAUST DUCT WITH 3" THICK (2 LAYERS OF 1.5" THICK) FIRE RATED INSULATION WRAP, 3M OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATION.

9. SMOKE DETECTORS:

DUCT MOUNTED SMOKE DETECTORS SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR, BUT PROVIDED AND WIRED BY OTHERS. SMOKE DETECTORS SHALL SHUT DOWN THE SUPPLY FAN AND RELIEF FAN UPON DETECTION OF SMOKE IN THE RETURN AIR OR SUPPLY AIR STREAM AND SHALL HAVE A SET OF AUXILLIARY CONTACTS TO NOTIFY THE FIRE ALARM SYSTEM WITH SUPERVISORY SIGNAL.

10. THERMOSTATS:

MOUNT TEMPERATURE SENSORS AND/OR THERMOSTATS WHERE INDICATED ON PLANS, COMPLYING WITH ADA. ANY THERMOSTATS LOCATED ON EXTERIOR WALLS SHALL BE MOUNTED ON AN INSULATED BASE. THERMOSTATS SHALL BE HONEYWELL VISION PRO 8000 OR PRIOR APPROVED EQUAL.

11. AIR SYSTEM TEST, ADJUST AND BALANCE (TAB)

THE CONTRACTOR SHALL PROVIDE TAB SERVICES BY TAB CONTRACTOR CERTIFIED BY "AABC" OR "NEBB". TAB CONTRACTOR CERTIFICATION SHALL BE CURRENT. FINAL RESULTS SHALL BE SUMMARIZED IN A FINAL REPORT TO BE PROVIDED TO THE OWNER AT PROJECT COMPLETION. IN GENERAL, THE TAB CONTRACTOR WILL PROVIDE THE FOLLOWING:

SUBMITTALS: BEFORE INITIATING TAB WORK, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:
* NAME OF TAB AGENCY WITH SUB-CONTRACTORS.
* NAME AND REGISTRATION NUMBER OF CERTIFIED TEST AND BALANCE ENGINEER.
* DETAILED PROCEDURES
* AGENDA
* REPORT FORMS

FINAL REPORT: AT PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A COMPLETE TEST AND BALANCE REPORT FOR OWNER'S RECORDS. THE FINAL TEST REPORT SHALL BE TYPED, BOUND IN BOOKLET FORM. POSITIVE AND NEGATIVE VARIANCES IN COMPONENTS AND SYSTEMS OPERATIONS SHALL BE DETAILED IN SUMMARY FORM AS THE FIRST SECTION OF THE REPORT.

INSTRUMENTS: THE CONTRACTOR SHALL PROVIDE IN THE FINAL REPORT, A COMPLETE LIST OF ALL INSTRUMENTS USED IN THE DESCRIBED TAB SERVICES. THIS LIST SHALL INCLUDE PROOF OF CURRENT CALIBRATION FOR ALL DESCRIBED INSTRUMENTATION. ALL INSTRUMENTS USED IN THE PERFORMANCE OF THE DESCRIBED TAB SERVICES SHALL BE (NIST) TRACEABLE.

IN GENERAL, THE CONTRACTOR WILL PROVIDE THE FOLLOWING ON ALL SYSTEMS AFFECTED BY THE WORK DESCRIBED HEREIN:

* FULL AIR SIDE TAB FOR AIR HANDLING SYSTEMS TO INCLUDE AIR HANDLING UNITS AND ASSOCIATED DUCT SYSTEMS, AIR VOLUME CONTROL BOXES, AND DUCT HEATERS AND AIR DISTRIBUTION DEVICES.T
* FULL AIR SIDE TAB FOR DUCTED EXHAUST FANS AND ASSOCIATED DUCT SYSTEMS.
* FULL OPERATIONAL TAB FOR SYSTEMS INTEGRAL TO AIR HANDLING UNITS TO INCLUDE HEATING SYSTEMS, HUMIDIFIERS, FILTERS, FANS, AND FAN SPEED CONTROLLERS.
* FULL AIR SIDE AND OPERATIONAL TAB FOR PACKAGED AIR CONDITIONING UNITS AND ASSOCIATED DUCT SYSTEMS.
* ADJUST ALL AFFECTED DRIVES AS REQUIRED TO ACCOMMODATE DESIGNS DESCRIBED HEREIN AND ACTUAL OPERATION OF AFFECTED UNITS.

WARRANTY: THE CONTRACTOR SHALL FURNISH A WRITTEN WARRANTY ON ALL TAB SERVICES PROVIDED HEREIN.

WARRANTY: THE CONTRACTOR SHALL FURNISH A WRITTEN WARRANTY ON ALL HYDRONIC BALANCING SERVICES PROVIDED HEREIN.

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Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
HVAC
SPECIFICATIONS

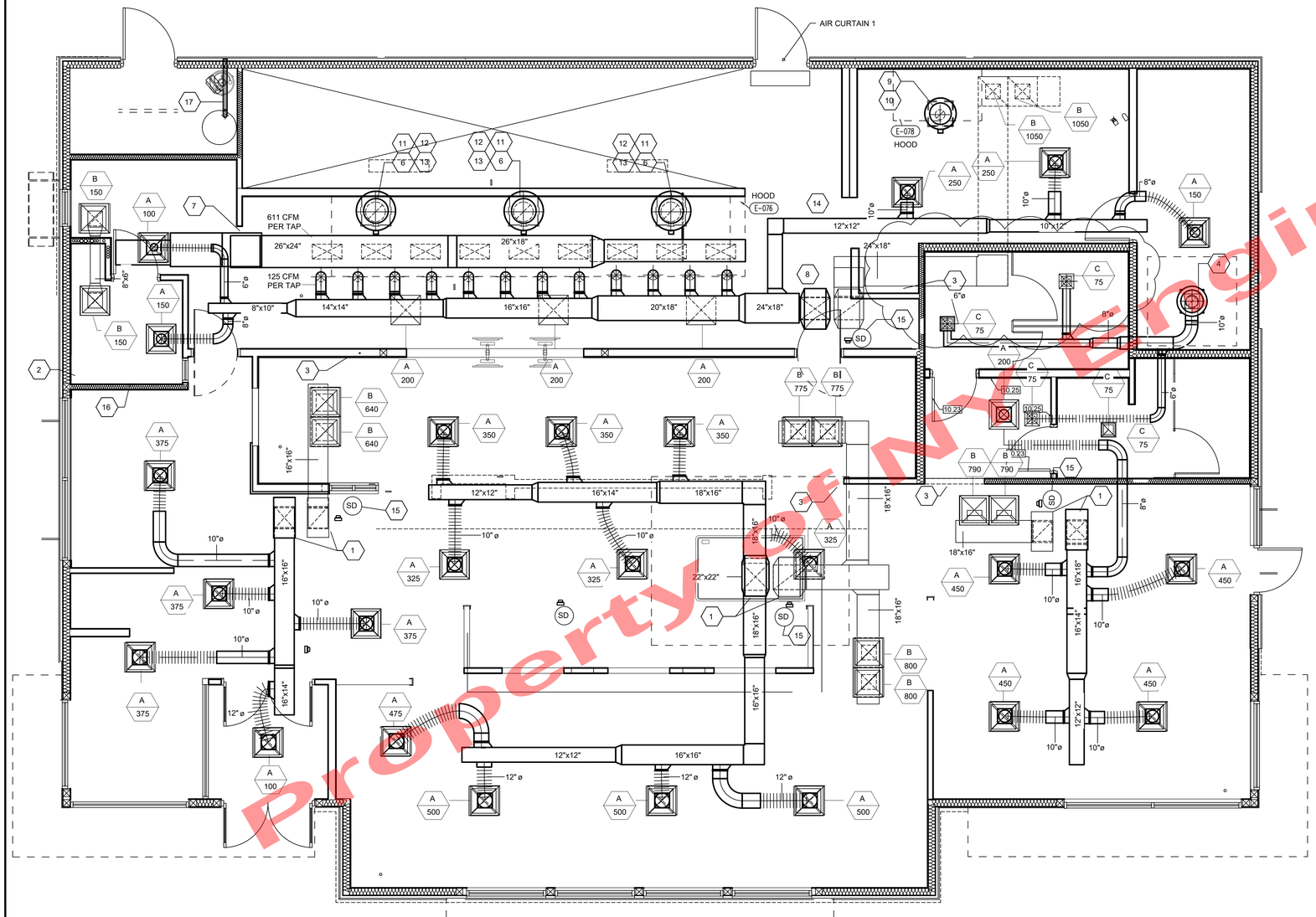
SHEET
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NOTE:
UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRIC POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. ACTIVATION OF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM MUST IMMEDIATELY SHUT OFF GAS AND ELECTRIC SUPPLY TO ALL APPLIANCES UNDER THE PROTECTED HOOD. THE PLUMBING CONTRACTOR SHALL PROVIDE A MASTER SOLENOID VALVE IN GAS LINE TO DISCONNECT ALL GAS APPLIANCES. MANUAL GAS AND ELECTRIC RESETS ARE REQUIRED. ALL MAKEUP AIR FANS AND KITCHEN ROOFTOP UNITS SHALL DE-ENERGIZE UPON ACTIVATION OF FIRE/ANSUL HOOD SYSTEM.

NOTE:
TYPE I HOODS SHALL BE DESIGNED AND INSTALLED TO AUTOMATICALLY ACTIVATE THE EXHAUST FAN WHENEVER COOKING OPERATIONS OCCUR. THE ACTIVATION OF THE EXHAUST FAN SHALL OCCUR THROUGH AN INTERLOCK WITH THE COOKING APPLIANCES, BY MEANS OF HEAT SENSORS OR BY MEANS OF OTHER APPROVED METHODS.

NOTE:
MECHANICAL EQUIPMENT, APPLIANCES AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES ON THE EQUIPMENT AND THE SUPPORTS AS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE. ROOF MOUNTED MECHANICAL UNITS AND SUPPORTS SHALL BE SECURED TO THE STRUCTURE. THE USE OF WOOD "SLEEPERS" SHALL NOT BE PERMITTED.

CAPTIVEAIRE NOTE:
CONTRACTOR TO MEASURE DUCTING IMMEDIATELY AFTER OVEN INSTALLATION AND PROMPTLY PROVIDE INFORMATION TO CAPTIVEAIRE SYSTEMS FOR FABRICATION, FABRICATION AND DELIVER TAKE APPROXIMATELY FOUR (4) WEEKS MINIMUM. INCORPORATE INTO CONSTRUCTION SCHEDULE ACCORDINGLY.



1 HVAC FLOOR PLAN
1/4" = 1'-0"

PLAN KEYED NOTES 0

1. SUPPLY AND RETURN DUCT UP TO NEW RTU ON ROOF TRANSITION AS REQUIRED. FIELD VERIFY ALL DUCT ROUTING PRIOR TO FABRICATION. PROVIDE FLEX CONNECTION FOR VIBRATION ISOLATION.
2. CONTRACTOR SHALL PROVIDE A 7-DAY DIGITAL PROGRAMMABLE THERMOSTAT IN MANAGERS OFFICE MOUNTED 48" AFF TO TOP OF DEVICE. MOUNT THERMOSTAT AT 46" IF ADA REQUIREMENTS APPLY. COORDINATE EXACT LOCATION WITH TENANT CONSTRUCTION MANAGER. THE ENTIRE CONTROL SYSTEM SHALL BE PROVIDED COMPLETE IN EVERY RESPECT BY THE MECHANICAL CONTRACTOR.
3. MOUNT REMOTE TEMPERATURE OR TEMPERATURE/HUMIDITY SENSOR IN AREA SHOWN AT 66" AFF. COORDINATE EXACT LOCATION WITH TENANT CONSTRUCTION MANAGER. THE ENTIRE CONTROL SYSTEM SHALL BE PROVIDED COMPLETE IN EVERY RESPECT BY THE MECHANICAL CONTRACTOR.
4. INTERLOCK RESTROOM EXHAUST FAN INTO KITCHEN LIGHTS. EXHAUST FAN SHALL ENGAGE DURING KITCHEN OPERATIONAL HOURS.
5. UNDERCUT DOOR 1" FOR AIR PASSAGE.
6. EXHAUST DUCT DOWN FROM KITCHEN EXHAUST FAN ON ROOF. TRANSITION AND OFFSET AS REQUIRED TO SIZE SHOWN ON PLAN. ROUTE DUCTWORK TO HOOD(S) EXHAUST OPENING AND TRANSITION AS REQUIRED. FIELD VERIFY ROUTING PRIOR TO BID AND FABRICATION. SEE HOOD DRAWING FOR HOOD OPENING SIZES.
7. MAKE-UP AIR DUCT DOWN FROM MAKE-UP AIR UNIT ON ROOF. TRANSITION AS REQUIRED TO DUCT SIZE SHOWN ON PLAN. ROUTE DUCTWORK TO HOOD(S) MAKE-UP AIR OPENING AND TRANSITION AS REQUIRED. BESIDES HOOD BALANCING DAMPER, PROVIDE ADDITIONAL AIR BALANCING DAMPER IN THE MA DUCT THAT IS ACCESSIBLE FOR AIR BALANCE CONTRACTOR. FIELD VERIFY ROUTING PRIOR TO BID AND FABRICATION.
8. SUPPLY AIR DUCT DOWN FROM UNIT ON ROOF. TRANSITION AS REQUIRED TO DUCT SIZE SHOWN ON PLAN. ROUTE DUCTWORK TO HOOD(S) SUPPLY AIR OPENING AND TRANSITION AS REQUIRED. BESIDES HOOD BALANCING DAMPER, PROVIDE ADDITIONAL AIR BALANCING DAMPER IN THE SUPPLY AIR DUCT THAT IS ACCESSIBLE FOR AIR BALANCE CONTRACTOR. FIELD VERIFY ROUTING PRIOR TO BID AND FABRICATION.
9. INTERLOCK EXHAUST FAN KEF-4 WITH WAREWASHER WHEN WAREWASHER DOOR IS CLOSED AND WASHING CYCLE BEGINS THEN START THE EXH. FAN. THE FAN SHALL RUN CONTINUOUSLY WHILE WASHING DISHES. WHEN THE WAREWASHER DOOR IS OPENED AT THE END OF THE WASH CYCLE CONTINUE TO OPERATE THE EXHAUST FAN FOR TWO ADDITIONAL MINUTES (ADJUSTABLE DELAY) TO CAPTURE STEAM AND HEAT. AT THE END OF THE DELAY, DE-ENERGIZE THE EXH. FAN.
10. DISHWASHER EXHAUST DUCTWORK SHALL BE FABRICATE IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS. FABRICATED EXPOSED AND CONCEALED DUCTWORK OF STAINLESS STEEL OR ALUMINUM WITH CONTINUOUS EXTERNALLY WELDED JOINTS AND SEAMS. NO CARBON A ALLOWED. PITCH HORIZONTAL DUCTS TO DRAIN CONDENSED VAPOR BACK TO THE EQUIPMENT.
11. PROVIDE GREASE DUCT CLEAN OUTS IN ALL CHANGE OF DIRECTION AS REQUIRED BY LOCAL CODE. TYPICAL ALL GREASE DUCT. ALL CLEANOUTS MUST BE ACCESSIBLE, FIELD COORDINATE PRIOR TO CONSTRUCTION.
12. 021 INTERNATIONAL MECHANICAL CODE 506.3.7 - PREVENTION OF GREASE ACCUMULATION IN GREASE DUCTS. DUCT SYSTEM SERVING A TYPE I HOOD SHALL BE CONSTRUCTED AND INSTALLED SO THAT GREASE CANNOT COLLECT IN ANY PORTION THEREOF, AN THE SYSTEM SHALL SLOPE NOT LESS THAN ONE-FORTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (2 PERCENT SLOPE) TOWARD THE HOOD OR TOWARD AND APPROVED GREASE RESERVOIR. WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH THE SLOPE SHALL BE NOT LESS THAN ONE UNIT VERTICAL IN 12 UNITS HORIZONTAL (8.3% SLOPE)
13. DUCT-TO-EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS; AND SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR IN-LINE FANS. GASKET AND SEALING MATERIALS SHALL BE RATED FOR CONTINUOUS DUTY AT A TEMPERATURE OF NOT LESS THAN 1500°F (816° C).
14. A MANUAL ACTUATION DEVICE (PULL STATION) SHALL BE LOCATED AT OR NEAR A MEANS OF EGRESS FROM THE COOKING AREA A MINIMUM OF 10 FEET (3048 MM) AND A MAXIMUM OF 20 FEET (6096 MM) FROM THE KITCHEN EXHAUST SYSTEM. THE MANUAL ACTUATION DEVICE SHALL BE INSTALLED NOT MORE THAN 48 INCHES (1200 MM) NOR LESS THAN 42 INCHES (1067 MM) ABOVE THE FLOOR AND SHALL CLEARLY IDENTIFY THE HAZARD PROTECTED. THE MANUAL ACTUATION SHALL REQUIRE A MAXIMUM FORCE OF 40 POUNDS (178 N) AND A MAXIMUM MOVEMENT OF 14 INCHES (356 MM) TO ACTUATE THE FIRE SUPPRESSION SYSTEM.
15. FIRE ALARM CONTRACTOR TO PROVIDE DUCT MOUNTED SMOKE DETECTORS AND WALL REMOTE TEST STATION FOR THE RETURN DUCT AND ALL WIRING CONNECTIONS. THE DUCT SMOKE DETECTORS SHALL BE COMPATIBLE WITH THE FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTORS AND REMOTE TEST STATION. FIRE ALARM CONTRACTOR SHALL CONNECT TO A FIRE ALARM SYSTEM. THE ACTIVATION OF THE DUCT SMOKE DETECTOR SHALL ACTIVATE AN AUDIBLE/VISUAL ALARM AT A CONSTANTLY ATTENDED LOCATION. MECHANICAL AND ELECTRICAL CONTRACTOR SHALL TEST AND VERIFY THE SMOKE DETECTION SYSTEM WORKS PROPERLY AND MEETS ALL LOCAL AND STATE CODES. EXACT LOCATION OF REMOTE STATION SHALL BE FIELD VERIFIED. REMOTE TEST IS NOT REQUIRED WHERE THE SMOKE DETECTORS CAN BE TESTED FROM THE FIRE ALARM PANEL.
16. PROVIDE REMOTE TEST STATION FOR SMOKE DETECTORS WITH AUDIBLE AND VISUAL ALARM WITH KEYED RESET. MOUNT TEST STATION 48 INCHES AFF. MOUNT AUDIBLE AND VISUAL ALARM IN CONSTANTLY ATTENDED LOCATION. CONSTANTLY ATTENDED LOCATION IS NOT REQUIRED WHERE DUCT SMOKE DETECTOR ACTIVATES THE BUILDING'S ALARM SYSTEM.
17. FURNISH AND INSTALL MANUFACTURER PROVIDED CONCENTRIC VENT FOR WATER HEATER. ROUTE VENT THROUGH WALL AS SHOWN. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND ALL APPLICABLE LOCAL AND STATE CODES. CONCENTRIC VENT SHALL BE LOCATED A MINIMUM OF 10' FROM ALL OUTDOOR INTAKES

HVAC GENERAL PLAN NOTES

1. ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE WITH CONNECTIONS IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE INTENT OF THE INSTALLATION WHILE THE SPECIFICATIONS AND EQUIPMENT LIST DENOTE THE TYPE AND QUALITY OF MATERIAL AND WORKMANSHIP TO BE USED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE HIGHER AND/OR MORE COSTLY STANDARD WILL APPLY. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS REGARD ON BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.
2. PROVIDE VOLUME BALANCING DAMPER AT ALL NINETY-DEGREE DUCT TAKE-OFFS. THIS ALSO APPLIES TO TAKE-OFFS TO DIFFUSERS OR REGISTERS LOCATED DIRECTLY UNDER DUCTS.
3. REFRIGERANT PIPE SIZING AND ROUTING DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL TAKE INTO ACCOUNT LENGTH OF RUN AND FIELD CONDITIONS WHEN SIZING THE PIPING TO ENSURE ALL LOSSES ARE ACCOUNTED FOR.
4. INSTALL FLEX FULLY EXTENDED, DO NOT INSTALL IN THE COMPRESSED STATE OR USE EXCESS LENGTHS (USING MORE THAN NECESSARY TO GET FROM POINT A TO POINT B, AND LEAVING THE EXCESS CURLING AROUND). THIS WILL NOTICEABLY INCREASE FRICTION LOSSES'. AVOID BENDING DUCTS ACROSS SHARP CORNERS OR INCIDENTAL CONTACT WITH METAL FIXTURES PIPES OR CONDUITS. RADIUS AT CENTERLINE SHALL BE NO LESS THAN ONE DUCT DIAMETER. FLEX DUCT SUPPORT AT NO MORE THAN FOUR FOOT INTERVALS AND CLARIFIES THAT CONNECTIONS TO A MAIN DUCT OR AIR OUTLET ARE SUPPORTS. HANGER OR SADDLE MATERIAL IN CONTACT WITH THE FLEXIBLE DUCT SHALL BE OF SUFFICIENT WIDTH TO PREVENT ANY RESTRICTION OF THE INTERNAL DIAMETER OF THE DUCT WHEN THE WEIGHT OF THE SUPPORTED SECTION RESTS ON THE HANGER OR SADDLE MATERIAL.
5. MECHANICAL CONTRACTOR TO FIELD VERIFY WITH STRUCTURE ALL DUCT ROUTING PRIOR TO FABRICATION.
6. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL ROOF TOP EQUIPMENT PRIOR TO CUTTING ROOF OPENINGS, ALL OPENING SHOULD FALL BETWEEN JOIST.
7. PROVIDE ACCESS TO ALL COMPONENTS REQUIRING PERIODIC INSPECTION AND SERVICE THAT ARE LOCATED WITHIN THE SPACE OR REQUIRE ACCESS THROUGH THE SPACE. LABEL ACCESS DOORS AND PANELS OR CEILING TILES UTILIZED FOR ACCESS WITH THE NAME OF THE HIDDEN COMPONENT(S). DEMONSTRATE ACCESS TO ALL HIDDEN COMPONENTS FOR THE FIELD REPRESENTATIVE PRIOR TO OCCUPANCY.
8. IDENTIFY ALL ROOF MOUNTED EQUIPMENT WITH STORE NAME AND UNIT NUMBER USING PERMANENT WEATHER PROOF 2" HIGH DIE-CUT LETTERS.
9. WIRE SMOKE DETECTORS TO BUILDING FIRE ALARM CONTROL PANEL. IF EXISTING, OR ELSE FURNISH AND INSTALL A COMPATIBLE REMOTE AUDIBLE/VISUAL ALARM DEVICE. FIELD VERIFY EXACT REQUIREMENTS, PER SIGNAL FROM SMOKE DETECTOR, UNIT SHALL SHUT DOWN AND ALL DAMPER SHALL CLOSE. CONTRACTOR SHALL TEST SYSTEM, PRIOR TO TURNOVER, TO INSURE PROPER FUNCTION.
10. PROVIDE ALL NECESSARY TRANSITIONS AND OFFSETS IN SUPPLY AND RETURN AIR DUCTWORK TO AVOID EXISTING STRUCTURE, WATER, GAS, SPRINKLER PIPING, OTHER DUCTWORK, OTHER TRADES, ETC. DUCTWORK SHALL BE INSTALLED AS HIGH AS CONDITIONS WILL ALLOW.
11. WHERE CEILING SPACE IS NOT SUFFICIENT TO PERMIT TOP CONNECTION TO CEILING DIFFUSER WITH PROPER BEND RADIUS FOR FLEXIBLE DUCTS, CONTRACTOR SHALL FABRICATE AND/OR PROVIDE AN ADAPTER BOX OR DIFFUSER TO PERMIT SIDE CONNECTION TO FLEXIBLE DUCT.
12. AN INDEPENDENT TEST AND BALANCE REPORT FOR THE COOKING AREA IS REQUIRED BEFORE FINAL APPROVAL OF THE VENTILATION SYSTEM PER 507.6 OF THE BUILDING CODE OF 2021 INTERNATIONAL MECHANICAL CODE
13. CAPTURE AND CONTAINMENT TEST WILL ALSO BE REQUIRED BEFORE FINAL APPROVAL OF THE VENTILATION SYSTEM PER 507.6.1 OF THE 2021 INTERNATIONAL MECHANICAL CODE. PERFORM THIS TEST UNDER WITNESS OF THE BUILDING OFFICIAL. THIS WILL BE A VISUAL VERIFICATION OF THE PATH OF SMOKE AND VAPORS WITH THE COOKING EQUIPMENT UNDER THE HOOD AT OPERATING TEMPERATURE.
14. GREASE DUCT TEST SHALL BE PERFORMED WITH THE PRESENCE OF A CODE OFFICIAL BEFORE APPROVAL OF GREASE DUCT SYSTEM. A LIGHT OR AN APPROVED EQUIVALENT TEST METHOD SHALL BE PERFORMED TO DETERMINE THAT ALL WELDED AND BRAZED JOINTS ARE AIR TIGHT, SECTION 506.3.2.5 PER THE BUILDING CODE OF 2021 INTERNATIONAL MECHANICAL CODE
15. DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH A SLOPE OF 1" TO 4". ALL DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE REVIEWED BY ENGINEER DURING THE SHOP DRAWING PROCESS.
16. ALL DUCTWORK SHALL HAVE AN APPROVED REQUIREMENTS. ALL SEAMS SHALL BE PRESSURE TESTED BASED ON DUCT PRESSURE RATING.
17. GUARANTEE ALL HVAC WORK AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM DATE OF STORE OPENING. DURING THE ONE YEAR PERIOD, SERVICE SHALL BE PROVIDED TWENTY-FOUR HOURS PER DAY, SEVEN DAYS PER WEEK AND SHALL INCLUDE ALL SERVICE CALLS, PARTS, LABOR AND MAINTENANCE AT NO ADDITIONAL COST TO THE OWNER OR TENANT. ALL FILTERS SHALL BE CHANGED ONCE PER MONTH. IN ADDITION, ALL COMPRESSORS SHALL CARRY A FIVE YEAR WARRANTY FROM THE MANUFACTURER.

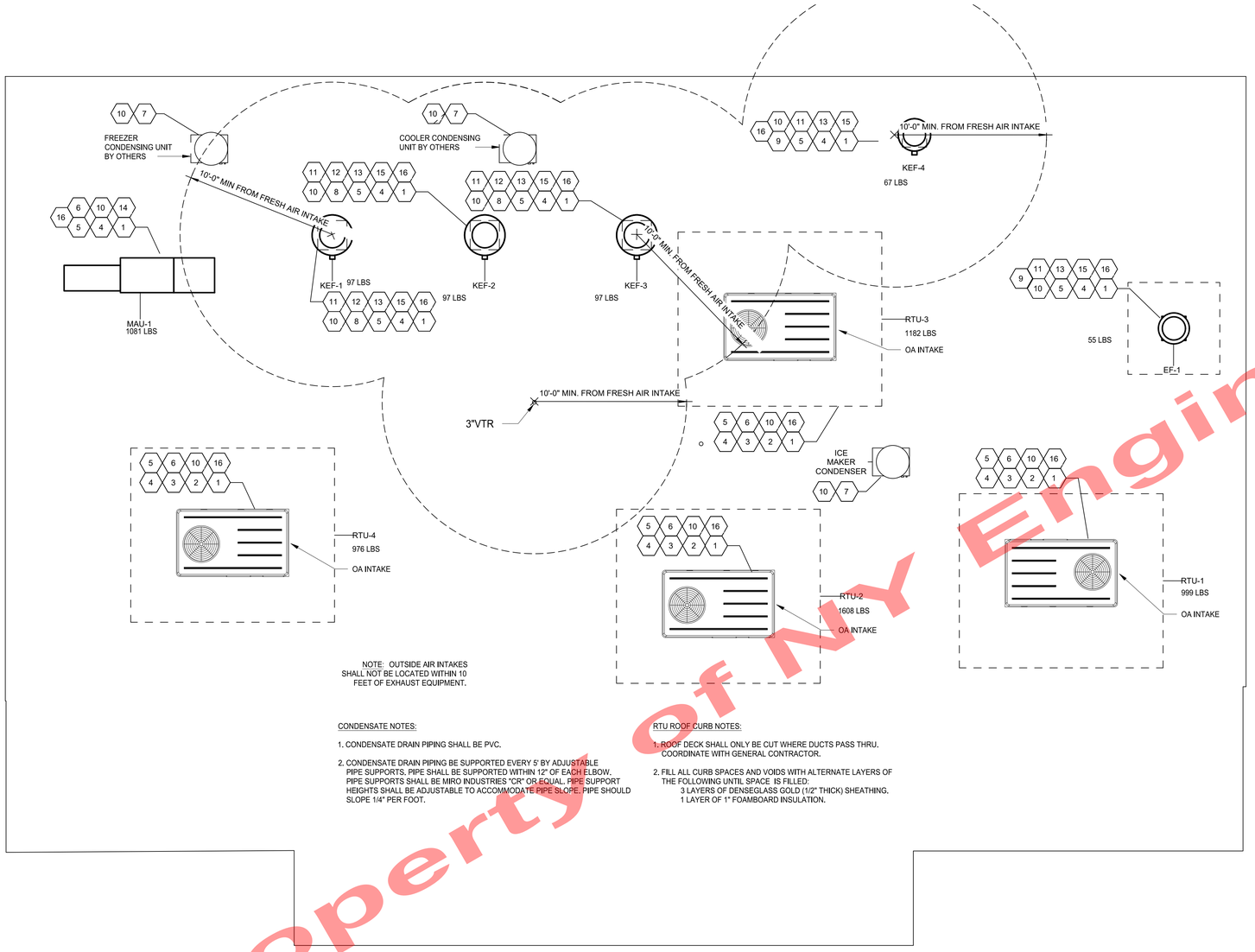
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Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
HVAC FLOOR PLAN

SHEET
M1.0



NOTE: OUTSIDE AIR INTAKES SHALL NOT BE LOCATED WITHIN 10 FEET OF EXHAUST EQUIPMENT.

CONDENSATE NOTES:

1. CONDENSATE DRAIN PIPING SHALL BE PVC.
2. CONDENSATE DRAIN PIPING BE SUPPORTED EVERY 5' BY ADJUSTABLE PIPE SUPPORTS. PIPE SHALL BE SUPPORTED WITHIN 12" OF EACH ELBOW. PIPE SUPPORTS SHALL BE MIRO INDUSTRIES "CR" OR EQUAL. PIPE SUPPORT HEIGHTS SHALL BE ADJUSTABLE TO ACCOMMODATE PIPE SLOPE. PIPE SHOULD SLOPE 1/4" PER FOOT.

RTU ROOF CURB NOTES:

1. ROOF DECK SHALL ONLY BE CUT WHERE DUCTS PASS THRU. COORDINATE WITH GENERAL CONTRACTOR.
2. FILL ALL CURB SPACES AND VOIDS WITH ALTERNATE LAYERS OF THE FOLLOWING UNTIL SPACE IS FILLED:
   3 LAYERS OF DENSEGLASS GOLD (1/2" THICK) SHEATHING.
   1 LAYER OF 1" FOAMBOARD INSULATION.

1 HVAC ROOF PLAN
1/4" = 1'-0"

ROOF PLAN GENERAL NOTES

LOCATIONS OF ALL ROOF MOUNTED EQUIPMENT SHOWN ON THIS PLAN ARE DIAGRAMMATIC AND APPROXIMATE. COORDINATE EXACT LOCATIONS WITH ALL TRADES TO MAINTAIN A MINIMUM OF 10'-0" BETWEEN OUTSIDE AIR INTAKES AND EXHAUST OUTLETS, GAS FLUES AND PLUMBING VENTS-THROUGH-ROOF; TO PROVIDE FOR SERVICE CLEARANCE; AND TO FIT WITHIN STRUCTURAL CONSTRAINTS. MAINTAIN CLEARANCES WHEN CONSIDERING ALTERNATIVE MANUFACTURERS OR PRODUCTS.

ROOF PLAN KEYED NOTES

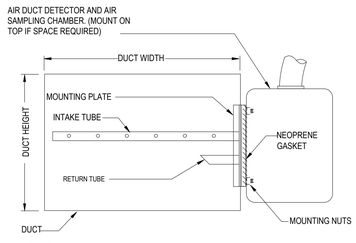
1. CONTRACTOR SHALL REVIEW ELECTRICAL POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT THAT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS AND VERIFY THAT THEY MATCH PRIOR TO ORDERING EQUIPMENT. DO NOT PURCHASE MOTORS OR ELECTRICAL EQUIPMENT UNTIL POWER CHARACTERISTICS AVAILABLE AT BUILDING HAVE BEEN CONFIRMED BY CONTRACTOR.
2. PROVIDE NEW ROOFTOP UNIT WITH PRE-FABRICATED MINIMUM 14 INCH HIGH INSULATED ROOF CURB. MAINTAIN MINIMUM HEIGHT OF 8" FROM ROOF SURFACE. CONTRACTOR SHALL PROVIDE CURB ADAPTER AS REQUIRED. FIELD COORDINATE SIZE WITH MANUFACTURER REQUIREMENTS PRIOR TO BID.
3. MECHANICAL CONTRACTOR TO INSTALL AQUAGUARD AG-3180E MICRO PAN SENSOR (OVERFLOW SWITCH) INSIDE ROOFTOP UNIT DRAIN PAN. ON DOWN-FLOW UNITS AND ALL OTHER COILS THAT DO NOT HAVE A SECONDARY DRAIN AND DO NOT HAVE A MEANS TO INSTALL AN AUXILIARY DRAIN PAN, A WATER-LEVEL MONITORING DEVICE SHALL BE INSTALLED INSIDE THE PRIMARY DRAIN PAN. THIS DEVICE SHALL SHUT OFF THE EQUIPMENT SERVED IN THE EVENT THAT THE PRIMARY DRAIN BECOMES RESTRICTED. EXTERNALLY INSTALLED DEVICES AND DEVICES INSTALLED IN THE DRAIN LINE SHALL NOT BE PERMITTED. AQUAGUARD PH 888-708-6622.
4. COORDINATE ROOFTOP EQUIPMENT LOCATION AND OPENING IN THE ROOF WITH THE STRUCTURAL MEMBERS PRIOR TO CUTTING DECK.
5. INSTALLATION OF EQUIPMENT SHALL COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS TO ALLOW FOR INSPECTION, SERVICE, REPAIR OR REPLACEMENT.
6. CONDENSATE IS LOCATED ON ROOF. CONTRACTOR MUST VERIFY EXACT ROUTING OF CONDENSATE PRIOR TO BIDDING. INSTALL PER LANDLORD AND LOCAL CODE REQUIREMENTS. CONDENSATE SHALL BE ATTACHED TO ROOF PER LOCAL CODE REQUIREMENTS, PROVIDE THE PIPE SUPPORTS FOR ALL PVC CONDENSATE PIPING SPACING AT A MINIMUM 4'-0" ON CENTER. SUPPORT ROOFTOP UNIT CONDENSATE PIPING ON THE ROOF UTILIZING MAPA PRODUCTS MODEL MT-1V SUPPORT. MAPA PRODUCTS (TEL 877-897-2371).
7. APPROXIMATE LOCATION OF REFRIGERATION EQUIPMENT CONDENSING UNIT. COORDINATE WITH FOOD SERVICE, ARCHITECTURAL AND ELECTRICAL DRAWINGS. PROVIDE RAILS FOR CONDENSING UNITS. COORDINATE RAIL SYSTEM WITH MANUFACTURERS REQUIREMENTS AND STRUCTURAL ENGINEERS. CONTRACTOR INSTALLING REMOTE CONDENSERS SHALL VERIFY EXACT SIZE OF CONDENSER STAND. CONTACT RM ENTERPRISE AT 800-798-3898 FOR STAND INFORMATION AND ORDERING.
8. PROVIDE ALL NEW GREASE EXHAUST FANS WITH PRE-FABRICATED MINIMUM 20 INCH HIGH ROOF CURBS, PROVIDE 40" MINIMUM CLEARANCE TO ROOF SURFACE (SEE DETAIL ON HOOD SHEETS). PROVIDED BY CAPTIVEAIRE INSTALLED BY GC.
9. PROVIDE ALL NEW TYPE II EXHAUST FAN WITH PRE-FABRICATED MINIMUM 12 INCH HIGH ROOF CURBS, (SEE DETAIL ON HOOD SHEETS), PROVIDED BY CAPTIVEAIRE INSTALLED BY GC.
10. PROVIDE TIE DOWNS OF ROOF EQUIPMENT TO THE ROOF DECK OR SUPPORTING STRUCTURE. THE TIE DOWN POINTS HELP PROTECT AGAINST HIGH WINDLOADS.
11. PROVIDE HINGED BASE KIT, LOCKABLE, HINGED CONNECTION BETWEEN THE FAN AND CURB. THIS ALLOWS EASY ACCESS TO THE WHEEL AND INLET OF THE FAN AS WELL AS THE INTERIOR DUCTWORK. THE KIT INCLUDES TWO HINGE PLATES, TWO LATCH PLATES, HINGE BOLTS, AIRCRAFT CABLE AND CLAMPS.
12. PROVIDE GREASE TROUGH FOR COLLECTION OF GREASE FROM A VCR UNIT. THE LID IS REMOVABLE FOR CLEANING, TO PROVIDE FOR MORE THOROUGH PERIODIC CLEANING, THE GREASE TROUGH SHOULD BE MOUNTED TO THE UNIT FOR EASY REMOVAL.
13. MAINTAIN 10 FOOT CLEARANCE FROM ANY FRESH AIR INTAKE. FIELD VERIFY EXACT REQUIREMENTS. PRIOR TO BID AND INSTALLATION. IF EXHAUST FAN FALLS WITHIN 10 FOOT OF ANY FRESH AIR INTAKE, THE EXHAUST DISCHARGE OPENING SHALL BE EXTENDED BY MEANS OF A SHROUD ON ROUND FANS AND DUCTWORK ON UTILITY FANS, TO MEET THE 3'-0" VERTICAL CLEARANCE REQUIREMENTS. SHROUD CAN BE PROVIDED BY CAPTIVEAIRE. FIELD VERIFY EXACT REQUIREMENTS PRIOR TO ORDERING, INSTALLATION AND BID., G.C. TO COORDINATE WITH CAPTIVAIRE
14. PROVIDE ALL NEW MAKE-UP AIR UNIT (MAU-1) WITH PRE-FABRICATED MINIMUM 14 INCH HIGH ROOF CURBS, PROVIDE A MINIMUM OF 8" CLEARANCE TO ROOF SURFACE. (SEE DETAIL ON HOOD SHEETS), PROVIDED BY CAPTIVEAIRE INSTALLED BY GC.
15. DUCT-TO-EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS; AND SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR IN-LINE FANS, GASKET AND SEALING MATERIALS SHALL BE RATED FOR CONTINUOUS DUTY AT A TEMPERATURE OF NOT LESS THAN 1500°F (816°C).
16. ALL ROOFTOP HVAC EQUIPMENT SHALL BE INSTALLED SUFFICIENTLY AWAY FROM EDGE OF ROOF SO AS TO ALLOW FOR THE INSTALLATION OF PROPER FLASHING TO ENSURE A WEATHER TIGHT SEAL. IN ADDITION, ADEQUATE CLEARANCES SHALL BE PROVIDED FOR CLEANING AND MAINTENANCE REQUIREMENTS. THE FINAL LOCATION OF ALL ROOFTOP EQUIPMENT MUST ALSO COMPLY WITH ALL OSHA SAFETY REQUIREMENTS. WHEN MINIMUM REQUIRED DISTANCE FROM ROOF EDGE OR DROP OFF CANNOT BE MAINTAINED, IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE AND INSTALL CODE COMPLAINT SAFETY RAILS.

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DENNY'S RESTAURANT #

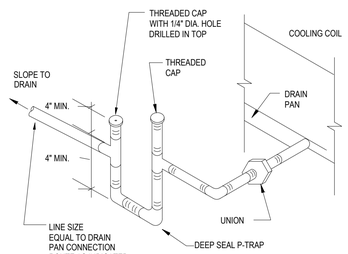
SHEET TITLE
ROOF PLAN

SHEET
M2.0

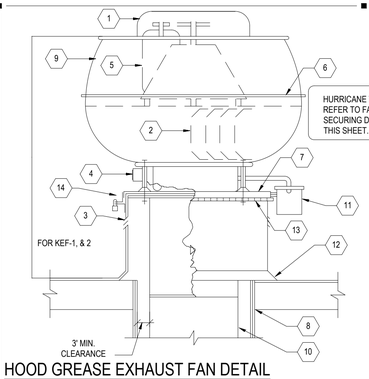


NOTES:
1. SMOKE DETECTOR FURNISHED BY FIRE ALARM CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR, AND MOUNTED BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. DUCTWORK PER SMACNA.
3. PROVIDE ACCESS DOOR AT SAMPLING TUBES.
4. INSTALL PER NFPA 90A
5. MOUNT REMOTE INDICATOR/RESET BY THERMOSTATS

SMOKE DETECTOR MOUNTING DETAIL
NTS

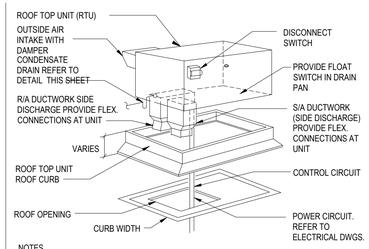


CONDENSATE P-TRAP DETAIL
NTS



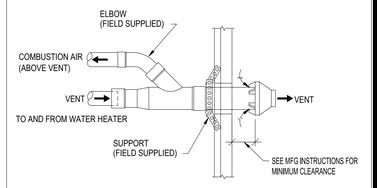
1. MOTOR DOME - ALUMINUM. REMOVABLE
2. FAN WHEEL - ALUMINUM, CENTRIFUGAL. BACKWARD INCLINED BLADES.
3. CURB - EXTENDED, STEEL, WELDED BY FAN MANUF.
4. ELECTRICAL CONDUIT STUB.
5. MOTOR - BELT DRIVE, ADJUSTABLE PULLEY, OUT OF AIR STREAM
6. BIRDSCREEN - ALUMINUM
7. FAN BASE - HEAVY GAUGE STEEL, ONE PIECE CONSTRUCTION, HINGED
8. ROOF OPENING - VERIFY WITH GENERAL CONTRACTOR AND MFR'S SUBMITTALS
9. WIND BAND - SPUN ALUMINUM, UPBLAST TYPE
10. EXHAUST DUCT - HEAVY GAUGE STEEL WITH FIRE PROOFING, INSULATION EQUAL TO FIRE MASTER
11. GREASE TROUGH - SECURE TO BASE
12. ROOF CURB
13. HINGED CURB FOR CLEANING, FLEXIBLE ELECTRICAL CONDUIT FOR EXTENSION AND CHAIN LOCK FOR OPEN POSITION.
14. PROVIDE LOREN COOK HINGED BASE KIT OR EQUAL. THE HINGED BASE KIT IS A FIELD INSTALLED

HOOD GREASE EXHAUST FAN DETAIL
NTS



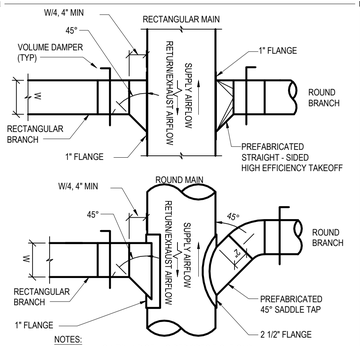
NOTES
1. DUCT TRANSITION FROM RTU TO DUCT SIZE SHOWN ON MECH. FLOOR PLAN SHALL BE MADE BETWEEN RTU & TOP OF ROOF WITHIN CURB.
2. SIZE OF OPENING IN ROOF DECK TO BE AS SMALL AS POSSIBLE. COORDINATE W/STRUCT. DWGS (6" MIN. LARGER THAN DUCT SIZE SHOWN)
3. INSTALL PER MANUFACTURER'S RECOMMENDATION AND INSTALLATION MANUAL.

ROOF TOP UNIT MOUNTING DETAIL
NTS



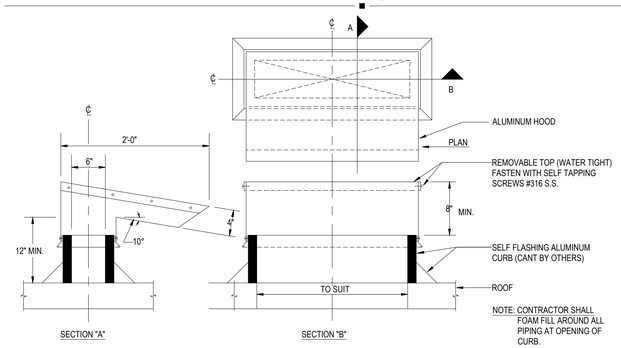
NOTE:
1. SEE MANUFACTURER INSTRUCTIONS FOR COMPLETE REQUIREMENTS.
2. ONE (1) FOR EACH UNIT.
3. SUPPORT MUST BE FIELD INSTALLED TO SECURE TERMINATION KIT TO STRUCTURE.

CONCENTRIC VENT DETAIL
NTS

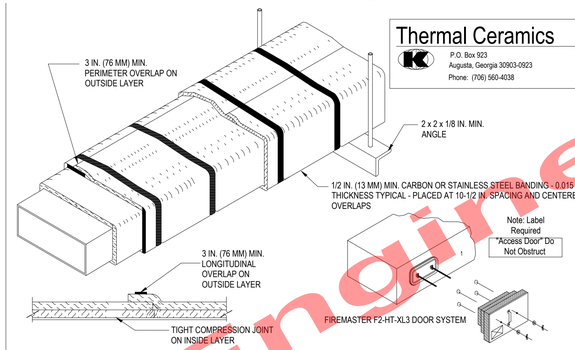


NOTES:
1. SEAL ALL JOINTS AND SEAMS PER SPECIFICATIONS.

DUCT TAKEOFF DETAIL
NTS



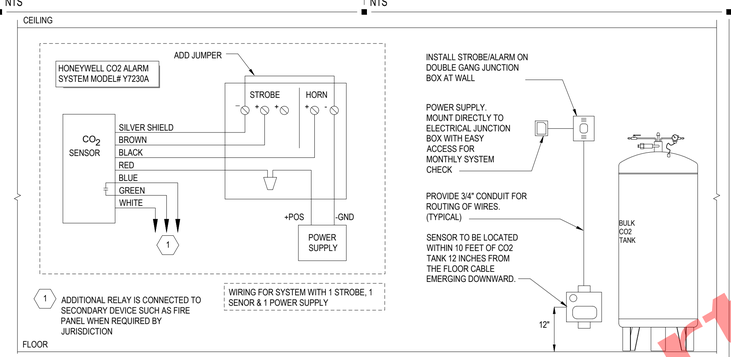
REFRIGERANT PIPING CURB DETAIL
NTS



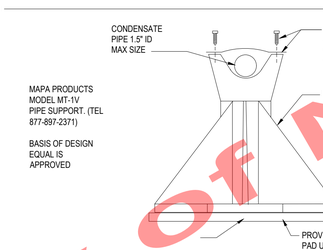
Thermal Ceramics
P.O. Box 923
Augusta, Georgia 30903-0923
Phone: (706) 560-4038

1. THERMAL CERAMICS FIREMASTER FASTWRAP XL OR PYROSCAT XL HAS BEEN TESTED IN ACCORDANCE WITH ASTM E2336 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND MEETS THE REQUIREMENTS FOR ONE OR TWO HOUR ENCLOSURES. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH EITHER ASTM E 814 OR UL 1479. ICC-ES APPROVAL PER REPORT ESR 2213 OR ESR 2832. UNDERWRITER'S LABORATORIES (UL) LISTINGS SHOW COMPLIANCE TO UL 1479 FOR THROUGH PENETRATION FIRESTOP SYSTEMS.
2. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON INSIDE LAYER AND 3 INCH MINIMUM OVERLAPS ON BOTH PERIMETER AND LONGITUDINAL OVERLAPS ON OUTSIDE LAYER.
3. GREASE EXHAUST DUCT RUNS FROM THE HOOD EXHAUST CONNECTION UP TO THE EXHAUST FAN ON THE ROOF WITH MINIMAL TURNS OR BENDS AND MAINTAINING MINIMUM 1/4 UNIT VERTICAL RISE PER 12 UNITS HORIZONTAL RUN. NFPA 96 COMPLIANT ACCESS DOORS LOCATED AS REQUIRED BY CODE.
4. THERMAL CERAMICS FIREMASTER ACCESS DOORS AS SPECIFIED IN ICC-ES BUILDING CODE REPORTS ESR 2213 OR ESR 2832.
5. ROOF MOUNTED EXHAUST FAN IS MOUNTED ON A HINGED BASE WHICH ALLOWS ACCESS TO THE DUCT FROM THE ROOF.
6. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE AT LEAST A MINIMUM OF 3/8 IN. DIAMETER. USE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
7. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
8. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED ON THE DUCT FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.

GREASE EXHAUST DUCT PROTECTION TO COMBUSTIBLES DETAIL
NTS

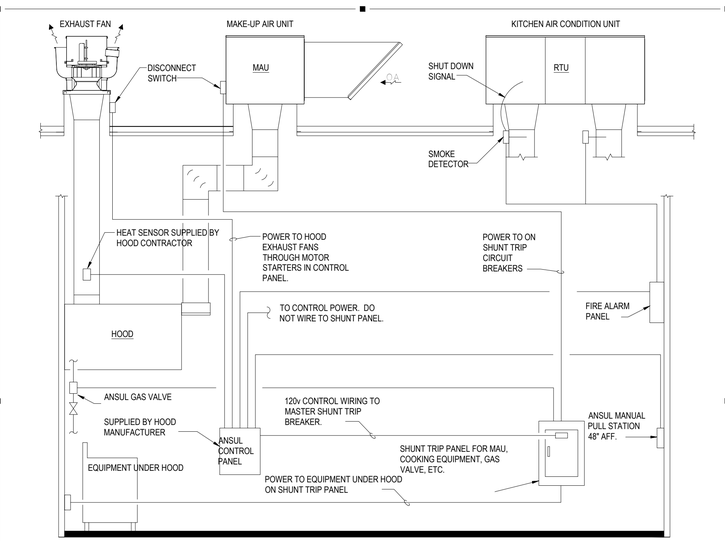


CO2 ALARM SYSTEM DETAIL
NTS



NOTE:
1. THE MANUFACTURER DOES NOT RECOMMEND FASTENING THE PIPE SUPPORTS TO THE ROOF. SHOULD THE LOCAL BUILDING DEPARTMENT REQUIRE THAT THE PIPE SUPPORTS BE SECURED TO THE ROOF, ANY METHOD OF FASTENING THE SUPPORTS MUST BE COMPATIBLE WITH THE ROOFING MATERIAL SO AS NOT TO VOID THE ROOF WARRANTY. VERIFY A PROPER METHOD OF ATTACHMENT WITH THE ROOFING CONTRACTOR PRIOR TO INSTALLATION.
2. PLACE SUPPORT AS APPROPRIATE CENTERED ON THE SUPPORT PAD. WHERE SPECIFIED ADHERE SUPPORT TO PAD. MAPA PRODUCTS RECOMMENDS E-6000 ADHESIVE.

CONDENSATE PIPE SUPPORT DETAIL
NTS

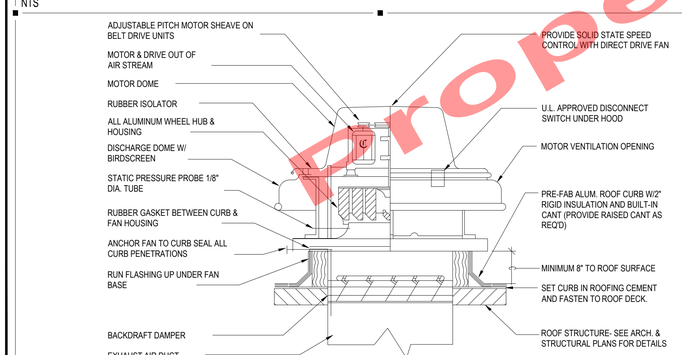


SEQUENCE OF OPERATIONS

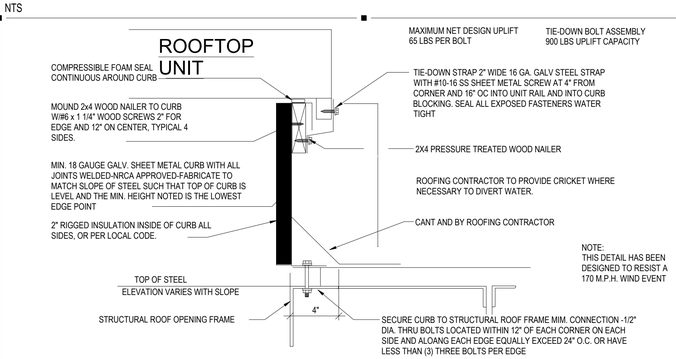
1. THE HEAT SENSOR LINK WITHIN THE EXHAUST DUCTWORK SENSES OR THE MANUAL PULL STATION IS ACTIVATED.
2. THE ANSUL SYSTEM SHALL BE ACTIVATED CAUSING THE FOLLOWING:
   A. A SIGNAL WILL BE SENT TO THE BUILDING FIRE ALARM.
   B. A SIGNAL WILL BE SENT TO THE ELECTRICAL SHUNT TRIP BREAKERS (ALL COOKING EQUIPMENT ASSOCIATED WITH THE HOOD SYSTEM AND ALL MAKEUP AIR FANS AND KITCHEN ROOFTOPS).
   C. A SIGNAL WILL BE SENT TO THE MECHANICAL VALVE IN GAS LINE TO DISCONNECT ALL GAS APPLIANCES.
   D. A SIGNAL WILL BE SENT TO THE ANSUL GAS VALVE CAUSING IT TO CLOSE (NORMALLY CLOSED).
3. THE HOOD EXHAUST FAN WILL REMAIN IN OPERATION.
4. THE ANSUL SYSTEM GAS BOTTLES WILL DISCHARGE.

NOTE:
A. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL LOW VOLTAGE WIRING TO INTERCONNECT THE HOOD ANSUL SYSTEM, AND CONNECT SHUNT TRIP BREAKER, AND ALL HOOD CONTROL PANEL POWER AND TEMPERATURE SENSORS ETC FOR A COMPLETE OPERATIONAL SYSTEM.
B. FIRE ALARM CONTROLS ASSOCIATED WITH THE HOODS AND THE BUILDING FIRE ALARM SHALL BE BY FIRE ALARM CONTRACTOR.
C. WHEN FIRE ALARM SYSTEM IS ACTIVATED ALL HEAT PRODUCING EQUIPMENT UNDER HOOD SHALL BE SHUT DOWN. EXHAUST FANS SHALL REMAIN ACTIVE.
D. SYSTEM SHALL REQUIRE MANUAL RESET.

HOOD CONTROL SCHEMATIC DETAIL
NTS



EXHAUST FAN DETAIL
NTS



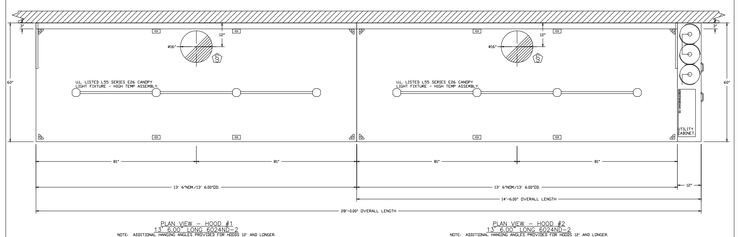
EQUIPMENT TIE DOWN DETAIL
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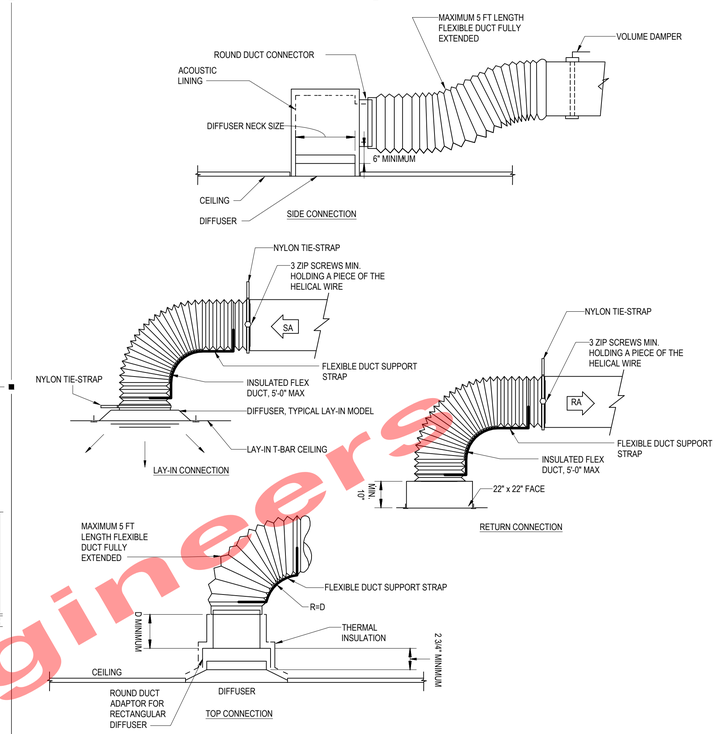
SHEET TITLE
HVAC DETAILS

SHEET
M 3.0

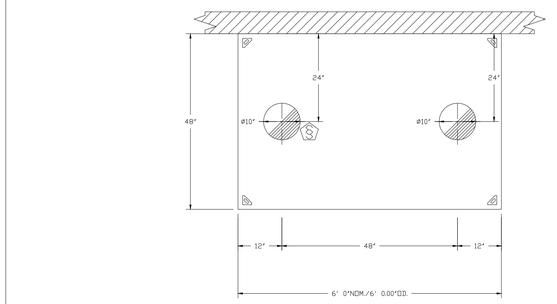


HOOD 1 / 2 PLAN VIEW
NTS

ROOF TOP UNIT GAS CONNECTION DETAIL
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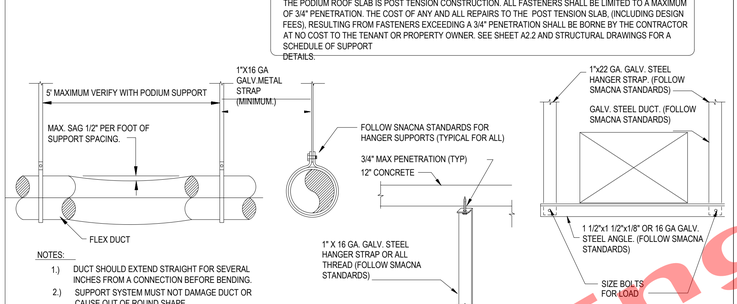


AIR TERMINAL CONNECTION DETAIL
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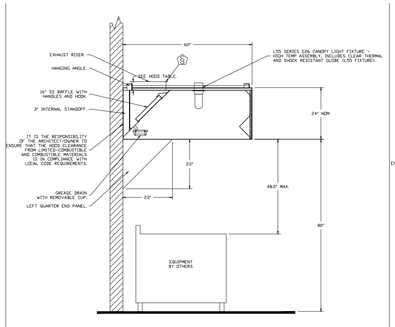


PLAN VIEW — HOOD #3
6' 0.00" LONG 4824VHB-G

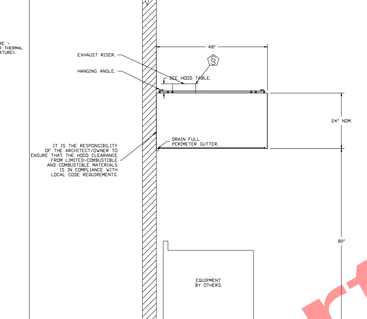
HOOD 3 PLAN VIEW
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DUCT HANGING DETAIL
NTS

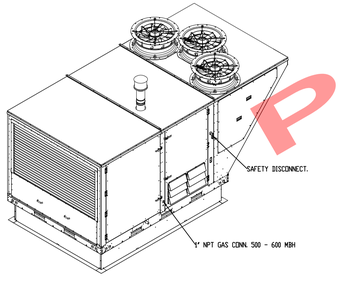


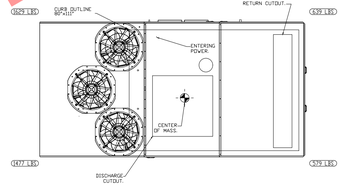
SECTION VIEW — MODEL 6024ND-2 HOOD — #1



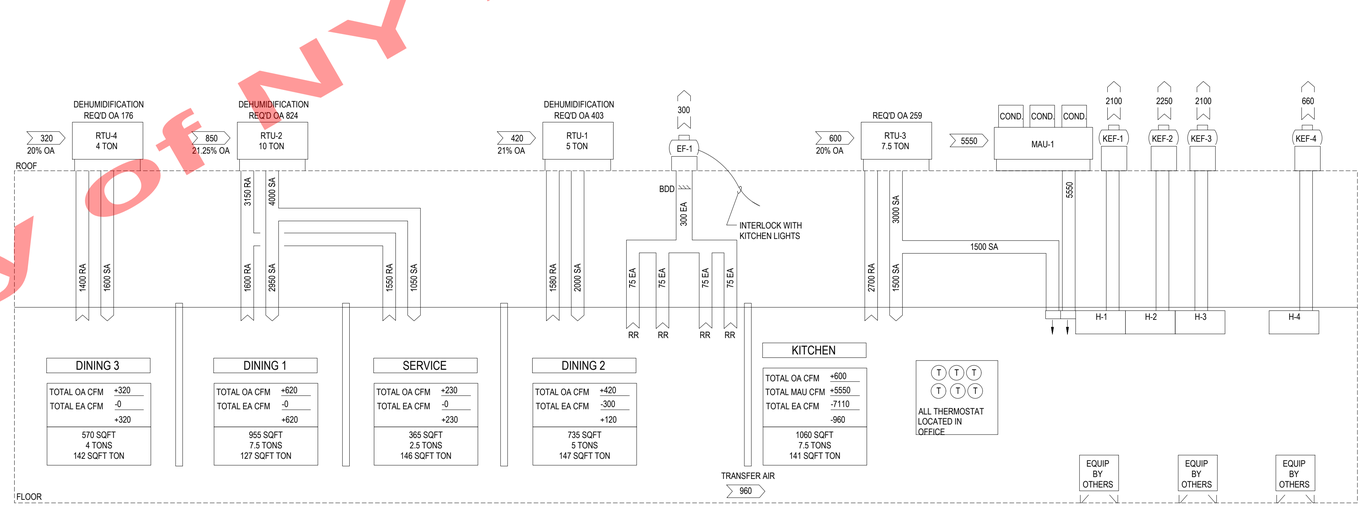
SECTION VIEW — MODEL 4824VHB-G HOOD — #3

HOOD SECTION VIEWS
NTS





MAU DETAILS
NTS



AIR BALANCE SCHEMATIC
NTS

DINING 3	+320
DINING 1/SERVICE	+850
DINING 2	+120
KITCHEN	-960
TOTAL BUILDING PRESSURE	+330

4160 TOTAL SQFT
3685 TOTAL CONDITIONED SQFT
26.5 TOTAL TONS
139 SQFT PER TON

NOTE:
TYPE I HOODS SHALL BE DESIGNED AND INSTALLED TO AUTOMATICALLY ACTIVATE THE EXHAUST FAN WHENEVER COOKING OPERATIONS OCCUR. THE ACTIVATION OF THE EXHAUST FAN SHALL OCCUR THROUGH AN INTERLOCK WITH THE COOKING APPLIANCES, BY MEANS OF HEAT SENSORS OR BY MEANS OF OTHER APPROVED METHODS.

Property of NY Engineers

Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
HVAC DETAILS

SHEET
M3.1

DOMESTIC WATER SUPPLY FIXTURE UNITS

TYPE OF FIXTURE	TYPE OF SUPPLY CONTROL	QUANTITY	HW (EACH)	HW (TOTAL)	CW (EACH)	CW (TOTAL)	TOTAL (EACH)	TOTAL (F.U.'S) (TOTAL)
SODA MACHINE	VALVE	2	0.0	0.00	0.25	0.50	0.25	0.50
TEA BREWER	VALVE	1	0.00	0.00	0.25	0.25	0.25	0.25
COFFEE BREWER	VALVE	2	0.00	0.00	0.25	0.50	0.25	0.50
JUICE DISPENSER	VALVE	2	0.00	0.00	0.25	0.50	0.25	0.50
ICE MAKER	VALVE	1	0.00	0.00	0.25	0.25	0.25	0.25
HAND SINK DROP IN	FAUCET	2	1.5	3.00	1.50	3.00	2.00	4.00
DISHWASHER	VALVE	1	1.4	1.40	0.0	0.00	1.4	1.40
HAND SINK WALL MOUNT	FAUCET	5	1.5	7.50	1.5	7.50	2.0	10.00
PRE RINSE SINK	FAUCET	1	3	3.00	3	3.00	4	4.00
3 COMP. SINK	FAUCET	2	3	6.00	3	6.00	4	8.00
PREP SINK	FAUCET	1	3	3.00	3	3.00	4	4.00
LAVATORY	FAUCET	4	1.5	6.00	1.5	6.00	2.0	8.00
MOP BASIN	FAUCET	1	2.25	2.25	2.25	2.25	3.0	3.00
WATER CLOSET (VALVE)	VALVE	4	0.0	0.00	10.0	40.00	10.0	40.00
						HW	CW	TOTAL (FIXTURE UNITS) (TOTAL)
SERVICE TOTAL FIXTURE UNITS						32.15	72.75	84.40
SERVICE TOTAL GPM						22.784 GPM	35.271 GPM	38.611 GPM
SERVICE SIZE							1-1/2"	

PLUMBING SYMBOLS

	DOMESTIC COLD WATER PIPING		AUTOMATIC TWO WAY VALVE
	DOMESTIC HOT WATER PIPING (120°)		PRESSURE RELIEF VALVE
	DOMESTIC HOT WATER RETURN PIPING (120°)		ANGLE PRESSURE RELIEF VALVE
	HOT WATER WITH TEMPERATURE MAINTENANCE STRIP (HWAT)		ANGLE PRESSURE REDUCING VALVE (PRV)
	VENT PIPING		PRESSURE REDUCING VALVE (PRV)
	SOIL, WASTE OR SANITARY PIPING	OPEN CLOSE	OUTSIDE SCREW & YOKE (OS & Y) VALVE
	BURIED PIPING		LUBRICATED GAS PLUG VALVE
	LEADER PIPING OR STORM (ST)	OPEN CLOSE	GAS VALVE
	DOMESTIC HOT WATER PIPING (140°)		GAS PRESSURE REGULATOR
	DOMESTIC HOT WATER CIRCULATION PIPING (140°)		SOLENOID VALVE
	HOT WATER TEPID (85°)		SOLENOID/MOTORIZED VALVE
	HOT WATER CIRCULATION TEPID (85°)		THERMOSTATIC MIXING/3 WAY VALVE
	DOMESTIC WATER STREET PRESSURE OR INCOMING SERVICE	OPEN CLOSE	BALL VALVE
	DOMESTIC HOT WATER STREET PRESSURE		DIRECTION OF PUMPED FLOW
	DOMESTIC WATER INCOMING SERVICE		ARROW INDICATES DIRECTION OF LOW
	LEADER OVERFLOW		PITCH PIPE DOWN IN DIRECTION OF ARROW
	GAS PIPING (LOW PRESSURE)		CONCENTRIC REDUCER
	MEDIUM PRESSURE GAS PIPING		ECCENTRIC REDUCER
	HIGH PRESSURE GAS PIPING		PIPE SLEEVE
	GAS VENT		UNION
	COLD WATER PUMP DISCHARGE		CAPPED PIPE WITH SHUT-OFF VALVE
	COOLING TOWER MAKE-UP PUMP DISCHARGE		"Y" TYPE STRAINER WITH BLOW-OFF VALVE
	INDIRECT WASTE PIPING		TRAP (RISER DIAGRAM)
	EJECTOR DISCHARGE		VENT THRU ROOF (RISER DIAGRAM)
	SUMP DISCHARGE		WATER FILTER
	SANITARY RELIEF VENT		VACUUM BREAKER ASSEMBLY
	SANITARY YOKE VENT	FD/FDR/D FC	FLOOR/AREA/ROOF,PLENUM DRAIN OR FLOOR SINK (PLAN VIEW)
	GREASE WASTE PIPING	FD/FD.D FS	FLOOR, AREA, PLENUM, ROOF DRAIN OR FLOOR SINK (RISER DIAGRAM)
	IRRIGATION WATER	M	METER (WATER/GAS)
	ACID VENT PIPING	RPZ	REDUCED PRESSURE ZONE BACKFLOW
	ACID WASTE PIPING	DCV	DOUBLE CHECK VALVE BACKFLOW
	HEAT TRACED PIPING		HOUSE TRAP/RUNNING TRAP
	CLEAN OUT/PLUGGED OUTLET		
	CAPPED OUTLET		CURB VALVE
	CLEAN-OUT DECK PLATE (FLOOR PLAN)		
	P-TRAP (FLOOR PLAN)		PUMP
	HOSE BIB		
	VALVE ON VERTICAL	PLAN RISER	HOT WATER HEATER
	MANUAL AIR VENT		
A	AUTOMATIC AIR VENT	P PLUMBING (CW, HW, S, V, GAS, ST.) RISER	RISER SERVICE RISER NUMBER
	THERMOMETER		
	PIPE SENSOR WELL		DETAIL DRAWING LOCATION
	PRESSURE GAUGE AND COCK		
	WATER HAMMER ARRESTOR		DETAIL DRAWING LOCATION
FAI	FRESH AIR INLET (FAI)		
	WALL HYDRANT (FROST PROOF)	4	REVISION NUMBER
	ELBOW TURNED UP		
	ELBOW TURNED DOWN		CONNECT NEW WORK TO EXISTING
	BOTTOM PIPE CONNECTION		DISCONNECT EXISTING WORK & CAP
	TOP PIPE CONNECTION		CHECK VALVE
	SLOPE CHANGE IN PIPE ELEVATION (ROLL DOWN)		CHECK VALVE W/ BALL DRIP
	FLEXIBLE PIPE CONNECTION		ZONE CHECK VALVE
OPEN CLOSE	GATE VALVE		DOUBLE CHECK VALVE
	GLOBE VALVE		AUTOMATIC THREE WAY VALVE

FOOD SERVICE GENERAL NOTES

1. ALL SERVICE LINES FOR WATER AND GAS SIZED TO PROVIDE FULL FLOW VOLUME FOR ALL ITEMS SUPPLIED ON RESPECTIVE MAINS AND BRANCHES. IDENTIFY ALL LINES WITH PERMANENT LABELS FOR THE SERVICE THEY PROVIDE.
2. FUEL GAS SERVICES SHALL BE SIZED TO SUPPLY THE REQUIRED BTUH INDICATED AT THE EQUIPMENT AT LOW PRESSURE OF APPROXIMATELY 7"-11" WATER COLUMN. PROVIDE PRESSURE REGULATORS AS REQUIRED.
3. ALL HOT AND COLD WATER SERVICE LINES, EXCEPT SHORT BRANCHES EXTENDED AND CONNECTED TO FIXTURES, SHALL BE INSULATED. ALL EXPOSED INSULATED LINES SHALL BE COVERED WITH PROTECTIVE COVERING TO SUIT THE APPLICATION.
4. ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT, BELOW EQUIPMENT, SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATION ABOVE FLOOR. TO PROVIDE CLEARANCE FOR CLEARING. NO LINES SHALL LAY ON FLOOR.
5. ALL PIPING ROUTED THROUGH OR NEAR EQUIPMENT OR COUNTERS SHALL NOT INTERFERE WITH THE INTENDED USE OF, OR SERVICING OF, EQUIPMENT OR COUNTERS.
6. ALL EXPOSED PIPING AND FITTINGS SHALL BE CHROME PLATED OR STAINLESS STEEL. TAIL PIECES FOR SINKS SHALL BE 17 GAUGE CHROME PLATED FLARED BRASS TUBING FOR CONNECTION TO 1-1/2" I.P.S. MALE THREAD FITTING. "P" TRAPS SHALL BE CHROME PLATED BRASS, UNIFORM CODE PATTERN.
7. STOPS SHALL BE FURNISHED AND INSTALLED ON ALL HOT AND COLD WATER LINES AT EQUIPMENT. PROVIDE ALL REQUIRED SHUT-OFF VALVES, CHROME FINISH.
8. KITCHEN EQUIPMENT DIVISION SHALL PROVIDE ALL FOOD SERVICE EQUIPMENT FAUCETS. PLUMBING CONTRACTOR SHALL INSTALL AND CONNECT, EQUIPMENT SINKS ARE PROVIDED WITH 1-1/2" WASTE CONNECTIONS.
9. ALL WASTES, DIRECT OR INDIRECT, SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR EXCEPT AS NOTED ON UTILITY PLANS.
10. MINIMUM SIZE INDIRECT WASTES SHALL BE 1", REGARDLESS OF SIZE OF CONNECTION AT EQUIPMENT.
11. ADEQUATE CLEAN-OUT PROVISION SHALL BE MADE FOR ALL WASTE LINES BY MEANS OF PLUGGED "T" FITTING EXTENDED TO ACCESSIBLE POSITION.
12. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL DRAIN LINES FROM COLD STORAGE ROOM EVAPORATORS TO DRAIN LOCATIONS WITH MINIMAL PITCH AND "P" TRAP IN END OVER FLOOR RECEPTOR DRAIN LINES SHALL BE 1" MINIMUM. EACH EVAPORATOR SHALL HAVE A SEPARATE DRAIN LINE.
13. GAS AND WATER SERVICES FOR PORTABLE AND COUNTER TOP APPLIANCES SHALL BE CONNECTED TO EQUIPMENT WITH STAINLESS STEEL FLEXIBLE HOSES AND QUICK DISCONNECT FITTINGS. GAS FITTINGS AND HOSES SHALL BE A.G.A. APPROVED FOR COMMERCIAL KITCHEN EQUIPMENT. GAS AND WATER HOSES SHALL BE COVERED WITH A THICK FIRE RESISTANT PLASTIC OR POLY COATING.
14. PLUMBING CONTRACTOR SHALL COORDINATE WITH KITCHEN CONSULTANT DRAWINGS FOR ROUGH IN LOCATIONS, SIZES AND HOOK-UP REQUIREMENTS FOR ALL KITCHEN EQUIPMENT. ROUGH IN EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS.

PLUMBING GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FITTINGS AS REQUIRED BY ALL APPLICABLE CODES AND GOVERNING AUTHORITIES.
2. CONTRACTOR SHALL VERIFY AND CORRECT AS REQUIRED TO MEET ALL CODES AND REGULATIONS ANY POSSIBLE DISCREPANCIES BETWEEN TYPE AND SIZE OF CONNECTION SPECIFIED IN PLUMBING FIXTURE SCHEDULE AND FIXTURES ACTUALLY INSTALLED ON THE SITE.
3. ALL SANITARY AND GREASE WASTE PIPING SHALL HAVE A 1/8" PER FOOT SLOPE UNLESS OTHERWISE NOTED.
4. VENT PIPING SHOWN ON FLOOR PLANS IS ONLY INDICATIVE EXCEPT FOR VTR LOCATIONS.
5. VALVES AND FITTINGS SHALL BE OF SAME SIZE OF LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWINGS.
6. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.
7. CONTRACTOR SHALL FIELD VERIFY ALL GIVEN MEASUREMENTS PRIOR TO LAYING AND CONNECTING ALL SANITARY AND WASTE PIPING AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.
8. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.
10. ALL WATER SUPPLY AND SANITARY LINES SHALL BE RUN AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGES IN SIZING.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
12. CHANGES IN THE DIRECTION OF SANITARY PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT UNLESS PHYSICALLY IMPOSSIBLE (IE: USE OF SANITARY TEE IN A HORIZONTAL CON- NECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, IN GENERAL, USE OF SHORT-RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION).
13. ALL DRAINAGE PIPING SHALL BE MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION FOUNDATION.
14. PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NONACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
15. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURE MOUNTING HEIGHTS, AND DIMENSIONS.
16. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SANITARY AND GREASE TRAPS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.
17. ALL VENTS THROUGH ROOF SHALL BE MIN. 10'-0" FROM ANY AIR INTAKES.
18. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
19. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INCLUDING PIPE ROUTING AND EQUIPMENT LOCATIONS) TO ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OR PURCHASING OF ANY PIPING AND/OR EQUIPMENT.
20. PROVIDE 3/4" H.W. SUPPLY WITH ANGLE STOP AND FLEXIBLE SUPPLY TO DISHWASHER MACHINE, AT HEIGHT REQUIRED BY MANUFACTURER OF EQUIPMENT INSTALLED.
21. CLEANOUTS SHALL BE PROVIDED AT THE LOCATIONS INDICATED AND A MINIMUM WHERE REQUIRED BY CODE . FLOOR CLEANOUTS SHALL BE A MINIMUM OF 4" AND SHALL BE COMPLETE WITH A FLUSH PLUG AND REMOVABLE SCORIATED BRONZE FLOOR PLATE, PROVIDE CARPET BUTTONS IN CARPETED AREAS.

WATER HEATER SIZING CALCULATION

FIXTURE	FIXTURE DESIGNATION	QTY.	GPH		TOTAL
MOP SINK	-	1	15		15.0
HAND SINK DROP IN	-	2	5		10.0
HAND SINK WALL MOUNT	-	5	5		25.0
PRE-RINSE FAUCET	-	1	45		45.0
PREP SINK	-	1	45		45.0
3 COMP SINK	-	1	90		90.0
LAVATORY	-	4	5		20.0
				TOTAL	250.0
	GPH	USAGE FACTOR			
	250.0	75%			187.5
	GPH	DISHWASHER			
	187.5	40			227.5
	GPH				
	227.5		TOTAL	GPH	228
			TOTAL	GPM	4

PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	FIXTURE	WASTE	VENT	HOT SUPPLY	COLD SUPPLY
WC-1	AMERICAN STANDARD MADERA 16 1/2" H, 1.28 GPF, ELONGATED, VITREOUS CHINA, WHITE, SIPHON JET, 1.6 GAL FLUSH WISEMIS 16SSSS OPEN FRONT SEAT PROVIDE WITH AMERICAN STANDARD SELECTRONIC 6065.121.002 BATTERY OPERATED FLUSH VALVE WITH OVERRIDE BUTTON. FLUSH VALVE TO BE MOUNTED ON WIDE SIDE OF TOILET OR LEFT SIDE, TO MATCH THE WIDE SIDE OF THE HANDICAPPED STALL.	FLOOR MOUNTED WATER CLOSET FLUSH VALVE (ADA)	4	2	-	1
LAV-1	TRUGUN SINK PACKAGE SUPPLIED BY GENERAL CONTRACTOR FROM RYNONE. INSTALLED BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR TO FURNISH AND INSTALL KOHLER MI K-R70315-4D SINK FAUCET WITH BELOW DECK THERMOSTATIC MIXING VALVE, ANGLE STOP SUPPLIES WITH TUBES & ESCUTCHEONS, P-TRAP, MOUNT TOP OF RIM 34" AFF. PROVIDE WITH A.D.A. COMPLIANT OFFSET TAIL PIECES FOR WASTE & SUPPLIES BELOW LAVATORY. (ASME A112.18.1 APPROVED)	TROUGH SINK	2	2	1/2	1/2
UR-1	AMERICAN STANDARD PINTBROOK, VITREOUS CHINA, 3/4" TOP SPUD. PROVIDE WITH AMERICAN STANDARD SELECTRONIC 6063.013.002 BATTERY POWERED AUTO FLUSH VALVE & HEAVY DUTY WALL CARRIER.	WALL HUNG URINAL	2	2	-	3/4
MS-1	MOP SINK FAUCET - T&S BRASS FAUCET B-0665-RSH, WALL MOUNTED WITH PAIL HOOK, VACUUM BREAKER AND HOSE THREAD OUTLET.	MOP SINK FAUCET	3	2	3/4	3/4
HRC-1	HOSE REEL CONTROL STATION: T&S BRASS B-2330-LR. INCLUDE VACUUM BREAKER. COORDINATE MOUNTING HEIGHT WITH OWNER.	HOSE REEL FAUCET	-	-	1/2	1/2
TMV-1	WATTS MMV-AFI THERMOSTATIC MIXING VALVE (ASSE 1070 RATED), 105°F OUTLET TEMP.	THERMOSTATIC MIXING VALVE	-	-	1/2	1/2
WHD	ZURN Z1300 AUTOMATIC DRAINING, FREEZE PROOF WALL HYDRANT WITH ANTI-SIPHON VACUUM BREAKER AND LOOSE TEE KEY OR EQUAL	EXTERIOR WALL HYDRANT	-	-	-	3/4
FCO	FLOOR CLEANOUT - ZURN MODEL ZN-1400, WITH SATIN BRONZE TOP ADJUSTABLE CAST IRON HOUSING, PVC TAPERED PLUG AND OUTLET CONNECTION TO MATCH PIPING. PROVIDE CLAMPING FLANGE FOR FLOORS HAVING A WATERPROOF MEMBRANE. SIZE AS INDICATED ON DRAWINGS.	FLOOR CLEAN OUT	3	2	-	-
FD-1	FLOOR DRAIN - ZURN MODEL ZN-415, 6" TYPE B STRAINER, WITH CAST IRON HOUSING, ADJUSTABLE SATIN BRONZE TOP, CLAMPING COLLAR AND OUTLET CONNECTION TO MATCH PIPING SIZE AS INDICATED ON DRAWINGS. PROVIDE TRAP PRIMER.	FLOOR DRAIN	3	2	-	-
FD-2	SAME AS FD-1 WITH TRAP PRIMER CONNECTION.	FLOOR DRAIN	3	2	-	-
WCO	WALL CLEANOUTS: ZURN MODEL Z-1441-A-RP WITH BRASS PLUG AND STAINLESS STEEL COVER.	WALL CELANOUT	SEE PLAN	-	-	-
FSHG-1	PROVIDE TWELVE (12) FLOOR SINKS, ZURN ZN-1900, 12"X12" 18" DEEP WITH 3" OUTLET. PROVIDE WITH HALF GRATE.	FLOOR SINK	3	-	-	-
SA	SHOCK ABSORBER - ZURN MODEL Z-1700 #100 WITH STAINLESS STEEL CASING, SIZE AS INDICATED ON DRAWINGS.	WATER HAMMER ARRESTER	-	-	-	-
RCP-1	TACO RECIRCULATION PUMP, MODEL NO. 006, 4 GPM, 140 HP @ 3250 RPM, 115V/60, EQUAL PRODUCTS BY B&G AND ARMSTRONG	DOMESTIC HOT WATER RECIRCULATION PUMP	-	-	-	3/4
BFP-1	WATTS SERIES 909 SERIES REDUCED PRESSURE ZONE ASSEMBLY DOM., SIZE AS INDICATED ON DRAWINGS, BRONZE BODY CONSTRUCTION, TOP MOUNTED BALL VALVE TEST COCKS, AND BRONZE STRAINER	REDUCED PRESSURE ZONE ASSEMBLY	-	-	-	2
GT-1	OLDCASTLE 612-GA-2000 PRE-CAST GREASE INTERCEPTOR. PIPE SIZE 4", MAXIMUM DRAINAGE FIXTURE UNITS 216. CONFIRM WITH LOCAL AUTHORITY THAT SIZE MEETS MINIMUM LOCAL REQUIREMENTS.	GREASE INTERCEPTOR	4	-	-	-
WH-1	A.O. SMITH COMMERCIAL GAS WATER HEATER, MODEL BTH-199, 220 GPH @ 100 DEG.F. TEMPERATURE RISE, 199,900 BTU INPUT, 95% THERMAL EFFICIENCY, 100 GALLON TANK. PROVIDE WITH CONCENTRIC VENT KIT FOR VENTING THRU THE ROOF.	GAS WATER HEATER	-	-	1-1/2"	1-1/2"
TD-1	ZURN Z806, 6" WIDE REVEAL FIBER REINFORCED WITH STEEL FRAME,	TRENCH DRAIN	SEE PLAN	SEE PLAN	-	-
TXT-1	ZURN MODEL-XT WATER THERMAL EXPANSION TANK. FINAL SELECTION TO BE VERIFIED TO COMPLY WITH LOCAL CODE.	THERMAL EXPANSION TANK	-	-	-	-
E-066	EVERPURE MH EV9437-10	WATER FILTER SYSTEM	-	-	-	3/4"
WHB	WOODFORD 8887 FREEZE PROOF, CHROME PLATED WALL MOUNTED HOSE BIBB WITH SCREWDRIVER HANDLE, VACUUM BREAKER AND 3/4" THREADED HOSE CONNECTION OUTLET. PROVIDE SCREW-ON TYPE BACKFLOW PREVENTER (WATTS #9A OR EQUAL) ON FAUCET SPOUT HOSE END.	WALL HOSE BIB	-	-	-	3/4"
RHB	WOODFORD 8WH-1485 FREEZE PROOF, CHROME PLATED ROOF MOUNTED HOSE BIBB WITH SCREWDRIVER HANDLE AND 3/4" THREADED HOSE. PROVIDE SCREW-ON TYPE BACKFLOW PREVENTER (WATTS #9A OR EQUAL) ON FAUCET SPOUT HOSE END.	ROOF HOSE BIB	-	-	-	3/4"

GREASE INTERCEPTOR SIZING

TYPE OF FIXTURE	QTY.	FIX. UNITS (EACH)	MINIMUM FIX. TRAP AND DRAIN SIZE	TOTAL FIX. UNITS
SODA DISPENSER	2	0.5	1-1/4"	1.0
ICE MAKER	1	0.5	1-1/4"	0.5
DIPPERWELL	2	0.5	1-1/4"	1.0
DISHWASHER	1	2	2"	2.0
HAND SINK DROP IN	2	1	1-1/4"	2.0
HAND SINK WALL MOUNT	5	1	1-1/4"	5.0
3-COMP SINK	1	3	2"	3.0
PREP SINK	1	2	2"	2.0
FLOOR SINK	7	5	3"	35
FLOOR DRAIN	8	2	3"	16
MOP BASIN	1	2.0	3"	2.0
			TOTAL DRAINAGE FIXTURE UNITS:	69.5

GRAVITY GREASE INTERCEPTORS SHALL BE 1,250 GALLONS. SIZING BASED ON UPC.

ABBREVIATION SCHEDULE

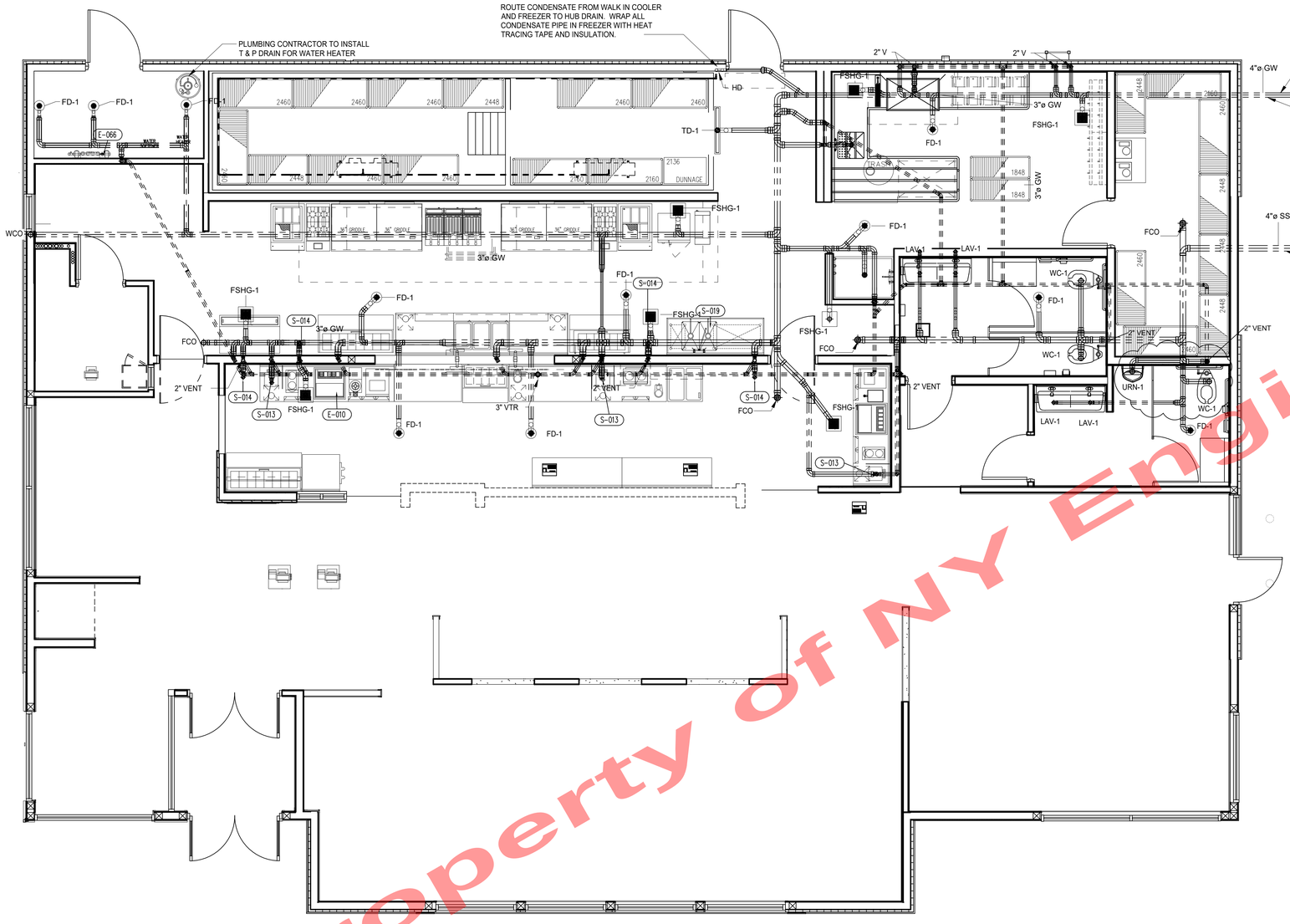
A	AIR	FHR	FIRE HOSE RACK	P	PNEUMATIC
ABD	AUTOMATIC BALL DRIP	FHV	FIRE HOSE VALVE	P-1 & P-1A	WATER CLOSET
AD	AREA DRAIN	FIN	FINISH(ED)	P-3 & P-3A	LAVATORY
ADJ.	ADJUSTABLE	FIN.FL	FINISH(ED) FLOOR	P-5	SHOWER
AFF	ABOVE FINISHED FLOOR	FIN.GR	FINISHED GRADE	P-6 & P-6A	DRINKING FOUNTAIN
AFP	AUTOMATIC FIRE PUMP	FL	FLOOR	PA.	PREACTION
AFPH	ANTI-FREEZE POST HYDRANT	FPRF	FIREPROOFING	PAN.	PANEL
AFWH	ANTI-FREEZE WALL HYDRANT	FPSC	FIREPROOF SELF CLOSING	PAV	PREACTION VALVE
AI	AIR INTAKE	FS	FIRE SERVICE PIPE	PD	PLAZA DRAIN
AP	ACCESS PANEL	FSK	FLOOR SINK	PE	PASSENGER ELEVATOR
Ar	ARGON	FSP	FIRE STANDPIPE	PERF	PERFORATED
@	AT	FT	FOOT, FEET	PL	PLATE
AUTO	AUTOMATIC	FTG	FITTING	PLAS	PLASTER
AV	ACID VENT	FXT	FIXTURE	PLBG	PLUMBING
AW	ACID WASTE			PO	PLUGGED OUTLET
		G	GAS (LOW PRESSURE)	POL	POLISH(ED)
BFP	BACKFLOW PREVENTER	GA	GAUGE	PR	PAIR
BLDG	BUILDING	GAL	GALLONS	PRV	PRESSURE REDUCING VALVE
BLKHD	BULKHEAD	GALV	GALVANIZED	PSI	POUNDS PER SQUARE INCH
BMS	BUILDING MANAGEMENT SYSTEM	GC	GENERAL CONTRACTING	PTN	PARTITION
BOP	BOTTOM OF PIPE	GD	GARAGE DRAIN	PVC	POLYVINYL CHLORIDE
BOT	BOTTOM	GEN	GENERAL		
BR	BRANCH	GH(P)	GAS (HIGH PRESSURE)	RA	RETURN AIR
BSMT	BASEMENT	G(MP)	GAS (MEDIUM PRESSURE)	RCV	RISER CONTROL VALVE
BW	BLACK WATER	GR	GREASE	RD	ROOF DRAIN
BWV	BLACK WATER VENT	GRD	GRADE	REFR	REFRIGERATOR
BWW	BLACK WATER WASTE	GT	GRAVITY TANK	REINF	REINFORCED
		GV	GAS VENT	REQ'TS	REQUIREMENTS
CAB	CABINET	GW	GRAY WATER	REV	REVISED
CB	CATCH BASIN	GWV	GRAY WATER VENT	RM	ROOM
CEM	CEMENT(ITIOUS)	GWW	GRAY WATER WASTE	RO	REVERSE OSMOSIS
CF	CUBIC FEET			RODI	REVERSE OSMOSIS DEIONISED
CI	CAST IRON	HB	HOSE BIBB	RODIR	REVERSE OSMOSIS DEIONISED RETURN
CLG	CEILING	HC	HANDICAPPED		
CLOS	CLOSET	He	HELIUM	ROR	REVERSE OSMOSIS RETURN
CO	CAPPED OUTLET	HGT	HEIGHT	RPDA	REDUSED PRESSURE DETECTOR ASSEMBLY
CO2	CARBON DIOXIDE	HORIZ	HORIZONTAL		
CODP	CLEAN OUT DECK PLATE	HP	HIGH POINT	RPZ	REDUSED PRESSURE ZONE ASSEMBLY
COL	COLUMN	HR	HOUR		
COMP'T	COMPLIMENT	H2	HYDROGEN	RV	RELIEF VALVE
CONC	CONCRETE	HTG	HEAT(ING)		
COND	CONDENSATE	HTR	HEATER	S	SOIL, SANITARY
CTPD	COOLING TOWER PUMP DISCHARGE	HVAC	HEATING, VENTILATION & AIR CONDITIONING	SCHED	SCHEDULE
CONF	CONFERENCE			SD	SUMP DISCHARGE
CORR	CORRIDOR	HW	HOT WATER	SE	SERVICE ELEVATOR
CONST	CONSTRUCTION	HWC	HOT WATER CIRCULATION	SECT	SECTION
CONT	CONTINUATION	HWH	HOT WATER HEATER	SH	SHOWER
CONV	CONVECTOR	HZ	HIGH ZONE	SHT	SHEET
COWP	CLEAN OUT WALL PLATE			SIM	SIMILAR (TO)
CPVC	CHLORINATED POLYVINYL CHLORIDE	ID	INSIDE DIAMETER	SLV	SLEEVE
CT	COOPER TUBE	IE	INVERT ELEVATION	SPFCA	SPRINKLER FLOW CONTROL ASSEMBLY
CTMU	COOLING TOWER MAKE UP	INSUL	INSULATION		
CV	CHECK VALVE	IRR	IRRIGATION	SPO	SANITARY PLUGGED OUTLET
CW	COLD WATER	IW	INDIRECT WASTE	SPR	SPRINKLER
CWPD	COLD WATER PUMP DISCHARGE			SQ	SQUARE
CWVO	COLD WATER VALVED OUTLET	JAN.	JANITOR	SQ.FT.	SQUARE FEET( )
		JAN.CL	JANITOR'S CLOSET	SS	STAINLESS STEEL
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	JP	JOCKEY PUMP	SSP	SPECIAL SERVICE FIRE PUMP
DCTIRN	DUCTILE IRON	JT	JOINT	ST	STREET PRESSURE
DCV	DOUBLE CHECK VALVE			STD	STANDARD
DET	DETAIL	L	LEADER	STL	STEEL
DI	DEIONISED	LAB	LABORATORY	STOR	STORAGE
DIAG	DIAGONAL	LP	LOW POINT	STRUCT	STRUCTURAL
DIAM	DIAMETER	LV	LOCAL VENT (W/BEDPAN WASHERS)	SUSP	SUSPENDED
DIM	DIMENSION	LVR	LOUVER	SYMM	SYMMETRICAL
DIR	DEIONISED RETURN	LZ	LOW ZONE	TDH	TOTAL DYNAMIC HEAD
DN	DOWN			TEL	TELEPHONE
DP	DRY PIPE	MA	MEDICAL AIR	TEMP	TEMPORARY
DPV	DRY PIPE VALVE	MACH	MACHINE	TER	TERRACE
DR	DRAIN	MAX	MAXIMUM	THRU	THROUGH
DRW	DRINKING WATER	MECH	MECHANICAL	TOS	TOP OF SLAB
DW	DISHWASHER	MEMB	MEMBRANE	TP	TRAP PRIMER
DWG	DRAWING	MER	MECHANICAL EQUIPMENT ROOM	TTB	TIGHT TO BEAM
DWPD	DOMESTIC WATER PUMP DISCHARGE	MEZZ	MEZZANINE	TW	TEPID WATER
		MFR	MANUFACTURE	TWC	TEPID WATER CIRCULATION
EA.	EACH	MH	MANHOLE	TYP.	TYPICAL
ED	EJECTOR DISCHARGE	MIN	MINIMUM	TEMP	TEMPORARY
EL	ELEVATION	MISC	MISCELLANEOUS		
ELEC	ELECTRICAL	MTD	MOUNTED	UON	UNLESS OTHERWISE NOTED
ELEV	ELEVATOR	MTG	MEETING		
EMER	EMERGENCY	MTL	METAL	V	VACUUM
EMR	ELEVATOR MACHINE ROOM	MV	MEDICAL VACUUM	VCO	VALVED, CAPPED OUTLET
ENCL	ENCLOSURE	MZ	MID ZONE	VE	VACUUM EXHAUST
ENGNR	ENGINEER			VEX	VENT EXHAUST
ENTR	ENTRANCE	NC	NORMALLY CLOSED	VERT	VERTICAL
EOS	END/EDGE OF SLAB	NIC	NOT IN CONTRACT	VEST	VESTIBULE
EQUIP	EQUIPMENT	No.	NUMBER	VO	VALVED OUTLET
EXIST	EXISTING	NO	NORMALLY OPEN	VPO	VENT PLUGGED OUTLET
EXH	EXHAUST	NOM	NOMINAL	VTR	VENT THRU ROOF
EXP	EXPRESS	N2	NITROGEN		
EXP. JT.	EXPANSION JOINT	N2O	NITROUS OXIDE	W	WASTE
EXT	EXTERIOR	NTS	NOT TO SCALE	W/	WITH
				WAGD	WASTE ANESTHETIC GAS DISPOSAL
F	FIRE	OC	ON CENTER		
FAI	FRESH AIR INTAKE	OD	OVERFLOW DRAIN	WCO	WALL CLEAN OUT
FD	FLOOR DRAIN	OF	OVERFLOW	WE	WASTE ANESTHETIC GAS DISPOSAL EXHAUST
FDN	FOUNDATION	OFF	OFFICE		
FH	FIRE HYDRANT	OPNG	OPENING	WF	WIDE FLANGE
FHC	FIRE HOSE CABINET	OPP	OPPOSITE	WH	WALL HYDRANT
		O2	OXYGEN	WP	WATERPROOFING
		OVHD	OVERHEAD	WPO	WASTE PLUGGED OUTLET

DRAINAGE FIXTURE UNITS SCHEDULE

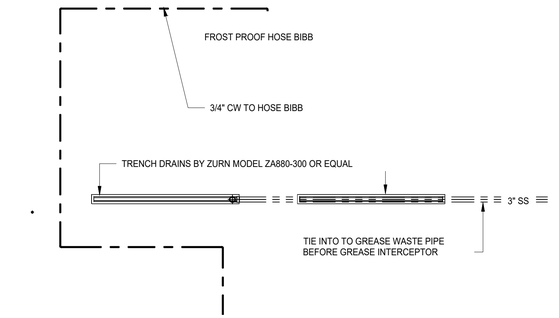
TYPE OF FIXTURE	QTY.	FIX. UNITS (EACH)	MINIMUM FIX. TRAP AND DRAIN SIZE	TOTAL FIX. UNITS
SODA DISPENSER	2	0.5	1-1/4"	1.0
ICE MAKER	1	0.5	1-1/4"	0.5
DIPPERWELL	2	0.5	1-1/4"	1.0
DISHWASHER	1	2	2"	2.0
HAND SINK DROP IN	2	1	1-1/4"	2.0
HAND SINK WALL MOUNT	5	1	1-1/4"	5.0
3-COMP SINK	1	3	2"	3.0
PREP SINK	1	2	2"	2.0
FLOOR SINK	7

NOTES:

1. EXACT QUANTITIES, SIZES, TYPES AND LOCATIONS OF DRAIN AND DRAIN CONNECTIONS FOR KITCHEN EQUIPMENT SHALL BE BASED ON ACTUAL KITCHEN EQUIPMENT PROVIDED. COORDINATE WITH FOOD SERVICE EQUIPMENT CONTRACTOR AND GENERAL CONTRACTOR.
2. COORDINATE FLOOR SINK LOCATIONS WITH GC AND KITCHEN EQUIPMENT CONTRACTOR SO THAT FLOOR SINKS ARE HALF EXPOSED AND HALF UNDER THE EQUIPMENT IT SERVES.
3. GREASE TRAP SIZE AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL SEWER AUTHORITY.
4. OVEN (EQUIPMENT # E-081) DRAIN TO BE 2" COPPER PIPE ROUTED TO FLOOR SINK WITH 1" AIR GAP
5. PROVIDE HEAT TAPE AND INSULATION FOR FREEZER & COOLER CONDENSATE DRAINS.



1 SANITARY WASTE AND VENT PIPING PLAN
1/4" = 1'-0"



2 TRASH ENCLOSURE PLAN
1/4" = 1'-0"

Property of NYY Engineers

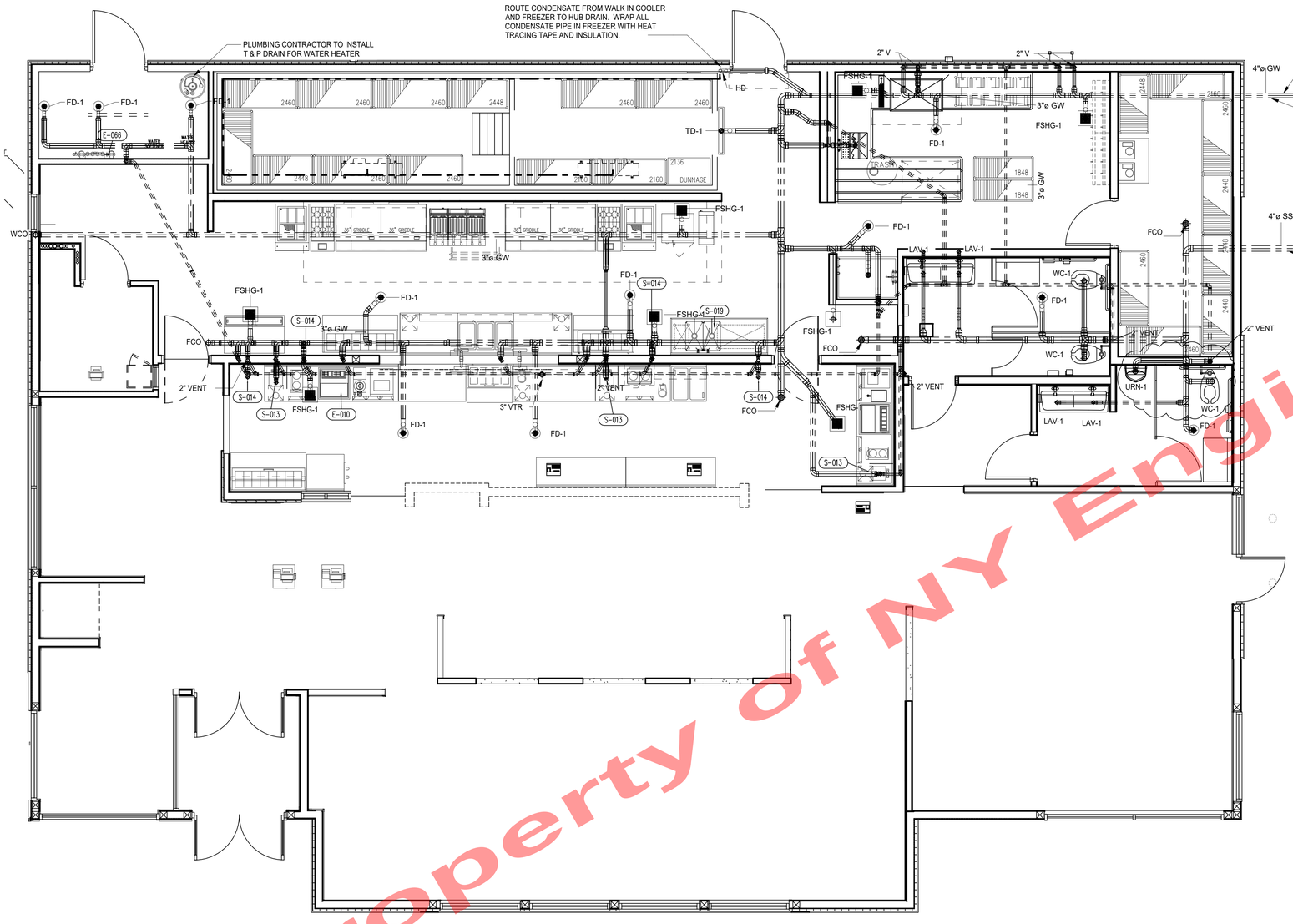
PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
SANITARY WASTE AND VENT PIPING PLAN

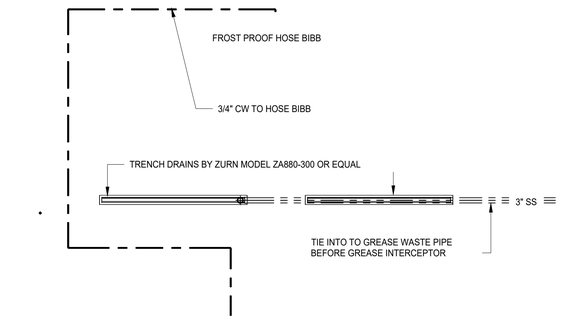
SHEET
P1.1

NOTES:

1. EXACT QUANTITIES, SIZES, TYPES AND LOCATIONS OF DRAIN AND DRAIN CONNECTIONS FOR KITCHEN EQUIPMENT SHALL BE BASED ON ACTUAL KITCHEN EQUIPMENT PROVIDED. COORDINATE WITH FOOD SERVICE EQUIPMENT CONTRACTOR AND GENERAL CONTRACTOR.
2. COORDINATE FLOOR SINK LOCATIONS WITH GC AND KITCHEN EQUIPMENT CONTRACTOR SO THAT FLOOR SINKS ARE HALF EXPOSED AND HALF UNDER THE EQUIPMENT IT SERVES.
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1 SANITARY WASTE AND VENT PIPING PLAN
1/4" = 1'-0"



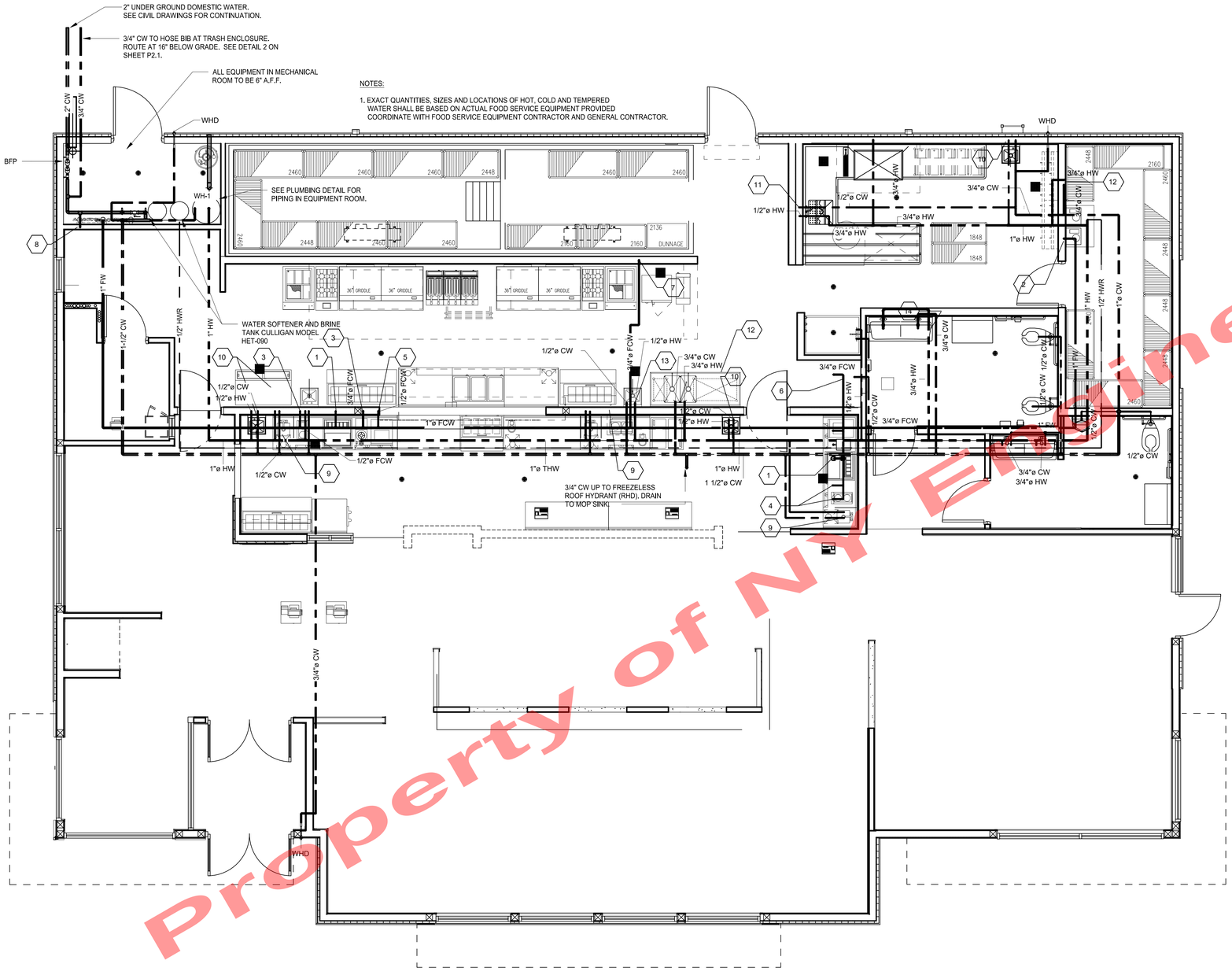
2 TRASH ENCLOSURE PLAN
1/4" = 1'-0"

Property of NYY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
SANITARY WASTE AND VENT PIPING PLAN

SHEET
P1.1



1 DOMESTIC WATER PIPING PLAN
1/4" = 1'-0"

KEYED WATER PIPING PLAN NOTES

1. PROVIDE 1/2" FILTERED WATER TO SODA DISPENSER (E-010).
2. PROVIDE 3/4" FILTERED WATER TO CARBONATOR (E-011).
3. PROVIDE 1/2" FILTERED WATER TO TEA BREWER (E-012A).
4. PROVIDE 1/2" FILTERED WATER TO COFFEE BREWER (E-012B).
5. PROVIDE 1/2" FILTERED WATER TO JUICE DISPENSER (E-016).
6. PROVIDE 1/2" FILTERED WATER TO ICE MAKER (E046).
7. PROVIDE 3/4" FILTERED WATER TO COMBI OVEN (E-081).
8. PROVIDE 1/2" COLD WATER TO WATER FILTER (E-066).
9. PROVIDE 1/2" COLD WATER & HOT WATER TO DUMP SINK (S-013).
10. PROVIDE 1/2" COLD WATER & HOT WATER TO HAND SINK (S-014). PROVIDE WITH MIXING VALVE.
11. PROVIDE 1/2" COLD WATER & HOT WATER WITH VACUUM BREAKER TO PRE-RINSE SINK (S-015).
12. PROVIDE 1/2" COLD WATER & HOT WATER TO 3-COMPARTMENT SINK (S-017). PROVIDE CHECK VALVE.
13. PROVIDE 1/2" COLD WATER & HOT WATER TO PREP SINK (S-019).
14. PROVIDE 1/2" COLD WATER AND HOT WATER TO JANITOR'S SINK (MS-1).

NOTE:
PROVIDE STAINLESS STEEL RECESSED BOX WITH CHROME ANGLE VALVE FOR ITEMS 7,8,9,13 AND 14. REFER TO FOOD SERVICE DRAWINGS FOR EXACT MOUNTING HEIGHTS.

TABLE C 404.5.1
PIPING VOLUME AND MAXIMUM PIPING LENGTHS

NOMINAL PIPE SIZE (INCHES)	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	MAXIMUM PIPING LENGTH (FEET)	
		PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES
1/4	0.33	4	50
5/16	0.5	4	50
3/8	0.75	3	50
1/2	1.5	1	43
5/8	2	0.5	32
3/4	3	0.5	21
7/8	4	0.5	16
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2 OR LARGER	18	0.5	4

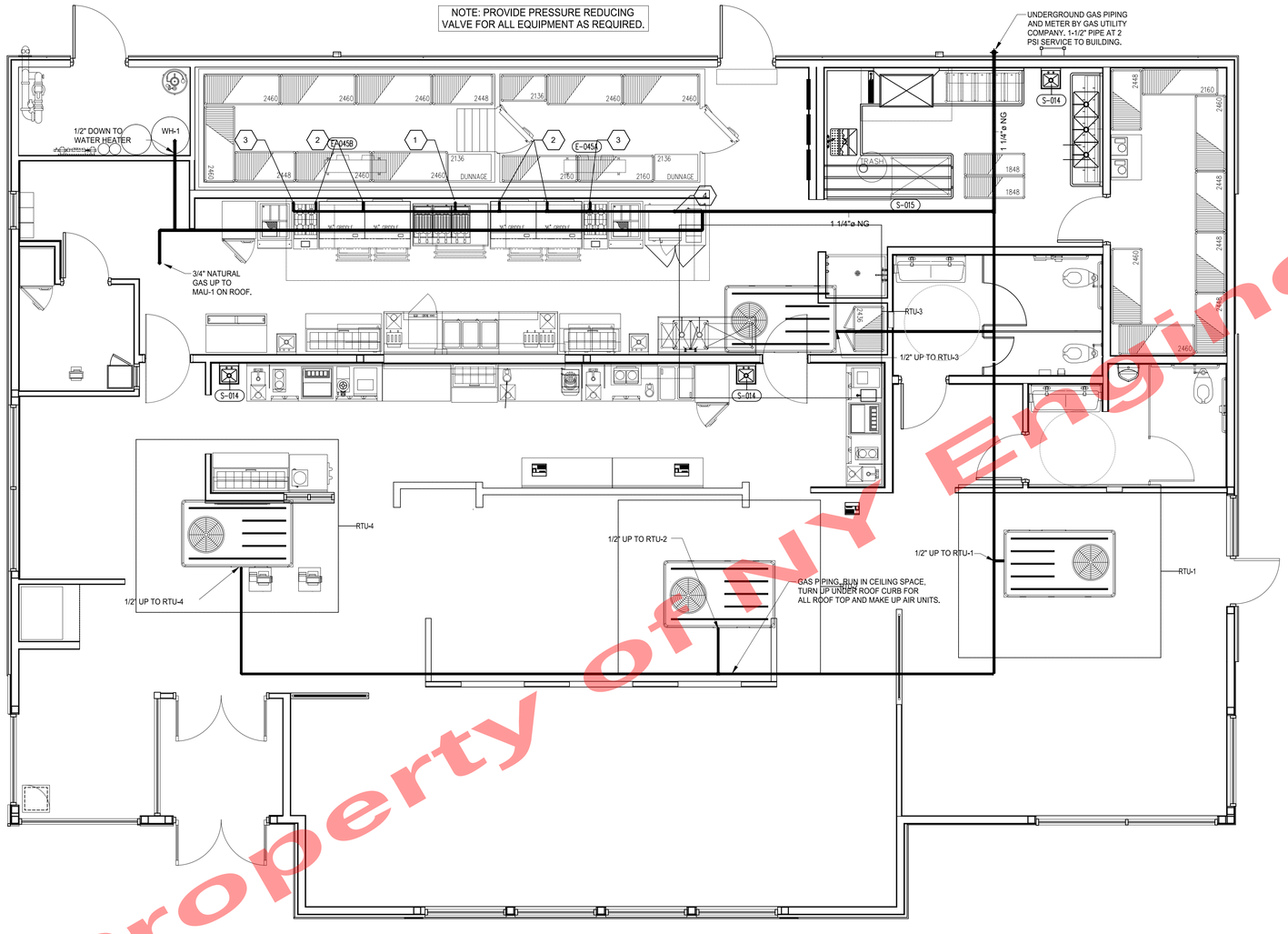
FOR SI: 25.4 MM. 1 FOOT = 304.8MM, 1 LIQUID OUNCE = 0.03L, 1 GALLON = 128 OUNCES.

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
DOMESTIC WATER PIPING PLAN

SHEET
P1.2



1 NATURAL GAS PIPING PLAN
1/4" = 1'-0"

KEYED PLUMBING NOTES

1. PROVIDE 3/4" NATURAL GAS TO FRYER (E-050).
2. PROVIDE 3/4" NATURAL GAS TO 36" FLAT GRIDDLE (E-051B).
3. PROVIDE 3/4" NATURAL GAS TO EGG RANGE (E-052).
4. 3/4" NATURAL GAS PIPE DROP TO KITCHEN EQUIPMENT. PROVIDE PRESSURE REDUCING VALVE AND REGULATE PRESSURE TO 11" W.C. AT KITCHEN EQUIPMENT. PROVIDE WITH SOLENOID VALVE, INTERLOCK WITH HOOD ANSUL SYSTEM.

NATURAL GAS LOADS

ITEM	FIXTURE	QTY	TOTAL MBH
WH-1	WATER HEATER	1	199.9
RTU-1	PACKAGED UNIT	1	60
RTU-2	PACKAGED UNIT	1	150
RTU-3	PACKAGED UNIT	1	120
RTU-4	PACKAGED UNIT	1	60
MAU-1	MAKE UP AIR UNIT	1	385
E-050	FRYER	3	210
E-051B	GRIDDLE	4	360
E-052	EGG RANGE	1	60
TOTAL MBH			1604

NOTES:
1. EQUIVALENT LOAD 1,604.0 CFH
2. 2 PSI DELIVERY PRESSURE
3. TOTAL DEVELOPED LENGTH IS 150'

GAS	NATURAL
INLET PRESSURE	2.0 PSI
PRESSURE DROP	1.0 PSI
SPECIFIC GRAVITY	0.60

TABLE 402.4(5)
SCHEDULE 40 METALLIC PIPE

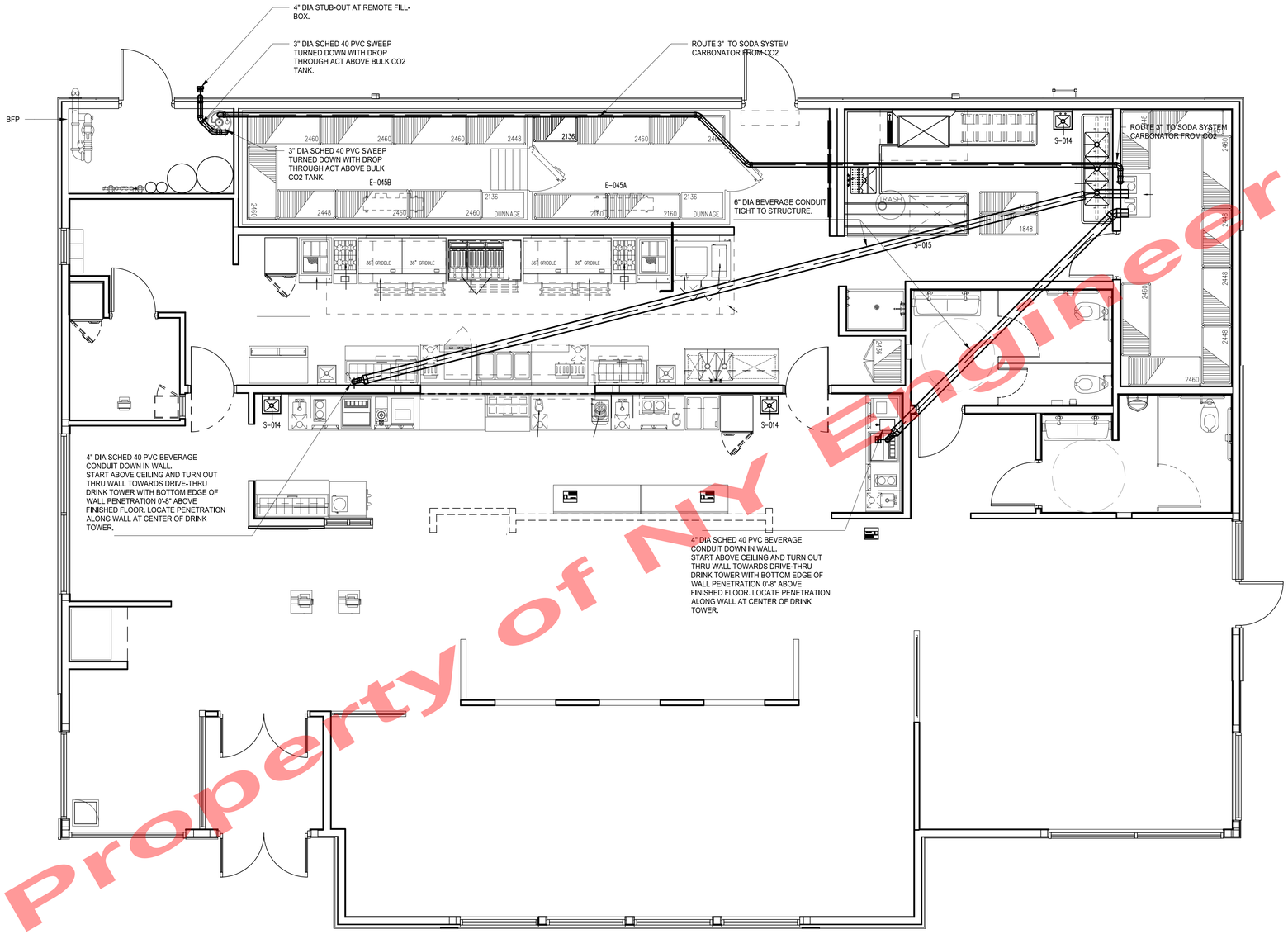
	PIPE SIZE (INCH)								
NOMINAL	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
ACTUAL ID	0.662	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026
LENGTH (FT)	CAPACITY IN CUBIC FEET OF GAS PER HOUR								
10	1,510	3,040	5,560	11,400	17,100	32,900	52,500	92,800	189,000
20	1,070	2,150	3,930	8,070	12,100	23,300	37,100	65,600	134,000
30	869	1,760	3,210	6,590	9,880	19,000	30,300	53,600	109,000
40	753	1,520	2,780	5,710	8,550	16,500	26,300	46,400	94,700
50	673	1,360	2,490	5,110	7,650	14,700	23,500	41,500	84,700
60	615	1,240	2,270	4,660	6,980	13,500	21,400	37,900	77,300
70	569	1,150	2,100	4,320	6,470	12,500	19,900	35,100	71,600
80	532	1,080	1,970	4,040	6,050	11,700	18,600	32,800	67,000
90	502	1,010	1,850	3,810	5,700	11,000	17,500	30,900	63,100
100	462	934	1,710	3,510	5,260	10,100	16,100	28,500	58,200
125	414	836	1,530	3,140	4,700	9,060	14,400	25,500	52,100
150	372	751	1,370	2,820	4,220	8,130	13,000	22,900	46,700
175	344	695	1,270	2,601	3,910	7,530	12,000	21,200	43,300
200	318	642	1,170	2,410	3,610	6,960	11,100	19,600	40,000
250	279	583	1,040	2,140	3,210	6,180	9,850	17,400	35,500
300	253	528	945	1,940	2,910	5,600	8,920	15,800	32,200
350	1,510	3,040	1,510	1,510	1,510	1,510	1,510	1,510	1,510
400	216	452	809	1,660	2,490	4,790	7,640	13,500	29,600
450	203	424	759	1,560	2,330	4,500	7,170	12,700	25,800
500	192	401	717	1,470	2,210	4,250	6,770	12,000	24,400
550	182	381	681	1,400	2,090	4,030	6,430	11,400	23,200
550	174	363	650	1,330	2,000	3,850	6,130	10,800	22,100
600	166	348	622	1,280	1,910	3,680	5,870	10,400	21,200
650	160	348	622	1,280	1,910	3,680	5,870	10,400	21,200
700	160	334	598	1,230	1,840	3,540	5,640	9,970	20,300
750	154	322	576	1,180	1,770	3,410	5,440	9,610	19,600
800	149	311	556	1,140	1,710	3,290	5,250	9,280	18,900
850	144	301	538	1,100	1,650	3,190	5,080	8,980	18,300
900	139	292	522	1,070	1,600	3,090	4,930	8,710	17,800
950	135	283	507	1,040	1,560	3,000	4,780	8,460	17,200
1,000	132	275	493	1,010	1,520	2,920	4,650	8,220	16,800
1,100	125	262	468	960	1,440	2,770	4,420	7,810	15,900
1,200	119	250	446	917	1,370	2,640	4,220	7,450	15,200
1,300	114	239	427	878	1,320	2,530	4,040	7,140	14,600
1,400	110	230	411	843	1,260	2,430	3,880	6,860	14,000
1,500	106	221	396	812	1,220	2,340	3,740	6,600	13,500
1,600	102	214	382	784	1,180	2,260	3,610	6,380	13,000
1,700	99	207	370	759	1,140	2,190	3,490	6,170	12,600
1,800	96	200	358	736	1,100	2,120	3,390	5,980	12,200
1,900	93	195	348	715	1,070	2,060	3,290	5,810	11,900
2,000	91	189	339	695	1,040	2,010	3,200	5,650	11,500

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
NATURAL GAS PIPING PLAN

SHEET
P1.3



1 BEVERAGE CONDUIT PLAN
1/4" = 1'-0"

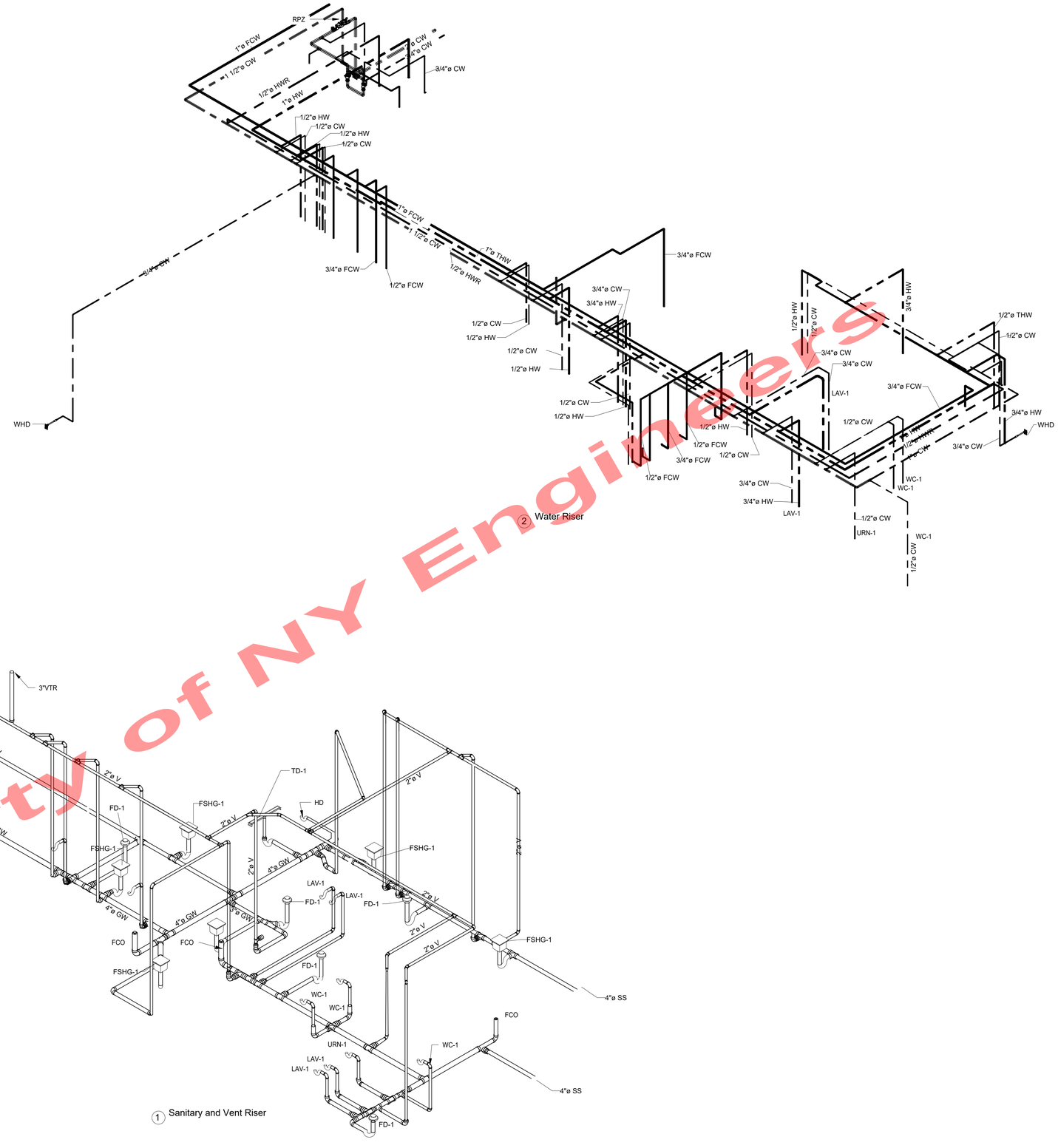
Property of NY Engineers

Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
BEVERAGE CONDUIT PLAN

SHEET
P-1.4



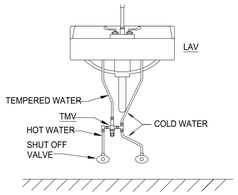
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Denny's

PROJECT
DENNY'S RESTAURANT #

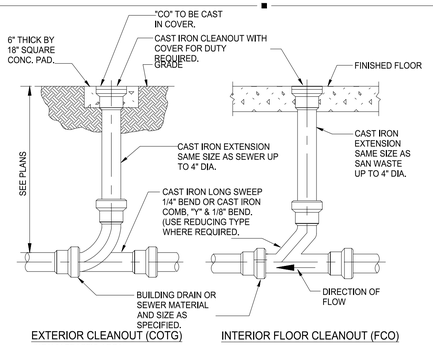
SHEET TITLE
SANITARY WASTE AND VENT RISER DIAGRAM

SHEET
P2.0



NOTE: SET TEMPERED WATER TEMPERATURE TO 110°F MAX.

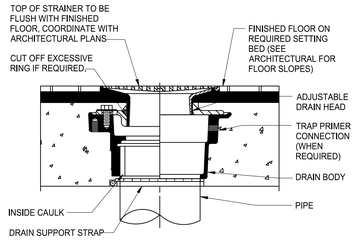
13 THERMAL MIXING VALVE DETAIL NTS



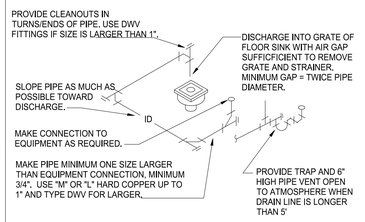
EXTERIOR CLEANOUT (COTG) (HEAVY TRAFFIC AREA)

INTERIOR FLOOR CLEANOUT (FCO)

17 CLEANOUT DETAILS NTS

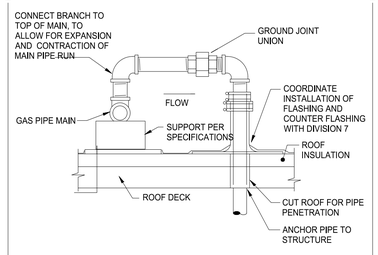


16 FLOOR DRAIN DETAIL NTS



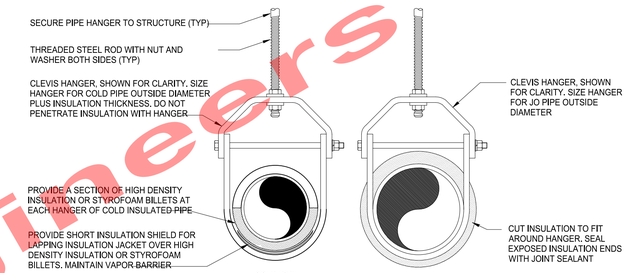
ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

15 INDIRECT DRAIN DETAIL NTS



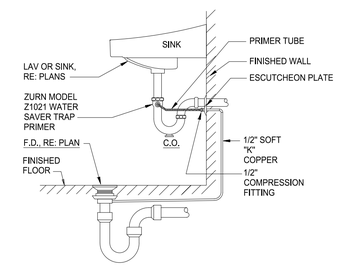
REFER TO PLANS FOR PIPE SIZE(S) AND PENETRATION LOCATION(S). REFER TO SPECIFICATIONS FOR MORE INFORMATION. LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS, VENTS THRU ROOF, EQUIPMENT CURBS, PARAPETS, ROOF DRAINS, EXPANSION JOINTS, AND OTHER ROOF FEATURES.

14 GAS PIPE ROOF PENETRATION NTS



REFER TO SPECIFICATIONS FOR INSULATION TYPES, INSULATION THICKNESSES, HANGER TYPES, HANGER ROD CONNECTIONS TO STRUCTURE AND HANGER SPACING.

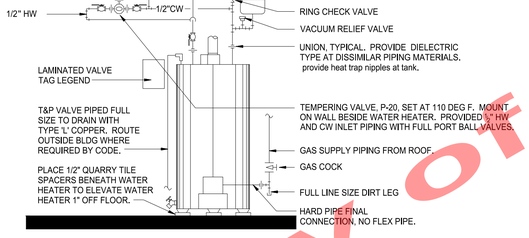
12 INSULATED PIPE HANGER DETAIL NTS



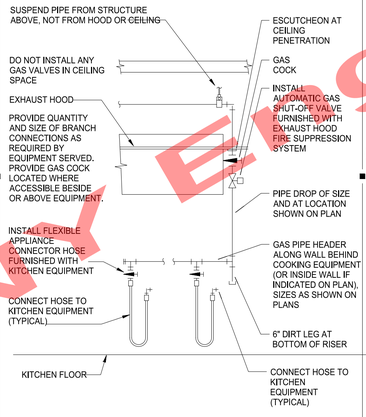
11 TRAP PRIMER FOR SINK DETAIL NTS

NOTES TO WATER HEATER INSTALLER:

1. POSITION VALVES AND TRIM IN MECH ROOM SUCH THAT VALVES AND TRIM ARE UNOBSTRUCTED TO VIEW AND SO THAT ACCESS FOR OPERATION OR REPAIR IS POSSIBLE WITHOUT USE OF STEP LADDERS OR NEED TO DISASSEMBLE ANY COMPONENTS.
2. VENT HEATER UP THRU MECH ROOM ROOF PER MANUFACTURER'S RECOMMENDATIONS.

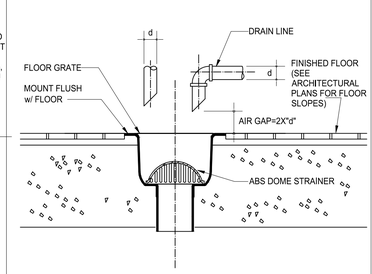


10 PIPING AT WATER HEATER DETAIL NTS

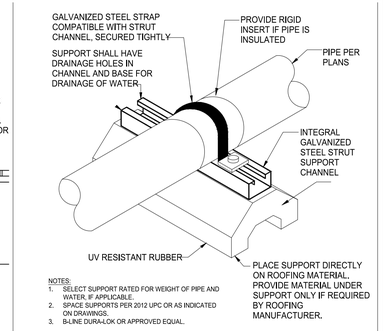


REFER TO SPECIFICATIONS FOR MORE INFORMATION ABOUT PIPE, FITTINGS, AND CONNECTIONS. PIPING ARRANGEMENT SHOWN IS SCHEMATIC; ADJUST TO SUIT FIELD CONDITIONS. IF EXPOSED, ATTACH RISER AND HEADER TO WALL WITH 1" CLEARANCE BEHIND PIPE (UNLESS INSTALLED INSIDE WALL AS SHOWN ON PLANS). MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. INSTALL ANY GAS PRESSURE REGULATORS FURNISHED BY FOOD SERVICE EQUIPMENT CONTRACTOR.

9 APPLIANCE GAS PIPE DETAIL NTS

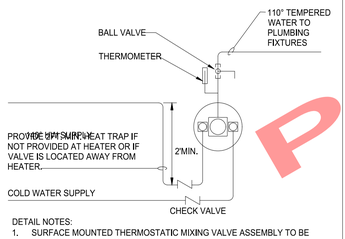


8 FLOOR SINK DETAIL NTS



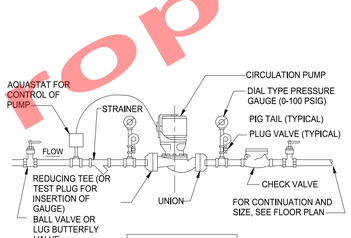
NOTES:
1. SELECT SUPPORT RATED FOR WEIGHT OF PIPE AND WATER, IF APPLICABLE.
2. SPACE SUPPORTS PER 2012 UPC OR AS INDICATED ON DRAWINGS.
3. B-LINE DURA-LOK OR APPROVED EQUAL.

7 ROOF PIPE SUPPORT DETAIL NTS

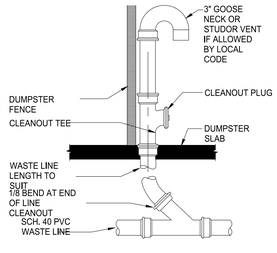


DETAIL NOTES:
1. SURFACE MOUNTED THERMOSTATIC MIXING VALVE ASSEMBLY TO BE SYMMONS SERIES 5 OR APPROVED EQUAL. 15 PSI MAXIMUM PRESSURE DROP. COORDINATE FINAL SELECTION WITH FLOW AND PRESSURE TESTS TO ENSURE PROPER OPERATION.
2. SEE PLANS FOR HW SIZES FROM WATER HEATER SYSTEM TO MIXING VALVE ASSEMBLY. REDUCE AT ASSEMBLY AS REQUIRED.
3. INSTALL PER MANUFACTURERS PUBLISHED RECOMMENDATIONS.
4. MOUNT ABOVE ACCESSIBLE CEILING.

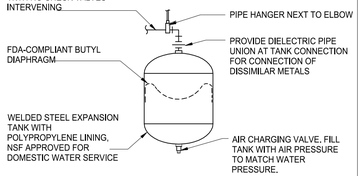
6 MIXING VALVE DETAIL NTS



5 RECIRCULATING PUMP DETAIL NTS

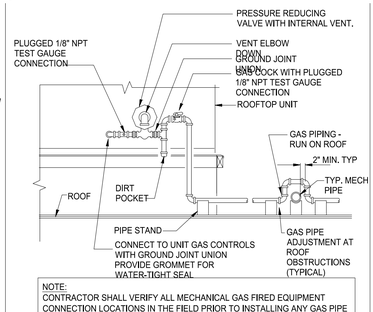


4 VENT AT DUMPSTER DETAIL NTS



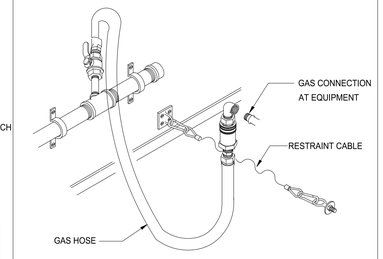
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS, FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED. PROVIDE SEISMIC STRAP OR BRACING WHEN REQUIRED BY LOCAL AUTHORITIES.

3 SMALL EXPANSION TANK DETAIL NTS



NOTE:
CONTRACTOR SHALL VERIFY ALL MECHANICAL GAS FIRED EQUIPMENT CONNECTION LOCATIONS IN THE FIELD PRIOR TO INSTALLING ANY GAS PIPE MAINS OR BRANCHES. -ALL GAS PIPING SHALL BE PAINTED YELLOW. PIPING SHALL BE CLEARLY LABELED AS "2 PSI GAS LINE".

2 GAS PIPE CONNECTION DETAIL NTS



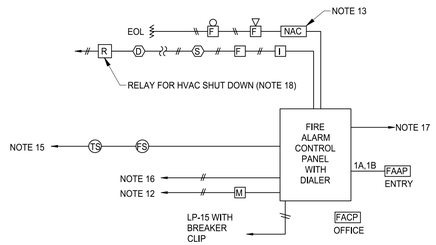
1 GAS CONNECTION DETAIL NTS

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
PLUMBING DETAILS

SHEET
P3.0

Property of NYE Engineers



CABLE LEGEND
A - 1PR #14 FLP UTP (GENESIS 4408)
B - 2/C #14 AWG THHN STRANDED
C - CAT.5E (GENESIS 5078)

1. SEE PLANS FOR DEVICE LOCATIONS AND QUANTITIES. SEE ELECTRICAL SPECIFICATIONS, SHEET E0.3 & E0.4 FOR ADDITIONAL INFORMATION.

2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE WITH NOTIFIER SYSTEMS INTEGRATOR FOR ALL ASPECTS OF PROJECT.

3. THE FIRE ALARM SYSTEM SHALL BE A LOW VOLTAGE (24VDC) SYSTEM, FULLY ADDRESSABLE WITH 24 HOUR STANDBY FOLLOWED BY NOT LESS THAN 5 MINUTE ALARM BATTERY BACKUP SYSTEM SHALL COMPLY WITH NFPA 72, A.D.A., IBC, MUST MEET ALL APPLICABLE STATE AND LOCAL CODES.

4. THE FIRE ALARM SYSTEM SHALL BE U.L. AND F.M. APPROVED EQUIPMENT OF A SINGLE MANUFACTURER. BASIS OF DESIGN: NOTIFIER. ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE NEW SYSTEM INCLUDING BUT NOT LIMITED TO FIRE ALARM CONTROL PANEL, NAC(S), A/V DEVICES, PULL-STATIONS, SMOKE AND HEAT DETECTORS.

5. ALL FIRE ALARM WIRING SHALL BE CONCEALED AND INSTALLED IN 3/4" EMT CONDUIT. NO CONDUIT SHALL BE ALLOWED BELOW CEILING LEVEL.

6. SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN 3 FEET OF RETURN AND SUPPLY DUCT VENTS.

7. INITIATING DEVICES, NOTIFICATION APPLIANCES, AND SIGNALING LINE CIRCUITS SHALL BE CLASS B WIRING. INITIATING DEVICE CIRCUITS SHALL BE STYLE B, NOTIFICATION APPLIANCE CIRCUITS SHALL BE STYLE Y, AND SIGNALING LINE CIRCUITS SHALL BE STYLE.

8. AUDIBLE SIGNAL APPLIANCES (ASA) SHALL HAVE A SOUND LEVEL NOT LESS 75 dBA @ 10 FEET OR MORE THAN 120 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE DEVICE. ASA'S SHALL HAVE A SOUND LEVEL ATLEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OF 55 dBA (PLACE OF ASSEMBLY).

9. REMOTE ALARM INDICATORS SHALL BE INSTALLED DIRECTLY UNDER DUCT DETECTOR AND SHALL BE CLEARLY LABELED TO INDICATE BOTH THEIR FUNCTION AND AIR HANDLING UNIT(S) ASSOCIATED WITH DUCT SMOKE DETECTOR. PROVIDE A REMOTE ALARM INDICATOR FOR EACH DUCT SMOKE DETECTOR.

10. INSTALL ISOLATION MODULES ON SLC CIRCUIT TO KEEP AN ABNORMAL CONDITION FROM DISABLING THE SLC ON THE OTHER FLOORS.

11. LABEL EACH ADDRESSABLE DEVICE W/.5" P-TOUCH TAPE (LOOP#-DEVICE#).

12. PROVIDE MONITORING MODULES AT EACH HOOD SUPPRESSION SYSTEM FOR NOTIFICATION UPON ACTIVATION.

13. PROVIDE NAC PANEL(S) W/ DEDICATED 120V CIRCUIT. PROVIDE LOCK-OUT ON BREAKER.

14. COORDINATE WITH FIRE ALARM VENDOR TO PROVIDE VOLTAGE DROP CALCULATIONS TO INSURE THAT THE PROPER WIRING IS PROVIDED FOR VOLTAGE DROP REQUIREMENTS PRIOR TO BIDDING.

15. PROVIDE FLOW AND TAMPER SWITCHES AT FIRE PROTECTION PIT AND PIV'S AS REQUIRED. COORDINATE W/ CIVIL PLANS FOR EXACT LOCATION.

16. PROVIDE CONNECTION TO KITCHEN FOR AUTOMATIC SHUTDOWN OF EQUIPMENT UNDER THE HOOD UPON THE ACTIVATION OF THE FIRE ALARM SYSTEM.

17. (2) CAT6,E CABLES IN 3/4" CONDUIT TO TELEPHONE DEMARK. PROVIDE ALL TERMINATIONS.

18. PROVIDE RELAY AT EACH HVAC UNIT FOR GLOBAL UNIT SHUTDOWN UPON THE ACTIVATION OF THE FIRE ALARM SYSTEM.

1 FIRE ALARM RISER DIAGRAM AND NOTES
E0.1 — 12" = 1'-0"

DUCT SMOKE DETECTOR SCHEDULE

AHU TAG	LOCATION (NOTE 1)	SUPPLY DUCT SMOKE DETECTOR REQUIRED (NOTE 2)	SUPPLY DUCT C.F.M. (NOTE 1)	RETURN DUCT SMOKE DETECTOR REQUIRED (NOTE 3)	CONTROL CIRCUIT (NOTE 8)
MAU-1	AS SHOWN ON DRAWING	REQUIRED	-	NOT REQUIRED	LOCAL
RTU-1	AS SHOWN ON DRAWING	NOT REQUIRED	-	NOT REQUIRED	LOCAL
RTU-2	AS SHOWN ON DRAWING	REQUIRED	-	NOT REQUIRED	LOCAL
RTU-3	AS SHOWN ON DRAWING	REQUIRED	-	NOT REQUIRED	LOCAL

1. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT UNIT LOCATIONS AND SUPPLY AND RETURN C.F.M.

2. SUPPLY AIR SYSTEMS: PROVIDE A SUPPLY DUCT SMOKE DETECTOR, WHERE INDICATED AS 'REQUIRED', DOWNSTREAM OF THE AIR FILTERS AND AHEAD OF ANY BRANCH CONNECTIONS FOR SUPPLY DUCTS EXCEEDING 2,000 C.F.M.

3. RETURN AIR SYSTEMS: PROVIDE A RETURN DUCT SMOKE DETECTOR, WHERE INDICATED AS 'REQUIRED', FOR RETURN DUCTS EXCEEDING 2,000 C.F.M., AT EVERY RETURN AIR OPENING WITHIN THE SMOKE COMPARTMENT, WHERE THE AIR LEAVES EACH SMOKE COMPARTMENT OR IN THE DUCT SYSTEM BEFORE THE AIR ENTERS THE RETURN AIR SYSTEM COMMON TO MORE THAN ONE SMOKE COMPARTMENT. WHERE DUCT SIZES ARE WIDER THAN 36 INCHES, PROVIDE TWO OR MORE DUCT SMOKE DETECTORS AS REQUIRED BY NFPA 72.

4. DETECTORS SHALL BE ACCESSIBLE FOR CLEANING AND SHALL BE MOUNTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ACCESS DOORS OR PANELS SHALL EB PROVIDED IN ACCORANDCE WITH NFPA 90A.

5. THE LOCATION OF ALL DETECTORS IN AIR DUCT SYSTEMS SHALL BE PERMANENTLY AND CLEARLY IDENTIFIED AND RECORDED.

6. ALL PENETRATIONS OF AIR DUCTS IN THE VICINITY OF DUCT DETECTORS INSTALLED ON OR IN AIR DUCTS SHALL BE SEALED TO PREVENT ENTRANCE OF OUTSIDE AIR AND POSSIBLE DILUTION OR REDIRECTION OF SMOKE WITHIN THE DUCT.

7. WHERE IN-DUCT SMOKE DETECTORS ARE INSTALLED IN CONCEALED LOCATIONS, MORE THAN 10 FEET ABOVE FINISHED FLOOR, OR IN ARRANGEMENTS WHERE THE DETECTORS' ALARM INDICATION IS NOT READILY VISIBLE TO RESPONDING PERSONNEL, THE DETECTOR SHALL BE PROVIDED WITH REMOTE ALARM INDICATORS. REMOTE ALARM INDICATORS SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION AND SHALL BE CLEARLY LABELED TO INDICATE BOTH THEIR FUNCTION AND AIR HANDLING UNIT(S) ASSOCIATED WITH EACH DETECTOR.

8. PROVIDE 120V CONTROL POWER TO DUCT DETECTORS VIA LOCAL UNSWITCHED 120V CIRCUIT. IN ADDITION, IF EMERGENCY GENERATOR ALTERNATE IS TAKEN, PROVIDE 120V EMERGENCY POWER FROM LOCAL EMERGENCY PANEL AS REQUIRED.

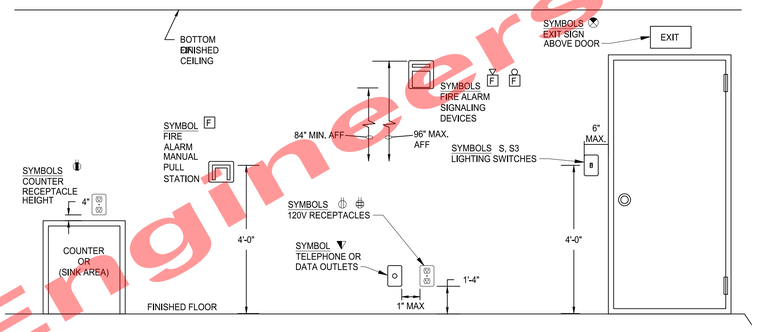
2 DUCT SMOKE DETECTOR SCHEDULE AND NOTES
E0.1 — 12" = 1'-0"

- 20A, 125V, 2P, 3W, NEMA 5-20R, DUPLEX RECEPTACLE MOUNTED 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. SEE ABBREVIATIONS BELOW FOR DESIGNATIONS:
  WP - WEATHERPROOF IN-USE.
  G - GROUND FAULT INTERRUPTER.
  +12" - MOUNTED AT 12" AFF.
  R - RECEPTACLE MOUNTED ON ROOF.
  USB - RECEPTACLE WITH USB CONNECTIONS.
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT QUADRUPLEX TYPE.
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT MOUNTED ABOVE COUNTER HEIGHT. COORDINATE ORIENTATION WITH ARCHITECTURAL ELEVATIONS.
- ABOVE COUNTER RECEPTACLE WITH USB PORT.
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT MOUNTED FLUSH IN CEILING OR WITHIN STRUCTURE. COORDINATE WITH LOW VOLTAGE SYSTEM INSTALLER.
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT MOUNTED AT 44" AFF. COORDINATE LOCATION AND MOUNTING SPECIFICS WITH ARCHITECTURAL AND FOOD SERVICE DRAWINGS AND ELEVATIONS.
- SAME AS DUPLEX RECEPTACLE EXECPT A SINGLE RECEPTACLE.
- SPECIAL PURPOSE RECEPTACLE. VERIFY ELECTRICAL EQUIPMENT REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO INSTALLATION.
- (J) JUNCTION BOX. SIZE AS REQUIRED TO FIT APPLICATION.
- (EF) EXHAUST FAN. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE.
- (WH) WATER HEATER. SEE PLUMBING DRAWINGS.
- WALL MOUNTED EXTERIOR AREA LIGHT FIXTURE.
- EXTERIOR EMERGENCY EGRESS LIGHT.
- CEILING MOUNTED FLUORESCENT LIGHT FIXTURE PER FIXTURE SCHEDULE.
- CEILING MOUNTED FLUORESCENT, SWITCHED WITH FIXTURES NEARBY, WITH EMERGENCY BATTERY BALLAST.
- DOWNLIGHT PER FIXTURE SCHEDULE.
- PENDANT MOUNTED LIGHT FIXTURE.
- EMERGENCY TYPE EXIT SIGN, SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE CONTINUOUS HOT LEAD TO FIXTURE FOR BATTERY.
- COMBINATION EXIT/EMERGENCY FIXTURE. PROVIDE CONTINUOUS HOT LEAD TO FIXTURE FOR BATTERY.
- DUAL HEAD WALL MOUNTED EMERGENCY LIGHT.
- $ SINGLE POLE LIGHTING SWITCH, 48" AFF, 120/277 VOLT, 20 AMP, SPEC GRADE, "T" RATED.
- $3 SAME AS "S" ABOVE EXCEPT "3" IN SUBSCRIPT DENOTES 3-WAY SWITCH. LOWER CASE SUBSCRIPT DENOTES CONTROLLING SWITCH FOR SPECIFIC FIXTURES MARKED THE SAME.
- $3a SAME AS "S3" ABOVE EXCEPT "a" IN SUBSCRIPT DENOTES CONTROLLING SWITCH FOR SPECIFIC FIXTURES MARKED THE SAME.
- PASSIVE INFRARED AUTOMATIC SENSOR, WALL MOUNTED AT 48"AFF UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER'S REPRESENTATIVE FOR USER-SET AND TIME DELAY OFF REQUIREMENTS (WATTSTOPPER #PW-100).
- VOICE/DATA OUTLET 18" AFF, UNO. PROVIDE DUAL GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND 1" CONDUIT TO ABOVE ACCESSIBLE CEILING WITH END BUSHING. JACKS, CABLE AND BOX COVER BY FRANCHISEE. "ACH" INDICATES 4" ABOVE COUNTER HEIGHT.
- SAME AS VOICE/DATA OUTLET ABOVE, EXCEPT FLUSH MOUNTED IN CEILING OR WITHIN STRUCTURE, COORDINATE LOCATION WITH LOW VOLTAGE SYSTEM INSTALLER.
- (T) TELEVISION OUTLET AT OWNER APPROVED HEIGHT AND LOCATION, UNO. PROVIDE DUAL GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND EMPTY 3/4"C TO TELECOMMUNICATIONS BOARD "TB", PROVDE PULL STRING. JACKS, CABLE AND BOX COVER BY A/V CONTRACTOR. "C" INDICATES MOUNTED TO CEILING OR STRUCTURE ABOVE.
- Sm MANUAL MOTOR STARTER WITH OVERLOADS (TOGGLE TYPE). PROVIDE NEMA 3R TYPE IF EXPOSED TO WEATHER. 20A UNLESS NOTED OTHERWISE.
- DS LOCAL 120V TOGGLE TYPE EQUIPMENT DISCONNECT. PROVIDE NEMA 3R TYPE IF EXPOSED TO WEATHER. RATED 20A, UNLESS NOTED OTHERWISE.
- BRANCH CIRCUIT WIRING CONCEALED IN WALL OR CEILING SPACE.
- BRANCH CIRCUIT WIRING CONCEALED IN FLOOR OR UNDERGROUND.
- CONDUIT RUN TURNED DOWN OR AWAY FROM OBSERVER.
- CONDUIT RUN TURNED UP OR TOWARDS OBSERVER.
- CAPPED CONDUIT.
- FLEXIBLE CONNECTION TO EQUIPMENT.
- LOW VOLTAGE DOOR BELL EXTERIOR PUSHBUTTON STATION 48" AFF WITH 1/2" CONDUIT UP IN WALL AND ONTO DOOR BELL. PROVIDE ALL EQUIPMENT AND WIRING AS REQUIRED FOR PROPER OPERATION.
- (B) LOW VOLTAGE DOOR BELL MOUNTED AT 7'-6" AFF. PROVIDE 1/2" CONDUIT TO DOOR BELL. PROVIDE LOW VOLTAGE TRANSFORMER AND WIRING AS REQUIRED FOR PROPER OPERATION.
- ELECTRICAL PANEL MOUNTING AS INDICATED. COORDINATE EXACT LOCATION IN FIELD.
- 30/2/F(S) SAFETY DISCONNECT SWITCH, "30" INDICATES AMP RATING, 2 INDICATES NUMBER OF POLES, "F" INDICATES FUSED, "NF" INDICATES NON-FUSED. ENCLOSURE TO BE NEMA 1 UNLESS NOTED OTHERWISE (3R, 4X, ETC.) FUSE PER MANUFACTURERS RECOMMENDATIONS.
- FACP FIRE ALARM CONTROL PANEL. SEE RISER DIAGRAM.
- FAAP FIRE ALARM ANNUNCIATOR
- FAKB FIRE ALARM KNOX BOX
- (S) FIRE ALARM CEILING MOUNTED SMOKE DETECTOR.
- (H) FIRE ALARM CEILING MOUNTED HEAT DETECTOR.
- (D) DUCT DETECTOR
- F FIRE ALARM PULL STATION.
- F FIRE ALARM HORN/STROBE UNIT.
- F FIRE ALARM STROBE ONLY UNIT.
- (TS) FIRE ALARM TAMPER SWITCH
- (FS) FIRE ALARM WATER FLOW SWITCH
- R FIRE ALARM RELAY IAM.
- M FIRE ALARM MONITORED ZAM.
- NAC FIRE ALARM NOTIFICATION APPLIANCE PANEL.
- SYN SYNCHRONIZATION MODULE
- I FIRE ALARM INDIVIDUAL ADDRESSABLE MODULE.
- (S) CEILING MOUNTED SPEAKER, FURNISHED AND INSTALLED BY OWNER/VENDOR. LOCATION SHOWN FOR INFORMATION ONLY.
- V SPEAKER VOLUME CONTROL, FURNISHED AND INSTALLED BY OWNER/VENDOR. LOCATION SHOWN FOR INFORMATION ONLY.
- M MICROPHONE OUTLET, FURNISHED AND INSTALLED BY OWNER/VENDOR. LOCATION SHOWN FOR INFORMATION ONLY.

3 SYMBOL LEGEND
E0.1 — 12" = 1'-0"

DEVICE/EQUIPMENT	MTG HT, AFF AS INDICATED	MEASURED TO CENTER	DEVICE/EQUIPMENT	MTG HT, AFF	MEASURED TO
RECEPTACLES			GROUND FAULT CIRCUIT INTERRUPTERS	4'-0"	TOP
TOGGLE SWITCHES	4'-0"	TOP	GROUND BUSES	2'-0"	CENTER
WALL DIMMERS	4'-0"	TOP	TELECOMMUNICATIONS OUTLETS	1'-6"	CENTER
MANUAL MOTOR STARTERS	4'-0"	TOP	FIRE ALARM AUDIO/VISUAL ALARMS	7'-0"	CENTER
WALL/SWITCH OCCUPANCY SENSORS	4'-0"	TOP	FIRE ALARM VISUAL ALARMS	7'-0"	CENTER
LIGHTING CONTROL PANELS	5'-0"	TOP	FIRE ALARM HORNS	7'-0"	CENTER
LIGHTING CONTROL STATIONS	4'-0"	TOP	FIRE ALARM MANUAL STATIONS	4'-0"	TOP
JUNCTION BOXES	AS INDICATED	CENTER	CLOSED CIRCUIT TELEVISION CAMERAS	AS INDICATED	CENTER
MONITORING OR CONTROL PANELS, UNO	5'-0"	TOP	LIGHTING FIXTURES	AS INDICATED	CENTER, UNO
PANELBOARDS	6'-0"	TOP	SMOKE DETECTORS (WALL MTD)	6" CLEARANCE TO CEILING	TOP
DISCONNECT SWITCHES	5'-0"	TOP	LIGHTING CONTACTORS	6'-0"	TOP
CONTROL STATIONS	4'-0"	TOP	INDIVIDUAL CIRCUIT BREAKER	6'-0"	TOP
MAGNETIC MOTOR STARTERS	6'-0"	TOP			

4 TYPICAL MOUNTING HEIGHTS SCHEDULE
E0.1 — 12" = 1'-0"



5 TYPICAL DEVICE MOUNTING HEIGHT DETAIL
E0.1 — 12" = 1'-0"

ABBREVIATIONS

A, AMP	AMPERE
AC	ALTERNATING CURRENT
ACH	ABOVE COUNTER HEIGHT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C, CND	CONDUIT
CAT	CATALOG
CCTV	CLOSED CIRCUIT TELEVISION CAMERA
CKT	CIRCUIT
CONT	CONTINUOUS
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CU	COEFFICIENT OF UTILIZATION
DISC	DISCONNECT
DIST	DISTRIBUTION
DIV	DIVISION
DWG(S)	DRAWING(S)
DPDT	DOUBLE POLE-DOUBLE THROW
DPST	DOUBLE POLE-SINGLE THROW
EC	EMPTY CONDUIT
ELEC	ELECTRIC
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EPP	EXISTING POWER POLE
EQPT	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXST	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS, FURNISHED BY OWNER
FIXT	FIXTURE
FWE	FURNISHED WITH EQUIPMENT, INDICATES ITEM IS FURNISHED WITH EQUIPMENT SUPPLIED UNDER OTHER DIVISIONS, BUT INSTALLED UNDER DIVISION 16.
G,GND	GROUND
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HZ	HERTZ
IAW	IN ACCORDANCE WITH
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INC, INCAND	INCANDESCENT
KCMIL	ONE THOUSAND CIRCULAR MILS
KV	KILO-VOLT
KVA	KILO-VOLT AMPERS
KW	KILOWATT
LB(S)	POUND(S)
LTG	LIGHTING
LTS	LIGHTS
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
N, NEUT	NEUTRAL
N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTE	NOT TO EXCEED
NTS	NOT TO SCALE
P	POLE
PDU	POWER DISTRIBUTION UNIT
PH	PHASE
PMCS	POWER MONITORING & CONTROL SYSTEM
PNL	PANEL
PVC	POLYVINYL CHLORIDE
RCPT(S)	RECEPTACLE(S)
RCR	ROOM CAVITY RATIO
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SPDT	SINGLE POLE-DOUBLE THROW
SPST	SINGLE POLE-SINGLE THROW
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TYP	TYPICAL
UG, UGND	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORES
UNO	UNLESS NOTED OTHERWISE
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
W	WATT(S), WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
1/C	SINGLE CONDUCTOR CABLE
3/C	THREE CONDUCTOR CABLE
3PDT	THREE POLE-DOUBLE THROW
3PST	THREE POLE-SINGLE THROW
Z	IMPEDANCE
%Z	PRECENT IMPEDANCE

6 ABBREVIATIONS
E0.1 — 12" = 1'-0"

Property of NYC Engineers

Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
ELECTRICAL SYMBOLS, NOTES AND DETAILS

SHEET
E0.1

WIRING METHODS SCHEDULE

FEEDER/CIRCUIT TYPE	WIRING METHOD
UNDERGROUND FEEDER-5' OR MORE BEYOND BLDG	DIRECT BURIED PVC CONDUIT, SCHED 40. MINIMUM DEPTH SHALL BE 30" BELOW GRADE
UNDERGROUND FEEDER-WITHIN 5' OR UNDER BLDG	DIRECT BURIED PVC CONDUIT, SCHED 40. MINIMUM DEPTH SHALL BE 30" BELOW GRADE
UNDERGROUND BRANCH CIRCUIT-5' OR MORE BEYOND BUILDING	DIRECT BURIED PVC CONDUIT, SCHED 40. MINIMUM DEPTH SHALL BE 24" BELOW GRADE
UNDERGROUND BRANCH CIRCUIT-WITHIN 5' OR UNDER BUILDING	DIRECT BURIED PVC CONDUT, SCHED 40. MINIMUM DEPTH SHALL BE 18" BELOW BOTTOM OF FLOOR SLAB
INTERIOR FEEDERS/CIRCUITS-IN FLOOR SLABS	PVC CONDUIT, SCHED 80
EXTERIOR, WET OR DAMP LOCATION FEEDERS/CIRCUITS	RGS CONDUIT
INTERIOR FEEDERS-EXPOSED	2" OR LESS: EMT. 2 1/2" OR GREATER: RGS CONDUIT-PROVIDE RGS CONDUIT WHERE EXPOSED BELOW 10' AFF, OR WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE, OR WHERE REQUIRED BY NEC.
INTERIOR FEEDERS-CONCEALED IN WALL OR ABV CLG	2" OR LESS: EMT. 2 1/2" OR GREATER: RGS CONDUIT-PROVIDE RGS CONDUIT WHERE EXPOSED BELOW 10' AFF, OR WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE, OR WHERE REQUIRED BY NEC.
CONNECTIONS TO XFMR'S, MOTORS, AND VIBRATING EQPT	LIQUIDTIGHT FLEXIBLE METAL CONDUIT, 3 FT MAXIMUM LENGTH
TELECOMMUNICATIONS GROUND SYSTEM GROUND CONDUCTORS	RGS CONDUIT BONDED TO GND CONDUCTOR AT BOTH ENDS, OR PVC SCHED 40 WHERE ALLOWED BY NEC IN NON-PLENUM SPACES
FACILITY GROUND SYSTEM GROUND CONDUCTORS SIGNAL REFERENCE GROUND SYSTEM GROUND CONDUCTORS	RGS CONDUIT BONDED TO GND CONDUCTOR AT BOTH ENDS, OR PVC SCHED 40 WHERE ALLOWED BY NEC IN NON-PLENUM SPACES
GROUNDING ELECTRODE CONDUCTORS	RGS CONDUIT BONDED TO GND CONDUCTOR AT BOTH ENDS, OR PVC SCHED 40 WHERE ALLOWED BY NEC IN NON-PLENUM SPACES
SIGNAL AND TELECOMMUNICATIONS WIRING	EMT, EXCEPT WHERE RGS CONDUIT IS REQUIRED BY NEC. PROVIDE 200 LB. TEST NYLON PULL LINE IN ALL TELECOMMUNICATIONS CONDUITS.
INTERIOR CIRCUITS-EXPOSED	2" OR LESS: EMT. 2 1/2" OR GREATER: RGS CONDUIT-PROVIDE RGS CONDUIT WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE, OR WHERE REQUIRED BY NEC.
INTERIOR CIRCUITS-CONCEALED IN WALL OR ABOVE CEILING	2" OR LESS: EMT. 2 1/2" OR GREATER: RGS CONDUIT-PROVIDE RGS CONDUIT WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE, OR WHERE REQUIRED BY NEC.
WIRING OUTSIDE OF CABLE TRAYS TO INSTRUMENTATION, SENSORS, AND PROCESS EQUIPMENT	RGS CONDUIT

WIRING METHODS SCHEDULE
NOTES:

1. WIRING METHODS SHALL BE AS INDICATED ABOVE, UNLESS SPECIFIED OR INDICATED OTHERWISE. WIRING METHODS SHALL COMPLY WITH NEC REQUIREMENTS AS A MINIMUM. SEE SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL REQUIREMENTS. SEE LEGEND AND PANEL SCHEDULES FOR MINIMUM CONDUIT SIZES.

2. RISERS AND ELBOWS FROM UNDERGROUND OR IN-SLAB PVC CONDUITS/DUCTS SHALL BE RGS CONDUITS.

3. CONDUITS AND WIRING SHALL BE RUN ABOVE THE FLOOR UNLESS SPECIFICALLY INDICATED OTHERWISE; WIRING BELOW SLABS IS PROHIBITED EXCEPT WHERE SPECIFICALLY INDICATED. CONDUITS AND WIRING IN FINISHED SPACES SHALL BE CONCEALED WITHIN PARTITIONS AND ABOVE CEILNGS UNLESS SPECIFIED OR INDICATED OTHERWISE. CONDUITS AND WIRING IN ELECTRICAL/MECHANCAL ROOMS, UTILITY SPACES, AND MANUFACTURING AREAS SHALL BE EXPOSED ABOVE FINISHED FLOOR UNLESS SPECIFIED OR INDICATED OTHERWISE.

4. ADDITIONAL REQUIREMENTS:

A. UNDERGROUND DUCTS/CONDUITS-HORIZONTAL CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH LONG SWEEP BENDS, HAVING A MINIMUM RADIUS OF 25 FT. VERTICAL ELBOWS TO RISERS SHALL BE RGS CONDUITS HAVING A MINIMUM BEND RADIUS OF 36" FOR FEEDERS AND 24" FOR CIRCUITS, UNLESS NOTED OTHERWISE. SEAL PENETRATIONS OF DUCTS AND CONDUITS THROUGH FLOOR SLAB VAPOR BARRIERS.

B. ABOVE GRADE POWER WIRING CONDUITS. PROVIDE PULL BOXES IAW NEC AT LOCATIONS APPROVED BY THE OWNER, WHERE REQUIRED BY NEC OR FIELD CONDITIONS. CONDUIT BENDS SHALL COMPLY WITH NEC. INCREASE CONDUIT BEND RADIUS ABOVE NEC REQUIREMENTS WHERE REQUIRED TO PROVIDE AT LEAST 125% OF THE MINIMUM ALLOWABLE BEND RADIUS SPECIFIED BY THE CABLE MANUFACTURER FOR THE CABLES CONTAINED IN THE CONDUIT.

C. ABOVE GRADE CONTROL, INSTUMENTATION, SIGNAL AND TELECOMMUNICATIONS CONDUITS: INSIDE RADIUS OF CONDUIT BENDS SHALL BE AT LEAST 10 TIMES INTERNAL CONDUIT DIAMETER. INCREASE CONDUIT BEND RADIUS ABOVE NEC REQUIREMENTS WHERE REQUIRED TO PROVIDE AT LEAST 125% ALLOWABLE BEND RADIUS SPECIFIED BY THE CABLE MANUFACTURER FOR THE CABLES CONTAINED IN THE CONDUIT. PROVIDE PULL BOXES AT LOCATIONS APPROVED BY THE OWNER, TO LIMIT CONDUIT RUNS TO 100 FEET OR LESS, AND TO LIMIT THE QUANTITY OF BENDS IN A CONDUIT RUN TO TWO. MINIMUM PULL BOX SIZE IS BE AS DESCRIBED BELOW; INCREASE IF NECESSARY FOR FIELD CONDITIONS OR IF NOTED OTHERWISE.

-- FOR CONDUITS 1" AND SMALLER: MINIMUM JUCTION BOX SIZE SHALL BE 4" x 2-1/8" SQUARE AND THERE SHALL BE NO MORE THAN ONE EXTENSION PER JUNCTION BOX.

-- FOR CONDUITS 1-1/4 " AND LARGER WITH STRAIGHT PULLS: PULL BOX LENGTH SHALL BE 8 TIMES CONDUIT DIAMETER.

-- FOR CONDUITS 1-1/4 " AND LARGER WITH ANGLE PULLS: PULL BOX LENGTH AND WIDTH SHALL BE AT LEAST 10 TIMES LARGEST CONDUIT DIAMETER PLUS SUM OF CONDUIT DIAMETERS ON SAME WALL OF BOX, FOR WORST CASE SIDE. LENGTH AND WIDTH SHALL ALSO MAINTAIN MINIMUM SEPARATION OF 6 TIMES CONDUIT DIAMETER BETWEEN CONDUITS CONTAINING THE SAME CONDUCTORS / CABLES. PULL BOX DEPTH SHALL BE APPROPRIATE FOR LARGEST CONDUIT ENTERING THE BOX. FOR BOXES WITH CONDUITS EXITING OPPOSITE A REMOVABLE COVER, MINIMUM PULL BOX DEPTH SHALL BE 6 TIMES DIAMETER OF LARGEST CABLE/CONDUCTOR PLUS DIAMETER OF LARGEST CONDUIT.

5. CONDUCTORS: SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. UNLESS INDICATED OR SPECIFIED OTHERWISE, CONDUCTORS FOR FEEDERS, AND BRANCH CIRCUITS SHALL BE:

A. COPPER: SOLID FOR #10 AWG AND SMALLER, STRANDED FOR #8 AWG AND LARGER.

B. THHN/THWN AND XHHW INSULATION, RATED AT LEAST 90C FOR DRY LOCATIONS AND 75C FOR WET LOCATIONS, UNLESS INDICATED OR SPECIFIED OTHERWISE. INSULATION SHALL BE THHN/THWN FOR CONDUCTOR SIZES #6 AND SMALLER AND XHHW FOR CONDUCTOR SIZES LARGER THAN #6. INSULATION VOLTAGE RATING SHALL BE 600V. SEE NOTES BELOW.

C. FOR ISOLATED POWER AND GFCI CIRCUIT WIRING ADDITIONAL REQUIREMENTS. POWER FEEDER CABLES SHALL NOT BE SPLICED.

D. LIGHTING AND CONVENIENCE OUTLETS SHALL BE IN SEPERATE RACEWAYS AND SHALL NOT BE ON THE SAME CIRCUIT.

E. #10AWG MINIMUM CONDUCTORS SHALL BE USED ON THE ENTIRE BRANCH CIRCUIT, FOR BRANCH CIRCUITS EXCEEDING 75 FEET IN LENGTH AT 120 VOLTS.

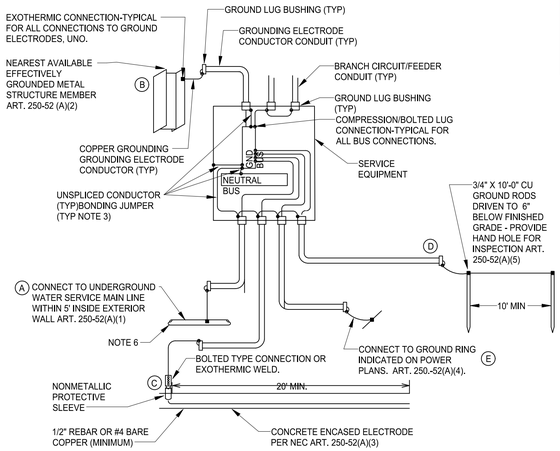
6. ADDITIONAL REQUIREMENTS FOR ISOLATED POWER WIRING AND GFCI CIRCUIT WIRING:

A. WIRING SHALL BE IN 3/4" CONDUIT MINIMUM; SHALL BE EMT, IMC, OR RGS CONDUIT.

B. MINIMIZE CIRCUIT LENGTH TO THE GREATEST EXTENT PRACTICAL, WHILE MAINTAINING COMPLIANCE WITH SPECIFICATIONS AND DRAWINGS.

C. PROVIDE XHHW-2 INSULATION FOR ISOLATED POWER WIRING AND GFCI WIRING. CABLE LUBRICANTS NOT PERMITTED ON ISOLATED POWER AND GFCI CIRCUIT WIRING.

1 WIRING METHODS SCHEDULE & NOTES
E0.2 — 12" = 1'-0"



SERVICE GROUNDING SCHEDULE

EQUIPMENT DESIGNATION	GROUNDING ELECTRODE/ JUMPER CONDUCTOR	CONDUIT SIZE	APPLICABLE GROUNDING ELECTRODE CONNECTIONS	REMARKS
MDP	#3/0	1"	A B AND C	SERVICE EQUIPMENT

NOTES:

1. THIS DETAIL APPLIES TO ALL EQUIPMENT INDICATED ON THE SERVICE GROUNDING SCHEDULE INDICATED.
2. SEE GROUNDING ELECTRODE CONDUCTOR SCHEDULE ABOVE FOR: EQUIPMENT DESIGNATIONS (PANELBOARDS, SWITCHBOARDS, ETC), CONDUCTOR SIZES, RELATED CONDUIT SIZES AND APPLICABLE GROUNDING ELECTRODE CONNECTIONS (A B C D E)
3. BONDING JUMPERS INDICATED SHALL BE SIZED IAW NEC, AND NO LESS THAN GROUND AND GROUNDING ELECTRODE CONDUCTORS INDICATED FOR EQUIPMENT, OR PROVIDE BUS LINK ACCESSORY BY EQUIPMENT MANUFACTURER FOR NEUTRAL/GROUND CONNECTION.
4. PHASE, NEUTRAL, AND ISOLATED GROUND CONDUCTORS FOR LOADS SERVED BY EQUIPMENT INDICATED ARE NOT SHOWN FOR CLARITY.
5. WORK INDICATED ON THIS DETAIL IS IN ADDITION TO GROUNDING WORK INDICATED ON OTHER DRAWINGS.
6. PROVIDE BONDING JUMPER ACROSS METERS AND NON-CONDUCTIVE SECTIONS OF ALL METALLIC PIPING SYSTEMS. CONNECT ALL METALLIC PIPING SYSTEMS TO SERVICE EQUIPMENT ENCLOSURE WITH BONDING JUMPER.
7. GROUNDING ELECTRODE CONDUCTORS SHALL BE COPPER, AND CONTINUOUS WITH NO SPLICES, UNLESS NOTED OTHERWISE. CONNECTIONS TO GROUNDING ELECTRODES SHALL BE EXOTHERMIC TYPE, UNLESS NOTED OTHERWISE.

2 TYPICAL SERVICE GROUNDING DETAIL
E0.2 — 12" = 1'-0"

PROVIDE FIRE STOPPING THRU ALL RATED (1 HOUR AND ABOVE) WALLS. FIRE STOPPING SHALL BE 3M CP 25WB CAULK OR FIREDAM 150 CAULK OR EQUAL. FIRE STOPPING SHALL BE AS REQUIRED TO MAINTAIN A U.L. SYSTEM 319 CLOSURE.

3 FIRE WALL CONDUIT SLEEVE DETAIL
E0.2 — 12" = 1'-0"

4 TELECOMMUNICATIONS BACKBOARD "TB"
E0.2 — 12" = 1'-0"

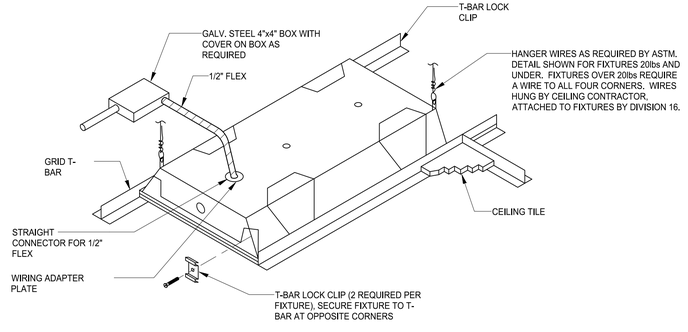
TYPE	NOMINAL VOLTAGE	MINIMUM SURGE CURRENT RATING (AMPS/PHASE)	MAXIMUM UL 1449 CLAMPING CATEGORY (V)	MAXIMUM IEEE C62.45 CLAMPING VOLTAGE (V)	REMARKS
B	208Y120	75,000	400	500	SEPARATE FLUSH ENCLOSURE WITH FIELD WIRING

1. UL 1449 AND SURGE CURRENT RATINGS ARE SINGLE PULSE, AND BASED ON IEEE C62.41 CATEGORY B WAVEFORM AT 6KV (1.2/50 MICRO-SECOND) AND 0.5KA (8/20 MICRO-SECOND) USED FOR UL 1449 LISTING.
2. IEEE C62.45 CLAMPING VOLTAGE RATINGS ARE LINE-NEUTRAL, NEUTRAL-GROUND, AND LINE-GROUND, BASED ON IEEE C62.41 CATEGORY C3 WAVEFORM AT 20KV (1.2/50 MICRO-SECOND) AND 10KA (8/20 MICRO-SECOND).
3. SURGE CURRENT DIVERSION PATHS: L-N, L-G, & N-G FOR WYE AND HIGH-LEG DELTA SYSTEMS; L-L & L-G IN DELTA SYSTEMS.
4. PROTECTION: EACH MODE SHALL HAVE USER SERVICEABLE 200 KAIC SURGE RATED FUSE WITH A THERMAL CUTOUT DEVICE. PROVIDE DISCONNECT SWITCH IF UNIT IS NOT PROTECTED BY A CIRCUIT BREAKER IN PANELBOARD/SWITCHBOARD.
5. MONITORING: EACH PHASE SHALL HAVE GREEN/RED SOLID STATE CONDITION INDICATOR LIGHT. [PROVIDE SPDT ALARM CONTACTS FOR REMOTE ANNUNCIATION OF A STATUS.] [PROVIDE AUDIBLE ALARM WITH SILENCE SWITCH.]
6. DESIGN: METAL OXIDE VARISTOR SURGE MODULES WITH MAXIMUM CONTINUOUS OPERATING VOLTAGE OF 115% OF NOMINAL AND EMI/RFI NOISE FILTER PROVIDING 34dB REDUCTION AT 100KHZ USING MIL-STD-220A TEST METHOD. 5 YEAR FULL PARTS AND LABOR WARRANTY FROM DATE OF ACCEPTANCE. INTEGRAL OR EXTERNAL DESIGN AS INDICATED IN SCHEDULE. ACCEPTABLE MANUFACTURERS: GE, CURRENT TECHNOLOGIES, OR INNOVATING TECHNOLOGIES. NO SUBSTITUTIONS. NO ALTERNATIVES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LISTING: UL 1449 SECOND EDITION FOR CLAMPING CATEGORY INDICATED. COMPLY WITH NEMA LS-1.

5 TVSS SCHEDULE AND NOTES
E0.2 — 12" = 1'-0"

1. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE LOCATIONS. ELECTRICAL WORK SHALL NOT INTERFERE WITH CLEARANCES REQUIRED FOR GENERAL AND MECHANICAL CONSTRUCTION. ANY CORRECTIONS WILL BE MADE BY THE ELECTRICAL CONTRACTOR AT NO COST TO THE OWNER.
2. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE IBC AND THE NATIONAL ELECTRICAL CODE, LATEST EDITIONS, AND ALL APPLICABLE STATE AND LOCAL CODES. ALL WORK SHALL BE ACCOMPLISHED IN A NEAT AND PROFESSIONAL MANNER.
3. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE U/L LABEL.
4. CONTRACTOR SHALL CONFIRM BRANCH CIRCUIT SIZING, LOCATIONS AND CONNECTION REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT PRIOR TO INSTALLATION. ANY ADJUSTMENTS REQUIRED SHALL BE MADE BY THE ELECTRICAL CONTRACTOR. SUBSTANTIAL CHANGES TO THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
5. ALL TERMINALS SHALL BE RATED FOR 75 DEGREES CELSIUS COPPER WIRE.
6. RECEPTACLES SHALL BE OF THE GROUNDING TYPE WITH GROUND CONNECTION MADE THROUGH AN EXTRA POLE WHICH SHALL BE PERMANENTLY CONNECTED TO THE RACEWAY AND GROUNDING SYSTEMS. COVERPLATES AND COLOR FOR ALL WIRING DEVICES TO BE DETERMINED BY ARCHITECT.
7. LIGHTING FIXTURES SHALL BE FURNISHED COMPLETE IN ALL RESPECTS PER FIXTURE SCHEDULE. VERIFY CEILING FINISHES AND SUSPENSION SYSTEMS FOR SELECTION OF PROPER TRIM AND SUPPORT ARRANGEMENTS. INSTALL ALL LIGHT FIXTURES WITH LAMPS AS REQUIRED.
8. RECESSED FIXTURES MOUNTED IN GRID CEILING SHALL BE SECURELY FASTENED TO THE GRID BY A MECHANICAL MEANS THAT COMPLIES WITH REQUIREMENTS FOR SEISMIC EVENTS PER ASCE 7.5. THE GRID SHALL BE ABLE TO SUPPORT THE WEIGHT OF THE FIXTURE, AND SHALL BE SECURED TO TRUE STRUCTURE AS REQUIRED. ALL SURFACE MOUNTED, EMERGENCY, AND EXIT FIXTURES SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE BY A MECHANICAL MEANS THAT COMPLIES WITH THE SAME STIPULATIONS AS ABOVE.
9. ALL WIRING SHALL BE CONCEALED WHERE POSSIBLE AND INSTALLED IN SUITABLE RACEWAYS. EMT SHALL BE USED (3/4" MIN) FOR LIGHTING AND POWER BRANCH CIRCUITRY. EMT SHALL BE USED FOR EQUIPMENT FEEDERS. SCHEDULE 40 PVC SHALL BE USED UNDERGROUND.
10. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE SEALED USING APPROVED MATERIALS AND METHODS TO MAINTAIN THE ORIGINAL FIRE-RESISTANCE RATING.
11. RECEPTACLES INSTALLED BACK TO BACK IN FIRE RATED WALLS SHALL BE A MINIMUM OF 24" APART AND SHALL NOT OCCUPY THE SAME STUD CAVITY.
12. DISCONNECT SWITCHES SHALL BE FURNISHED AS SHOWN ON THE DRAWINGS WITH VOLTAGE RATING, AMPERAGE RATING AND NUMBER OF POLES AS INDICATED. PROVIDE NEMA 3R TYPE WHERE EXPOSED TO WEATHER. PROVIDE HEAVY DUTY TYPE SWITCHES.
13. FUSES FOR FUSIBLE SWITCHES SHALL BE OF THE DUAL ELEMENT, REJECTION TYPE.
14. DISCONNECT SWITCHES SHALL HAVE EXTERNAL SWITCH HANDLE, SWITCH AND DOOR SHALL BE INTERLOCKED SUCH THAT THE DOOR CAN NOT BE OPENED UNLESS THE SWITCH IS IN THE OPENED POSITION.
15. ALL WIRE SHALL BE SINGLE CONDUCTOR STRANDED, COPPER SIZED AS INDICATED ON THE DRAWINGS. MINIMUM SIZE SHALL BE #12 AWG.
16. SOLID WIRE MAY BE USED FOR #12 AND #10 AWG WIRE USED ON LIGHTING FIXTURES, RECEPTACLES AND SWITCHES ONLY.
17. INSULATION OF WIRE SHALL BE 75 DEGREES CELSIUS (THHN, THWN), 600 VOLT.
18. UNLESS INDICATED ON THE DRAWINGS, ALL WIRING SHALL BE #12 AWG. CONTRACTOR SHALL CONFIRM AND ROUTE THE PROPER QUANTITY OF WIRES AND SIZE OF CONDUIT TO FIT THE APPLICATION AND THE CIRCUITRY INDICATED.
19. CONTRACTOR SHALL PROVIDE A PROPERLY SIZED, GREEN COLORED INSULATED GROUNDING CONDUCTOR IN ALL CONDUITS. THIS CONDUCTOR IS NOT INDICATED IN THE HASH MARKS ON THE CONDUIT RUNS ON THE PLANS.
20. INSTALL A COMPLETE GROUNDING SYSTEM IN ACCORDANCE WITH NEC ARTICLE 250 AND THESE SPECIFICATIONS. GROUNDING SYSTEM SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT. ALL CIRCUITS FEEDING ISOLATED GROUND RECEPTACLES SHALL BE PROVIDED WITH AN ISOLATED GROUND CONDUCTOR IN ADDITION TO EQUIPMENT GROUND CONDUCTOR.
21. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE LOCAL POWER COMPANY AND TELEPHONE UTILITY COMPANIES FOR ALL COST REQUIREMENTS AND METHODS FOR THE NEW SERVICE SHOWN. PROVIDE ALL MATERIALS AND LABOR AS DIRECTED BY THE LOCAL UTILITY SERVICES FOR A COMPLETE AND OPERABLE INSTALLATION.
22. PANELBOARDS SHALL BE PROVIDED WITH DISTRIBUTIVE PHASING AND RATINGS AND BREAKER REQUIREMENTS AS PER SCHEDULES. LABEL ALL PANELS AND PROVIDE TYPEWRITTEN CIRCUIT DIRECTORIES.
23. THE SHORT CIRCUIT RATING OF ALL SERVICE EQUIPMENT AND PANELBOARDS SHALL BE NO LESS THAN THAT INDICATED ON THE PANEL SCHEDULES UNLESS BEFORE PURCHASING EQUIPMENT, THE ELECTRICAL CONTRACTOR CONTACTS THE LOCAL UTILITY COMPANY PROVIDING SERVICE AND OBTAIN IN WRITING THE MAXIMUM SHORT CIRCUIT CURRENT SUPPLIED TO THE SERVICE EQUIPMENT. ALL EQUIPMENT SHALL BE RATED AND COORDINATED TO NO LESS THAN THAT SUPPLIED.

6 GENERAL NOTES
E0.2 — 12" = 1'-0"



7 GRID FIXTURE MOUNTING DETAIL
E0.2 — 12" = 1'-0"

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
ELECTRICAL SCHEDULES AND DETAILS

SHEET
E0.2

PART 1 -
GENERAL
1.01 Scope of Work:

A. It is the intent of these specifications and the accompanying drawings to have furnished and installed all labor, material, and equipment of every kind necessary for the installation of a complete and properly operating Electrical System, ready for the Owner's beneficial use.

B. Any incidental item of material or labor not specifically called for but reasonably necessary for the proper installation and operation of the Electrical System shall be included in the scope of the work.

1.02 General Work:

A. The general work associated with electrical systems and equipment and to be performed as electrical work, includes excavating, supports, anchors, vibration and sound isolation, identification, record drawings, installation permits, tests, inspections by governing authorities, cutting-and-patching work, start-up of electrical systems and equipment, operating and maintenance instructions, final cleaning of electrical work, and similar work.

1.03 General Outline:

A. Wiring and Power Distribution.

B. Lighting, including Emergency and Exit Lighting Systems.

C. Provisions for Telephone & Data Systems
Empty raceways, outlet boxes, conduit stub-ups, power sources, etc shall be included. (Cabling, including copper & fiber, outlets, wall plates, terminations, equipment racks, etc shall be furnished and installed by the owner's installers.)

D. A manual & automatic addressable Fire Alarm System.

E. The testing of all systems to demonstrate proper operation.

1.05 Schedule of the Work:

A. The progress of the work shall be such as to conform with and not delay the work of other trades. The entire installation shall be completed as soon as conditions will permit.

1.06 Jobsite Visit:

A. The Contractor shall visit the site, and shall be responsible for determining conditions which will affect the work. No credit will be issued the Contractor for additional work required, where a thorough site investigation would have revealed the need for such work.

1.07 Permits, Fees and Licenses:

A. The Contractor shall obtain and pay for all required permits, licenses and inspections. A final inspection certificate from the governing electrical inspection authority shall be obtained by the Contractor.

1.08 Codes and Standards:

A. All electrical work shall be performed in strict accordance with the latest edition of the National Electrical Code, National Electrical Life Safety Code, and any local or state codes which may apply. Where codes' requirements differ, the stricter code shall take precedence.

B. Equipment & materials and installation shall conform to the applicable requirements of the latest editions of the publications of the following entities:

National Fire Protection Association (NFPA)
Institute of Electrical and Electronic Engineers (IEEE)
Underwriters' Laboratories, Inc. (UL)
National Electrical Manufacturers Association (NEMA)
National Electrical Contractors Association (NECA)
American National Standards Institute (ANSI)
Insulated Power Cable Engineers Association (IPCEA)
American Society for Testing and Materials (ASTM)
Electronic Industries Association (EIA)

1.09 Plans:

A. The electrical drawings are diagrammatic insofar as wiring layout is concerned. The location of raceways, devices, outlets, etc, is approximate only and they shall be installed with good judgment as to final room or area appearances.

1.10 Minor Deviations:

A. Minor deviations from the indicated arrangement on the electrical drawings will be permitted subject to verbal approval of the Architect's representative. However, any major deviation from the systems shown shall be applied for in writing, accompanied by a legible sketch of the proposed change, and a written approval obtained from the Architect's representative before the questioned area, circuit or equipment is actually installed. (Minor relocations of wiring devices, small power outlets, etc. may be originated by the Owner or Architect and shall be made at no additional expense to either if requested before or during the roughing-in phase of the work. Any requested relocation not exceeding 10 feet from the location shown on the plans shall be considered a minor relocation).

1.11 Coordination of Electrical Installation:

A. Consult general construction documents to be familiar with all conditions affecting the work. Sequence, coordinate and integrate the various elements of electrical work so that the electrical system will perform as indicated and be in harmony with the other work of the building. The Architect/Engineer will not supervise the coordination, which is the exclusive responsibility of the Contractor. Comply with the following requirements:

(1) Install conduit and similar services straight and true, aligned with other work, close to walls and overhead structure, concealed where possible in occupied spaces, and out-of-the-way with maximum passageway and headroom remaining in each space. Except as otherwise indicated, arrange electrical services and overhead equipment with a minimum of 7'-0" headroom in storage spaces, and 8'-6" headroom in other spaces.

(2) Arrange work to facilitate maintenance and repair or replacement of equipment. Locate services requiring maintenance on wiring devices and similar units in front of services requiring less maintenance. Connect equipment for ease of disconnecting, with minimum of interference with other work. Locate operating and control equipment and devices for easy access.

(3) Integrate electrical work in ceiling plenums, including lighting fixtures, with ceiling finish, suspension, ductwork, air diffusers and other work, so that required performances of each will be achieved.

(4) Give the right-of-way in confined-service spaces to piping which must slope for drainage, and to larger HVAC ductwork and similar services which are less conformable than electrical services.

B. Coordination Drawings: For locations where several elements of electrical (or combined mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings (shop drawings) showing the actual physical dimensions (at accurate scale) required for the installation. Prepare and submit coordination drawings prior to purchase-fabrication-installation of any of the elements involved in the coordination.

1.12 Equipment Wiring:

A. Throughout the work will be found equipment furnished and installed under these specifications herein which require electrical energy and controls. Coordinate the electrical work for proper service to each item of equipment requiring electrical connection. Determine, with each equipment Installer, the proper sequencing and location for disconnect switches and similar points of interface. Generally, and unless otherwise indicated, electrical contractor shall be responsible for the following:

(1) Power source, power wiring, and final power connections.
(2) Disconnect switches.

(3) Line voltage control wiring (such as wiring of line voltage exhaust fans).

B. The electrical contractor shall be responsible to obtain a proper and complete wiring diagram from each equipment supplier whose equipment requires electric power, to become thoroughly familiar with it and to wire equipment accordingly to insure satisfactory operation.

C. Realize that electrical circuits to equipment furnished under other sections of these specifications are based on design loads. If equipment actually furnished and installed have loads other than those indicated on the drawings or specified herein, circuits, devices, etc. shall be adjusted accordingly.

1.13 Electrical System Identification:

A. Cable/Conductors Identification: Provide standard cable/wire labels on each conductor of electrical runs, at enclosures where conductors of more than one circuit or system are present and interrupted. Mark to match contract document numbering and other numbering as subsequently established.

B. Equipment/System Identification Signs:

(1) Install an engraved plastic-laminate sign on each major unit of electrical equipment in the building; including the central or master unit of each electrical system including communication & signal systems, unless the unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, 1/2" high lettering on 1-1/2" high sign (2" high where 2 lines are required), white lettering in black field. Provide text matching terminology and numbering of the contract documents and shop drawings.

1.14 Submittals:

A. For electrical work, submit 6 sets of the following:

Product Listings
Shop Drawings
Product Data
Warranties (Guarantees)
Operating Instructions

Submit list within 30 days of Contract date.

(Refer to General Specifications Sections for further information.)

B. Submittals shall include but not be limited to:

Panelboards
Circuit Breakers
Disconnect Switches
Starters and Contactors
Wiring Devices and Plates
Lighting Fixtures
Conduit and Wire, including connectors & couplings
Fire Alarm System

1.15 Submittals:

A. General: For electrical work, the following quantities are required for each category of submittal (quantity does not include copies required by governing authorities, or by Contractor for its own purposes). Submit list within 30 days of Contract Date.

(1) Product Listing: Prepare the product listing for electrical work, separately from the listing(s) of products for other work. Include listing of each significant item of equipment and material used in the work; and indicate the generic name, product name, manufacturer, model number, related specification section number(s), and estimated date for start of installation. Materials such as conductors, conduit, and boxes taken from Installer's stock need not be listed.

(2) Shop Drawings: 6 sets, including 3 for maintenance manuals.

(3) Product Data: 6 sets, including 3 for maintenance manuals.

(4) Certifications: 3 copies.

(5) Test Reports: 3 copies.

(6) Warranties: 6 copies, including 3 for maintenance manuals.

(7) Maintenance & Operating Manuals: 3 final copies, including wiring diagrams, maintenance and operating instructions, parts listings, and copies of other submittals indicated for inclusion.

Organize each copy of the required system maintenance manuals to include an index followed by thumb-tab marked sections for system operating instructions; prepared emergency instructions including addresses and telephone numbers for service sources; regular system maintenance procedures including lubrication; spare parts listing and stocking recommendations, including the proper use of tools and accessories, wiring and control diagram for each system; manufacturer's product warranties, and guarantee relating to the system and equipment items in the system; shop drawings, relating to the system. Bind each maintenance manual in one or more vinyl-covered, 2", 3-ring binder, plus pocket folders for folded drawings; and mark the back spine and front cover of each binder with system identification and volume number.

B. Operating Instructions: Submit manufacturer's operating instructions for each item of electrical equipment and supplement with additional project application instructions where necessary. Prepare and submit specific operating instructions for each electrical system which involves multiple items of equipment, including instructions for charging, start-up, control or sequencing of operation, phase or seasonal variations, shut-down, safety and similar operational instructions. Prepare in typewritten form in completely explained and easily understood English language.

C. Maintenance Materials: Deliver to Owner's Representative at the location as directed, in containers or packages suitable for storage and fully identified.

1,16 Record
Drawings:
A. Explanation: Except where otherwise indicated, electrical drawings prepared by Architect/Engineer (contract drawings) are diagrammatic in nature and may not show locations accurately for various components of electrical systems. Shop drawings (including coordination drawings) prepared by Contractor show certain portions of work more accurately to scale and location, and in greater detail. It is recognized that actual layout of installed work may vary substantially from both contract drawings and shop drawings.

B. General Recording Procedure: Maintain a white-print set (blue-line or black-line) of electrical contract drawings and shop drawings in clean, undamaged condition, for mark-up of actual installations which vary substantially from the work as shown. Mark-up whatever drawings are most capable of showing installed conditions accurately; however, where shop drawings are marked, record a reference note on appropriate contract drawings. Mark with erasable pencil, and use multiple colors to aid in the distinction between work of separate electrical systems. In general, record every substantive installation of electrical work which previously is either not shown or shown inaccurately, but in any case record the following:

(1) Underground cable and conduits, both interior and exterior, drawn to scale and fully dimensioned.

(2) Work concealed behind or within other work, in a non-accessible arrangement.

(3) Mains and branches of wiring systems, with panelboards and control devices located and numbered, with concealed splices located, and with devices requiring maintenance located.

(4) Scope of each change order, noting change order number.

(5) Primary grounding system(s).

(6) Sensor and signal locations of alarm systems and controls.

C. Execution: Each installer or other entity responsible for recording installed work shall record firm name, signature and date on each drawing as marked.

D. Corrected Drawings: Prior to transmittal of record drawings, obtain a set of erasable mylar transparent prints for each contract drawing and shop drawings set which has been used to record installed conditions. Erase incorrect information, and transfer information marked on the record drawing prints onto transparencies. Transmit corrected drawings (transparencies) as a submittal to Architect/Engineer for Owner's use and record. Prior to transmittal of corrected drawings, obtain 3 sets of blue-line prints of each drawing in each set, regardless of whether corrections were necessary, and include in transmittal (2 sets are for Owner's use, and one is for Architect/Engineer's records).

1.17 Guarantee:

A. By acceptance of this contract the Electrical Contractor is required to guarantee all materials and workmanship against defects of any description for a period of one year from the date of final acceptance of the work. Upon just demand by the Owner's representative the Contractor shall promptly repair or replace any defective item.

PART TWO -
PRODUCTS
2.01 Material and Equipment:

A. All material and equipment shall be new and shall conform to grade, quality and standard of those specified.

2.02 Electrical Service Characteristics:

A. The characteristics of the electrical service is 120/208 volts, 3-phase, 4 wire, delivered underground.

2.03 Conductors:

A. Cable, Wire, and Connectors: The types of cable, wire and connectors required for the job include the following:

600V Insulated Copper Wire
MC Cable
Compression Connectors
Tap Type Connectors
Split Bolt Connectors
Twist-on Spring Type
Connectors
B. Wire: Provide factory-fabricated wire of the size, rating, material and type as indicated for each service. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements and with NEC standards. Select from only the following types, materials, conductor configurations, insulations, and coverings:

UL Type: THHW - Final connections to light fixtures and in fixture wiring channels
UL Type: THWN - Conductors #2AWG and smaller
UL Type: XHHW - Conductors #1AWG and larger

Material - Annealed copper

Conductors - Solid (#18AWG to #10AWG only)
Conductors - Concentric-lay-stranded (#8AWG and larger)

C. Minimum Sizes: The minimum sizes of conductors shall be as follows:
#12 AWG for power circuits
#14 AWG for control circuits
#16 AWG for alarm sound system circuits

D. Color Coding: Conductors shall be color coded as follows:
120/208 volt systems:

Phase A: Black
Phase B: Red
Phase C: Blue
Neutral: White
Ground : Bare or Green
Isolated Ground : Green with yellow tracer

The color coding shall be carried out in all #8 AWG and smaller conductors through integral color in the insulation, and in larger conductors (#6 AWG and larger) by color coded insulated conductors, plastic coated self-sticking printed markers, colored nylon cable ties and plates, or heat shrink type sleeves. Apply these markers to the insulation at terminals and within any pull or junction box.

E. Type MC Cable: Where allowed by the National Electrical Code and by the AHJ, type MC cable may be used in place of wire in conduit for concealed work. Do not install exposed.

2.04 Connectors and Terminators:

A. General: Provide factory-fabricated, metal connectors of the size, rating, material, type and class as indicated for each service. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements, manufacturer's recommendations and with NECstandards.

B. Circuit & Fixture Wire Splices (#8 AWG and Smaller): Splices shall be the twist-on spring connector insulated type, equal to Piggy Wire Joint manufactured by The Thomas & Betts Co.

C. Conductors #6 AWG through #2/0 AWG: All conductors #6 AWG through #2/0 AWG shall be tapped and spliced with mechanical type connectors as cataloged by Thomas & Betts.

D. Conductors #3/0 AWG and Larger: All conductors #3/0 AWG and larger shall be terminated, spliced and tapped, wherever practicable, with color-keyed compression connectors as manufactured by The Thomas & Betts Co., Series 54000. The manufacturer's recommended tooling shall be used for installation.

2.05 Pulling Lubricant:

A. Use only cataloged cable pulling lubricant, such as Ideal #77, Carlon "Slikum", Burndy "Slikon" or "Y-ER-EAS".

2.06
Raceways:
A. For each electrical raceway system indicated, provide a complete assembly of conduit, tubing or duct, with fittings including, but not necessarily limited to connectors, nipples, couplings, elbows, expansion fittings and other components and accessories as needed to form a complete system of type indicated. Minimum size conduit shall be «" unless noted otherwise (3/4" in floor and underground).

B. Rigid Steel Conduit (RGS) and Intermediate Metal Conduit (IMC):

(1) Type: All rigid steel conduit and IMC shall be either hot-dip galvanized, zinc metallized or sheradized.

(2) Uses Permitted: Rigid steel conduit and IMC may be used in all locations.

C. Electrical Metallic Tubing (EMT):

(1) Type: Approved electrical metallic tubing, galvanized thin wall conduit, type EMT.

(2) Uses permitted:

(a) In hollow walls.
(b) Above suspended ceilings.
(c) Overhead.
(d) Exposed if not subject to damage.

(3) Restrictions: Do not use:

(a) Exposed to physical damage.
(b) In concrete work.
(c) In moisture prevalent locations, or exposed to weather.

D. Flexible Metal Conduit:

(1) Type: Type II, Zinc-coated steel.

(2) Uses: Provide for the following indoor final connections:

(a) Mechanical equipment.
(b) Recessed lighting fixtures.
(c) Motor connections.
(d) Other electrical equipment connections where subjected to movement and vibration.

E. Liquid-Tight Flexible Metal Conduit:

(1) Type: Provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible, interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible Polyvinyl Chloride (PVC).

(2) Uses: Use for connection of motors and for other electrical equipment where subject to movement and vibration, and also where subjected to one or more of the following conditions:

(a) Exterior location.
(b) Moist or humid atmosphere where condensate can be expected to accumulate.
(c) Corrosive atmosphere.
(d) Subjected to water spray.
(e) Subjected to dripping oil, grease or water.

F. Aluminum conduit shall not be permitted.

G. Underground PVC Plastic Utilities Duct: NEMA Standards Pub, No, TC 6, Type as indicated.

(1) Type Schedule 40 heavy wall type DB PVC duct.

(2) Uses permitted:

(a) Underground.
(b) In or below concrete.
(c) In corrosive atmospheres.

H. PVC Plastic Utilities Duct Fittings: NEMA Std, Pub, No, TC 9,

(1) Type: Match to duct type and material.

(2) Uniformity: All PVC components, (conduit, fittings, cement) shall be from same manufacturer.

I. Provide conduit, tubing and duct accessories including straps, hangers, expansion and deflection fittings as recommended by conduit, tubing and duct manufacturers.

J. Conduit Plugs: During construction, all conduit ends and conduit fittings shall be securely closed to foreign elements by Push-Penny Plugs, Series 1470 as manufactured by Thomas & Betts Co.

2.07 Safety and Disconnect
Switches:
A. The types of safety and disconnect switches required for the project include equipment disconnects and motor-circuit disconnects.

B. Furnish and install safety switches as indicated on the plans and specifications. All safety switches shall be NEMA Heavy Duty Type HD and Underwriters' Laboratories listed.

C. Enclosures: Switches in dry locations shall be furnished in NEMA 1 general purpose enclosures unless specified otherwise. Switches in wet or damplocations, or installed outdoors shall be NEMA 3R unless specified otherwise.

D. Ratings: Switches shall be horsepower and ampere rated for 250 volts.

E. Fuses: All fusible disconnects shall have Bussman "Fusetron" dual element fuses. Fusible switches shall be installed at all equipment whose nameplate indicates a maximum branch circuit fuse size.

2.08 Wiring Devices:

A. Receptacles: Comply with NEMA Standards Pub, No, WDI and as follows:
(1) Heavy Duty Simplex: Provide single heavy-duty type receptacles, 2-pole, 3-wire grounding, 20 ampere, 125-volts, ivory with metal plaster ears, for back and side wiring, NEMA configuration 5-20R unless otherwise indicated for service to dedicated equipment, such as electric water coolers.

(2) Heavy-Duty Duplex: Provide heavy-duty duplex receptacles, 2-pole, 3-wire, grounding, 15A, where ganged on a common circuit and 20A, where connected to an individual circuit, 125 volt, ivory, with metal plaster ears, for back, and side feed-thru wiring, NEMA configuration 5-15R or 5-20R unless otherwise indicated.

B. Switches: Comply with NEMA Standards Pub, No, WDI and as follows:
Toggle: Provide heavy-duty flush toggle switches, 20-ampere, 120/277 volts AC, ivory, with mounting yoke insulated from mechanism, equipped with plaster ears, toggle style switch, and side-wired screw terminals.
C. Wall Plates: Provide single switch and simplex and duplex outlet wall plates for wiring devices, with ganging and cutouts, as indicated or required. All interior plates for flush outlets shall be Type 302 stainless steel. Hinged, gasketed lift covers shall be furnished for all outlets exposed to weather or moisture. Plates on unfinished walls and on surface boxes shall be or zinc-coated sheet steel or cast metal having round or beveled edges.

2.09 Panelboards:

B. New Panelboards shall be of the automatic thermal/magnetic circuit breaker type, equipped with tin-plated copper bus work, including ground bus. Neutral busses shall be sized at 200%. Panelboards shall be new and the manufacturer's latest standard cataloged design. Panelboards shall bear UL labels. Typewritten directories shall be provided in all panelboards. All breakers shall have a minimum U/L labeled interrupting capacity of 10,000 RMS symmetrical amperes for 120/208 volt systems and 14,000 RMS symmetrical amperes for 480 volt systems.

Panelboard Manufacturers: General Electric, Square-D, Cutler-Hammer.

2.10 Grounding:

A. A grounding system, conforming with requirements of NEC Article 250 and with applicable local codes, shall be provided for grounding electrical equipment, electrically operated equipment, electrical systems, neutrals, metallic raceway systems, etc.

2.11 Lighting Fixtures:
A. Furnish and install lighting fixtures as specified on the drawings in the Lighting Fixture Schedule.

B. Lamps: Lamps shall be furnished and installed in all lighting fixtures by the Contractor.

2.12 Fire Alarm Systems:

A. General: Furnish and install a low voltage, electrically supervised, microprocessor based, manual and automatic, general evacuation addressable fire alarm system with battery backup. Upon actuation of any manual station or automatic detector, the following sequence of events shall occur, until such time as the manual station or detector is returned to normal and the control panel reset:

B. All audible alarm signals to sound and all visual alarm signals to flash at a march time cadence throughout the building.

C. Convey an 80 character English alarm message at the main control panel/annunciator and at the remote annunciator indicating alarm status.

D. Provide signals to the various HVAC control points for shutting down selected air handling systems in accordance with Division 15 Specifications.

E. A supervised signal to notify the local fire department or an approved off-site 24-hour monitoring central station facility (as required by local codes and authorities) shall be activated via a leased dedicated telephone line.

F. Primary power source shall be 120 VAC. Operating voltage shall be 24VDC.
G. Equipment shall be supplied by a firm regularly engaged in the manufacturer of Fire Alarm Systems of the type required and shall have supplied similar apparatus to comparable installations rendering satisfactory service for at least five (5) years.

H. Provide CAD quality shop drawings (on paper and in ACAD file format) as follows:

Complete one-line riser diagram showing all equipment and the size, type and number of all conductors.

Provide calculations to support the size of standby batteries submitted. Include programming and installation manuals. Provide complete point-to-point diagrams drawn by system supplier which shall indicate wiring quantities, sizes, types and conduit sizes, as well as system components.

Typical drawings will not be accepted.

I. Codes and Standards: The system shall comply with the applicableprovisions of current NFPA Standards 72A/B/C/D/E, Local Building Codes, The International Building Code and meet all requirements of the local authorities having jurisdiction.

The system shall be listed, labeled or approved by Underwriters' Laboratories, Inc., and/or the Factory Mutual System.

J. The system shall be provided with sufficient battery power to provide for the entire system upon loss of normal 120 VAC power for a period of twenty-four (24) hours with ten (10) minutes of alarm indication at the end of this period. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic.

K. Fire Alarm Control Panel:

Where shown on the plans, provide and install an addressable Notifier Fire Alarm Control Panel with LCD readout. Construction shall be modular with solid state electronics. All visual indicators shall be high contrast, LED type. Alarm initiation, signal and control circuits shall be supplied to provide the number of circuits and functions indicated herein and on the plans.

L. Peripheral Devices:

Initiating Devices: All initiating devices shall be equipped with addressable modules.

Manual Pull Stations: The manual pull stations shall be the single action type with a white metal "T" handle with the words "Pull Down" painted in red on them.

Open area detectors shall be solid state photoelectric 4-wire type. Detectors shall be listed UL standard 268 and shall be documented compatible with the control equipment to which it is connected. Detectors shall be listed for this purpose by Underwriters' Laboratories, Inc. The detectors shall obtain their operating power from the fire alarm panel supervised detection loop. The operating voltage shall be 24VDC (nominal), Removal of the detector head shall interrupt the supervisory circuit of the fire alarm detection loop and cause a trouble signal to be generated at the control panel.

Each detector shall have a flashing status indicating LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady and at full brilliance. The detector may be reset by actuating the control panel reset switch. Smoke detectors shall have integral fixed temperature heat detectors rated at 135-degrees F.

Provide 4-wire ionization type duct mounted smoke detectors; detectors shall be provided by the fire alarm system manufacturer, installed in HVAC ductwork under

Duct mounted detectors shall be complete with reference and sampling probe kit, reset/test switch, and both integral & remote LED alarm lights. Standard length sampling probes shall be field-trimmed to match width of duct. Where duct widths exceed 120", provide two detectors installed at opposite sides of the duct, Duct detectors shall be equipped with auxiliary contacts.

A remote alarm LED and pilot Led with a push button test/reset switch shall be installed with each appropriate air duct smoke detector. The remote alarm LED shall be red with the word "Alarm" silk screened under the LED and the pilot LED shall be green with the word "Pilot" silk screened under the LED. The surface shall be a single gang stainless steel plate.

Heat Detectors: Harrington Series 60A combination fixed temperature/rate-of-rise heat detectors, low profile with a white finish shall be supplied, temperature ratings as indicated on plans (135-degree F, unless noted otherwise).

M. Indicating Devices:

Audiovisual Alarm Horns: Audiovisual alarm horns shall have a high intensity flashing light and fire alarm horn as an integral unit. Both audio and visual components shall operate from the 24 VDC polarized indicating circuits. All units shall flush mount.

Visual Alarms: Strobe signaling devices shall be provided as shown on the drawings. The strobe shall be ADA approved with a light output of at least 75 candela. The ADA strobe shall be flush mounted on a 4" square back box.

Remote Annunciator: The remote annunciator shall be flush mounted with an 80 character LCD readout.

Wiring shall be in compliance with manufacturer's recommendations. Low energy cable may be installed without conduit where NEC allowed, and approved by local authorities.

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DENNY'S RESTAURANT #

SHEET TITLE
ELECTRICAL
SPECIFICATIONS

SHEET
E0.3

PART THREE -
EXECUTION

3.01 Workmanship:

A. All work shall be installed in a neat, orderly manner by workman skilled and experienced in the trades involved, and shall be done in the best practices of the trade. Devices, plates, enclosures, covers, fixtures, exposed raceways, etc. shall be aligned perpendicular to or parallel with principal structural members. Edges of such covers, plates, enclosures, etc., shall be in the vertical or horizontal plane as applicable for the particular item involved. Exposed raceways shall be offset where they enter surface mounted equipment. Wiring installed in panels and other enclosures shall be neatly looped and laced and not wadded or bundled.

3.02 Manufacturer's Instructions:

B. Except where more stringent requirements are indicated, comply with the product manufacturer's installation instructions and recommendations. Consult with manufacturer's technical representatives for specific instructions on unique project conditions and unforeseen problems.

3.03 Coordination:

A. General: The Electrical Contractor shall thoroughly coordinate his work with that of all other Contractors on the project to prevent conflicts.

B. Connections to existing signal systems: Coordinate the connections of new electrical devices with existing signal systems. Comply with the requirements of equipment manufacturers. Coordination for the following systems is required:

Fire Alarm Systems

3.04 Conductors:

A. Coordinate cable and wire installation work with electrical raceway and equipment installation work, as necessary for proper interface.

B. Pulling Conductors in Conduit: Pull conductors together where more than one is being installed in a raceway. Use pulling compound or lubricant, when necessary; compound must not deteriorate conductor and insulation. Do not use a pulling means, including fish tape, cable or rope which can damage the raceway. Pulling tensions shall not exceed the cable Manufacturer's recommendations.

C. Splices: Keep conductor splices to a minimum, and in easily accessible locations. Install splices and taps which have equivalent-or-better mechanical strength and insulation as the conductor. Use splice and tap connectors which are compatible with the conductor material.

All splices and connections of wires and cables larger than #8 AWG shall be covered with at least two half-lapped layers of Scotch No. 33 insulating tape as manufactured by Minnesota Mining and Manufacturing Company, with voids and irregularities around connectors filled with "Scotchfil" insulating putty prior to application of tape. Heat shrink insulation or self-fusing mastic pads or rolls or interlocking insulating covers as manufactured by Thomas & Betts may be applied at the Contractor's option.

D. Marking: All conductors shall be marked with adhesive wire markers at all junction points. The panelboard and branch circuit number shall be indicated. Use Thomas & Betts E-Z code tab type wire markers.

E. Lacing: Wires and cables shall be neatly formed, grouped and laced in panelboards, cabinets and other equipment utilizing Thomas & Betts Tyrap nylon cable ties, clamps, and mounting brackets.

F. Pull Boxes: Install pull boxes in conduit lines to facilitate conductor pulling in long runs or in runs with multiple bends.

3.05 Raceways:

A. For each electrical raceway system indicated or where required, provide a complete assembly of conduit or tubing, with fittings including, but not necessarily limited to connectors, nipples, couplings, elbows, expansion fittings and other components and accessories as needed to form a complete system of type indicated. Install concealed wherever possible.

B. Grounding: Note Well!!! In no case shall any raceway be used as an equipment grounding conductor. Instead, a separate green colored wire, sized per NEC Table 250.122, shall be used throughout the system for the equipment grounding conductor.

3.07 Panelboards:

A. Anchor enclosures firmly to walls and structural surfaces, ensuring that they are permanently and mechanically secure.

B. Mounting Height: Panelboards shall be mounted with their tops 6'-3" above the finished floor unless the enclosure is too large to permit this, in which case the top shall be as close to the floor as possible.

C. Directories: The directory cards shall be neatly and accurately filled in using a typewriter, identifying all branch circuit loads, including room designations, supplied by each circuit. Consult Owner for exact terminology to use.

D. Arrangement of Conductors: All conductors in panelboards shall be laced, arranged and supported in a neat, workmanlike manner utilizing plastic wraps such as "Ty-rap" by Thomas & Betts.

E. Cleaning: The interior trim, etc., of each panelboard shall be thoroughly cleaned. Each panelboard's exterior shall be free of rust and scratches, and shall be repainted as necessary.

3.08 Wiring Devices:

A. Coordination with Architectural Features: Outlets occurring in wall panels or in architectural features shall be coordinated with details and elevations contained on architectural drawings.

B. Mounting Heights: Unless otherwise noted, lighting switches shall be flush mounted 4'-0" above the floor or 6" above counter tops (measured to centerlines) and receptacles shall be flush mounted 18" above the floor or 6" above countertops (measured to centerlines). In concrete block walls, the indicated mounting height shall be adjusted to the nearest block coursing.

C. Ganging: Where mounted adjacent, gang all wiring devices with appropriate ganged cover plates.

D. Grounding: All wiring devices shall be grounded. Each receptacle and switch shall have the grounding conductor connected to its grounding lug.

3.09 Disconnect Switches:

A. Install disconnect switches used with motor-driven appliances, and motors and controllers within sight of the controller position unless otherwise indicated.

B. Accessibility: No switch shall hinder accessibility to any equipment it serves and on which it may be mounted, such as the mounting of a disconnect switch on an A/C unit.

C. Labeling: Designate with permanent labels, the maximum allowable fusing capacity for fusible switches that are supplied with conductors rated less than the switch rating.

3.10 Light Fixtures:

A. Install lighting fixtures of the types indicated where shown and at the indicated heights; in accordance with the fixture Manufacturer's written instructions and with recognized industry practices; to ensure that the fixtures comply with the requirements and serve the intended purposes. Lighting fixtures shall be set plumb, square, level and in alignment. Comply with NEMA standards and requirements of the National Electrical Code pertaining to installation of lighting fixtures and with applicable portions of NECA's "Standard of Installation." The exact mounting of lighting fixture shall be approved on the job before installation is commenced and, where applicable, after coordinating with the type, style and pattern of the ceiling being installed.

B. Fasten fixtures securely to structural support members of the building.

C. Refer to architectural reflected ceiling plan for exact location of all ceiling mounted light fixtures, and architectural elevations for exact locations of all wall mounted light fixtures. Refer to architectural finish schedules to determine proper mounting hardware and finishing trim.

D. Replacement Lamps: At the time of Substantial Completion, replace lamps in lighting fixtures which are observed to be noticeably dimmed after Contractor's use and testing, as judged by the Architect and Engineer. Furnish a stock of replacement lamps amounting to 15% (but not less than one lamp in each case) of each type and size lamp used in each type fixture. Deliver replacement stock as directed to Owner's storage space.

E. Adjust and Clean: Clean lighting fixtures of dirt and debris upon completion of installation.

3.11 Supporting Material:

A. Firm, neat supports shall be provided for all electrical equipment, devices and raceways. Supports shall have adequate strength for the purpose intended, including allowances for external forces that may be applied, such as operation of switch or breaker handles or pulling in of conductors.

B. Supports shall be steel hanger rods, shop-coated standard steel shapes, or prefabricated structural systems as manufactured by Kindorf, Unistrut, Powerstrut, or equal. Perforated pipe straps will not be accepted.

C. Support fastenings shall be galvanized or cadmium-plated bolts, beam clamps, or welded studs on steel work; shall be galvanized toggle bolts on hollow tile or concrete block; shall be Phillips "Red-Head", or approved equal, self-tapping steel anchors, or inserts in solid concrete of masonry; and shall be wood screws on wood. Fiber, plastic or wood plug anchors will not be accepted. In all damp or wet areas, zinc or cadmium-coated washers, or other suitable spacers, shall provide an air space of not less than 1/4" between boxes, equipment enclosures, etc., and the supporting surface.

3.12 Grounding:

A. In all branch circuit conduit systems, a separate insulated green grounding conductor shall be installed to the grounding terminal of each receptacle and to the metal housing of each wall mounted or suspended lighting fixture.

B. Install insulated bonding wire in all flexible conduits regardless of length.

3.13 Telephone & Data Systems:

A. All wall mounted outlets shall be flush in wall and have their centers 18" above the finished floor unless otherwise noted.

B. Unless otherwise noted or required, install a separate concealed empty 1" conduit stub-up from each and every telephone & data outlet to an accessible location above the adjacent hung ceiling.

C. Coordination: Coordinate the following with the Owner and the telephone/data systems Suppliers/Installers:

Exact outlet placement (height & location) Exact size and placement of telephone and data service conduits

3.14 Fire Alarm System:

Manual Stations: Flush mount where indicated 48" AFF to top of device.

Smoke detectors: Smoke detectors are to be installed where indicated on ceilings (surface mount) unless shown otherwise. HVAC ducts, lighting fixtures and other factors affecting air flow in the vicinity of detectors shall be considered in establishing their exact placement. Open area detectors shall not be installed within three feet of an air supply. Closely coordinate the installation of duct mounted detectors with the duct installer. Also use manometer to assist in installing to obtain necessary pressure differential.

Furnish and install detector air shields where the air velocity exceeds 100 FPM. Standard length sampling probes shall be field-trimmed to match width of duct. Duct detectors shall be equipped with auxiliary contacts interlocked with HVAC controls for fan shutdown.

Audiovisual Alarm Horns: Flush mount where indicated approximately 6" above the height of door frames, Locate such that visibility is not obstructed by structure, equipment, etc.

Heat Detectors: Surface ceiling mount in locations indicated.

Wiring: Install a complete wiring system as required for fire alarm system. The term "wiring" is defined to include the providing of wire, conduit and miscellaneous materials as required for mounting and connecting the electric devices. Conceal wiring except in mechanical rooms and areas where other conduit and piping are exposed.

Conductor Identification: Number-code or color-code conductors, appropriately and permanently for identification and servicing of system.

Review with System Supplier: The Contractor is responsible for assuring that conduit size and wire quantity, size and type is suitable for the actual equipment supplied. The System Supplier shall review with Contractor total system point to point wiring layout to assure that correct number and type of wires and conduit sizes are installed. He shall also review proper installation of each type of device and provide on-site inspection and supervision as required by Electrical Contractor.

Remote Station Module: The Contractor shall contact the legally responsible local Fire Department and schedule & arrange for the installation and connection of any work involved in connecting the fire alarm system to the local Fire Department. Coordinate installation with fire department and install to meet their requirements. All coordination necessary shall be provided by the Contractor. Any charges imposed by the Fire Department shall be borne by the Contractor, and shall be included in his bid.

Final Adjustment:

After completion of installation, the manufacturer's authorized representative shall test and adjust every alarm initiating device for proper response and zone indication, every alarm signaling device for effectiveness and all auxiliary functions.

Final adjustment shall be performed by specially trained personnel in direct employ of manufacturer of fire alarm system equipment.

Submit letter of certification from equipment manufacturer that system is completely and properly installed and in first class operating condition.

Training of Personnel:

Attendant staff as well as maintenance staff shall be thoroughly instructed in the use of the fire alarm system by authorized distributor personnel.

3.15 Tests and Adjustments:

A. The following shall be made available to personnel conducting the tests:

(1) Electrician with hand tools
(2) Accurate voltmeter
(3) Clamp-on ammeter
(4) Test lamp
(5) Phase rotation indicator
(6) Complete electrical specifications and drawings with addenda and revisions.

B. The Contractor shall show by demonstration in service that all circuits and devices are in good operating condition.

C. Retesting: Deficiencies found as a result of any tests specified herein shall be rectified and work affected by such deficiencies shall be completely retested. All defective material and workmanship shall be corrected.

D. Systems Performance Test Runs: Coordinate test runs of electrical systems with test runs of equipment served thereby (heating, air conditioning, etc.). Check each item in each system to determine that it is set for proper operation.

E. Tests for Distribution Systems: System shall be tested to determine that the wiring system and equipment is free from short circuits and from grounds other than required grounds. Tests shall be made with an instrument capable of accurate resistance measurement and having a voltage rating of not less than 500 volts.

F. Motors and Controls: Running tests shall be made on equipment connected by Contractor to check proper operation. Equipment shall be tested only with permission of the equipment Installer's and the Owner's Representative. All equipment shall be left in proper operating condition.

3.16 Cleaning and Lubrication: After final performance test run of each electrical system, clean system both externally and internally. Comply with manufacturer's instructions for lubrication of both power and hand operated equipment, and remove excess lubrication. Touch-up minor damage to factory-painted finishes and other painting specified as electrical work; refinish work where damage is extensive.

3.17 Operating Instructions:

A. General Operating Instructions: In addition to specific training of Owner's operating personnel specified in individual Division 16 work sections, and in addition to preparation of written operating instructions and compiled maintenance manuals specified in the 16000-Series sections and elsewhere in these specifications, provide general operating instructions for each operational system and equipment item of electrical work. Coordinate instructions with instructions for mechanical work, and other equipment where associated with electrical systems or equipment.

(1) Describe each basic electrical system.

(2) Explain identification system, displayed diagrams, signals, alarms, communication systems, and similar audio visual provisions.

(3) Describe interfaces with mechanical equipment, including interlocks, sequencing, start-up, shut-down, emergency, safety, system failure, security and similar provisions.

(4) Outline basic maintenance procedures and major equipment turnaround requirements, including adjustments to optimize output and efficiency of electrical systems.

(5) Display and conduct a "thumb-through" explanation of maintenance manuals, record drawings, spare parts inventory, storage of extra materials, meter readings and similar service items.

B. Construction Equipment: After completion of performance testing and Owner's operating instructions and demonstrations, remove Installers' tools, test facilities, construction equipment and similar devices and materials used in execution of the work but not incorporated in the work.

3.18 Continued System Operations:

Acceptance and Continued Services: Coordinate Owner's take-over of electrical systems with take-over of mechanical systems, including the provision of skilled electrical operating and maintenance personnel until time Owner's personnel take over operation of entire mechanical and electrical plant. Respond promptly with continued consultation and services (beyond takeover date) on electrical systems, matching required continued services on associated mechanical systems and equipment.

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SHEET TITLE
ELECTRICAL SPECIFICATIONS

SHEET
E0.4

Branch Panel: LP

Location:
Supply From: MDP
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 SERIES RATED
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: 1 A

Notes:

CKT	Circuit Description	Wire Size	Conduit Size	Trip	Poles	A	B	C	Poles	Trip	Conduit Size	Wire Size	Circuit Description	CKT	
1	RECEPTACLE - IRRIGATION PANEL	1-#12, 1-#12,...	3/4"	20 A	1	0.2	0.5		1	20 A	3/4"	1-#12, 1-#12,...	DOOR HARDWARE	2	
3	RECEPTACLE - MECH.	1-#12, 1-#12,...	3/4"	20 A	1		0.2	0.4	1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - DINING POS	4	
5	LIGHTING - EXTERIOR	1-#12, 1-#12,...	3/4"	20 A	1			0.9	1.3	1	20 A	3/4"	1-#12, 1-#12,...	LIGHTING - KITCHEN,OFFICE	6	
7	RECEPTACLE - DINING	1-#12, 1-#12,...	3/4"	20 A	1	0.7	2.5			1	20 A	3/4"	1-#8, 1-#8, 1-#8	SIGN (ABOVE PASS THRU)	8	
9	FLUSH VALVES	1-#12, 1-#12,...	3/4"	20 A	1		0.4	1.1		1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - DINING	10	
11	RECEPTACLE - EMPLOYEE AREA	1-#12, 1-#12,...	3/4"	20 A	1				1.1	0.2	1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - WATER HEATER	12	
13	RECEPTACLE - OFFICE	1-#12, 1-#12,...	3/4"	20 A	1	0.2	0.4			1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - FUN ZONE	14	
15	SITE LIGHTING	2-#12, 1-#12	3/4"	20 A	2		1.2	1.2		1	20 A	3/4"	1-#10, 1-#10,...	Lighting	16	
17									1.2	0.2	1	20 A	3/4"	1-#12, 1-#12,...	TABLET CHARGER	18	
19	FACP (LOCK ON BREAKER)	1-#12, 1-#12,...	3/4"	20 A	1	0.5	0.1			1	20 A	3/4"	1-#12, 1-#12,...	DINING 2 DENNY'S DELTA	20	
21	RECEPTACLE - RECIRC. PUMP	1-#12, 1-#12,...	3/4"	20 A	1		0.2	0.4		1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - MECH.	22	
23	RECEPTACLE - T.B.B.	1-#12, 1-#12,...	3/4"	20 A	1				0.4	0.7	1	15 A	3/4"	1-#12, 1-#12,...	KEF-4	24	
25	E-065 - AIR CURTAIN, 48"	1-#12, 1-#12,...	3/4"	20 A	1	0.6	0.7			1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - DINING	26	
27	HOOD CONTROLS AND LIGHTS	1-#12, 1-#12,...	3/4"	15 A	1		1	0.6		1	15 A	3/4"	1-#12, 1-#12,...	EF-1	28	
29	RECEPTACLE - OFFICE	1-#12, 1-#12,...	3/4"	20 A	1				0.7	0.9	1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - ROOF	30	
31	RECEPTACLE - OFFICE	1-#12, 1-#12,...	3/4"	20 A	1	0.9	0.9			1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - DINING	32	
33	Receptacle	1-#12, 1-#12,...	3/4"	20 A	1		0.2	0.7		1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - LOBBY CASHIER	34	
35	EXTERIOR ACCENT LED TAPE	1-#12, 1-#12,...	3/4"	20 A	1				0.2	1.3	1	20 A	3/4"	1-#10, 1-#10,...	RECEPTACLE - DINING	36	
37	BUILDING SIGN	1-#10, 1-#10,...	3/4"	20 A	1	1.2	1.2			1	20 A	3/4"	1-#12, 1-#12,...	BUILDING SIGN	38	
39	RECEPTACLE - RESTROOM	1-#12, 1-#12,...	3/4"	20 A	1		0.9	0.9		1	20 A	3/4"	1-#12, 1-#12,...	RECEPTACLE - DINING	40	
41	MONUMENT SIGN	1-#10, 1-#10,...	3/4"	20 A	1				1.2	1.2	1	20 A	3/4"	1-#12, 1-#12,...	BUILDING SIGN	42	
43	RECEPTACLE - EXTERIOR	1-#10, 1-#10,...	3/4"	20 A	1	1.3	0.1			1	20 A	3/4"	1-#12, 1-#12,...	LIGHTING - SIGN	44	
45	COOLER/FREEZER DOOR HEATER	1-#12, 1-#12,...	3/4"	20 A	1		1.2	1.2		1	20 A	3/4"	1-#10, 1-#10,...	BUILDING SIGN	46	
47	RECEPTACLE - KITCHEN MONITORS	1-#12, 1-#12,...	3/4"	20 A	1				1.3	0.3	2	20 A	3/4"	2-#12, 1-#12	Kitchen Equipment - Non-Dwelling Unit	48	GFCI
49		Lighting	1-#12, 1-#12,...	3/4"	20 A	1	0	0.3								50	
51	RECEPTACLE - KITCHEN MONITORS	1-#12, 1-#12,...	3/4"	20 A	1			1.3	1.8	1	20 A	3/4"	1-#12, 1-#12,...	Kitchen Equipment - Non-Dwelling Uni...	52	GFCI
53	ILLUMINATED SLATE SYSTEM	1-#12, 1-#12,...	3/4"	20 A	1				0.1	2	1	20 A	3/4"	1-#8, 1-#8, 1-#8	DINING PENDANTS	54	
55	Lighting	1-#12, 1-#12,...	3/4"	20 A	1	1	0.2				1	20 A	3/4"	1-#12, 1-#12,...	Receptacle Men 120	56	
57	WAITING AREA DRUM CLUSTER	1-#12, 1-#12,...	3/4"	20 A	1		0	0.5			1	20 A	3/4"	1-#12, 1-#12,...	DOORBELL	58	
59	Lighting	1-#12, 1-#12,...	3/4"	20 A	1				0.2	1.1	1	20 A	3/4"	1-#12, 1-#12,...	CASHIER PENDANTS	60	
61																62	
63																64	
65																66	
67																68	
69																70	
71																72	
73																74	
75																76	
				Total Load:		13.3 kVA		15.3 kVA		16.2 kVA							
				Total Amps:		111 A		130 A		138 A							

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment - Non-Dwelling Unit	3123 VA	65.00%	2030 VA		
Lighting - Dwelling Unit	360 VA	100.00%	360 VA	**Total Conn. Load:**	44840 VA
Motor	1896 VA	108.86%	2064 VA	**Total Est. Demand:**	44105 VA
Receptacle	18940 VA	76.40%	14470 VA	**Total Conn.:**	124 A
Lighting	18639 VA	125.00%	23298 VA	**Total Est. Demand:**	122 A
Power	1900 VA	100.00%	1900 VA		

Notes:
GFCI = PROVIDE GROUND FAULT BREAKER

Branch Panel: K

Location:
Supply From: MDP
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 SERIES RATED
Mains Type: MLO
Mains Rating: 400 A
MCB Rating: 1 A

Notes:

CKT	Circuit Description	Wire Size	Conduit Size	Trip	Poles	A	B	C	Poles	Trip	Conduit Size	Wire Size	Circuit Description	CKT	
1	E-036 - SINGLE SECTION...	1-#12, 1-#12, 1-#12	3/4"	15 A	1	1.1	0.1		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-069 - DIPPERWELL	2	GFCI
3	SPARE	--	--	20 A	1			0 0.1	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-069 - DIPPERWELL	4	GFCI
5	E-040 - EGG...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.3 0.4	1	20 A	3/4"	1-#12, 1-#12, 1-#12	RECEPTACLE - CONV.	6	
7	SPARE	--	--	20 A	1	0	0.8		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-059 - SOUP WELLS	8	
9	E-030 - 91° REFRIGERAT...	1-#12, 1-#12, 1-#12	3/4"	15 A	1		0.6	0.3	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-041 - BUTTER...	10	GFCI
11	SPARE	--	--	--	1			-- 0.2	1	20 A	3/4"	1-#12, 1-#12, 1-#12	SHUNT TRIP CONTACTOR	12	
13	E-049 - FRY WARMER	1-#12, 1-#12, 1-#12	3/4"	15 A	1	1.1	1		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-022 - ICE CREAM...	14	GFCI
15	SPARE	--	--	--	1			-- 0.8	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-059 - SOUP WELLS	16	
17	E-031 - 64" FREEZER...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			1.2 0.6	1	20 A	3/4"	1-#12, 1-#12, 1-#12	E-045A - WALK-IN COOL...	18	
19	SPARE	--	--	--	1	--	1.3		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-058 - WAFFLE MAKER	20	
21	E-030 - 91° REFRIGERAT...	1-#12, 1-#12, 1-#12	3/4"	15 A	1		0.6	1.7	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-012A - TEA BREWER	22	
23	SPARE	--	--	--	1			-- 0.9	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-035 - SINGLE SECTION...	24	GFCI
25	E-040 - EGG...	1-#12, 1-#12, 1-#12	3/4"	15 A	1	0.3	1.8		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-020 - BLENDER	26	
27	SPARE	--	--	--	1			-- 1.8	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-020 - BLENDER	28	
29								2 1.3	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-058 - WAFFLE MAKER	30	
31	E-081 - COMBI OVEN	3-#10, 1-#10	3/4"	30 A	3	2	0.2		1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-010 - SODA DISPENSE...	32	GFCI
33								2 2.8	1	30 A	3/4"	1-#10, 1-#10, 1-#10	E-070 - DISHWASHER	34	GFCI
35	SPARE	--	--	--	1			-- 1.7	1	20 A	3/4"	1-#12, 1-#12, 1-#12	E-083 - HOLDING...	36	GFCI
37	E-035A - WORK TOP...	1-#12, 1-#12, 1-#12	3/4"	15 A	1	0.2	0.3		2	20 A	3/4"	2-#12, 1-#12	E-045B - WALK-IN FREEZER COIL	38	
39	SPARE	--	--	--	1			-- 0.3						40	
41	E-085 - RETHERMALIZER	2-#10, 1-#10	3/4"	30 A	2			3 2	1	20 A	3/4"	1-#10, 1-#10, 1-#10	E-060 - MICROWAVE...	42	GFCI
43						3	0.3		2	20 A	3/4"	2-#12, 1-#12	E-100 - STEAM TABLE	44	GFCI
45	SPARE	--	--	--	1			-- 0.3						46	
47	E-084 - INDUCTION SKILLET WARMER	2-#12, 1-#12	3/4"	20 A	2			1.1 1.3	2	20 A	3/4"	2-#12, 1-#12	E-046 - ICE MAKER	48	GFCI
49						1.1	1.3							50	
51	E-057B - TOASTER, CONVEYOR	2-#12, 1-#12	3/4"	20 A	2			1.1 1.1	2	20 A	3/4"	2-#12, 1-#12	E-084 - INDUCTION SKILLET WARMER	52	GFCI
53								1.1 1.1						54	
55	E-103 HEAT LAMPS	2-#12, 1-#12	3/4"	20 A	2	1.4	1.4		2	20 A	3/4"	2-#12, 1-#12	E-103 HEAT LAMPS	56	
57								1.4 1.4						58	
59	E-100A - STEAMTABLE...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.2 0.3	1	20 A	3/4"	1-#12, 1-#12, 1-#12	RECEPTACLE - CONV.	60	GFCI
61	E-043 - PREP...	1-#12, 1-#12, 1-#12	3/4"	15 A	1	0.5	0.6		1	15 A	3/4"	1-#12, 1-#12, 1-#12	T-010 - POS SYSTEM W/...	62	GFCI
63	E-010 - SODA DISPENSE...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.2 0.5	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-043 - PREP...	64	GFCI
65	E-044 - SALAD...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.5 0.6	1	15 A	3/4"	1-#12, 1-#12, 1-#12	T-011 - POS PRINTING	66	GFCI
67	E-011 - SODA SYSTEM...	1-#12, 1-#12, 1-#12	3/4"	15 A	1	0.8	2		1	20 A	3/4"	1-#12, 1-#12, 1-#12	E-060 - MICROWAVE...	68	GFCI
69	T-010 - POS SYSTEM W/...	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.6 0.8	1	15 A	3/4"	1-#12, 1-#12, 1-#12	E-016 - JUICE DISPENSER	70	GFCI
71	E-016 - JUICE DISPENSER	1-#12, 1-#12, 1-#12	3/4"	15 A	1			0.8 1.1	1	20 A	3/4"	1-#12, 1-#12, 1-#12	RECEPTACLE - SERVICE...	72	
73	SPARE	--	--	20 A	1	0	1.4		2	20 A	3/4"	2-#12, 1-#12	E-012B - COFFEE BREWER	74	GFCI
75	E-060 - MICROWAVE...	1-#10, 1-#10, 1-#10	3/4"	20 A	1			2 1.4						76	
77	E-060 - MICROWAVE...	1-#12, 1-#12, 1-#12	3/4"	20 A	1			2 1.4	2	20 A	3/4"	2-#12, 1-#12	E-057A - TOASTERS, POP UP	78	GFCI
79	SPARE	--	--	20 A	1	0	1.4							80	
81	E-012B - COFFEE BREWER	2-#12, 1-#12	3/4"	20 A	2			1.4 0.3	2	20 A	3/4"	2-#12, 1-#12	Kitchen Equipment - Non-Dwelling Unit	82	GFCI
83								1.4 0.3						84	
				Total Load:		25.4 kVA		23.6 kVA		26.9 kVA					
				Total...		214 A		196 A		227 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment - Non-Dwelling Unit	68673 VA	65.00%	44638 VA		
Motor	612 VA	125.00%	765 VA	**Total Conn. Load:**	75940 VA
Receptacle	1080 VA	100.00%	1080 VA	**Total Est. Demand:**	52057 VA
Power	5574 VA	100.00%	5574 VA	**Total Conn.:**	211 A
				Total Est. Demand:	144 A

Notes:
GFCI = PROVIDE GROUND FAULT BREAKER

Branch Panel: MDP

Location:
Supply From:
Mounting: Recessed
Enclosure: Service Entrance Rated

Volts: 120/208 Wye
Phases: 3
Wires: 4

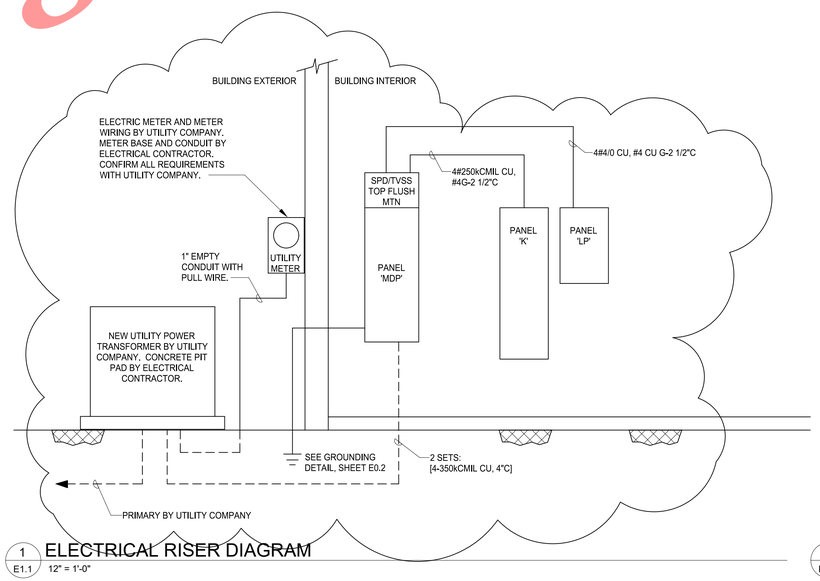
A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 600 A
MCB Rating: 600 A

Notes:

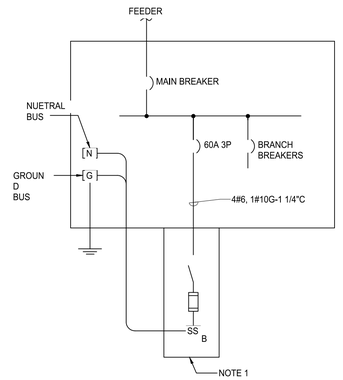
CKT	Circuit Description	Wire Size	Conduit Size	Trip	Poles	A	B	C	Poles	Trip	Conduit Size	Wire Size	Circuit Description	CKT
1						5.8	0							2
3	RTU-1	3-#8, 1-#10	1"	40 A	3		5.8	0	3	60 A	1"	3-#6, 1-#10	TVSS	4
5								5.8	0						6
7						4.7	0.6								8
9	RTU-2	3-#6, 1-#10	1"	60 A	3		4.7	0.6	2	20 A	1"	2-#12, 1-#12	KEF-2	10
11								4.7	--	1	--	--	--	Space	12
13						3.1	0.6								14
15	RTU-3	3-#6, 1-#10	1"	60 A	3		3.1	0.6	2	20 A	1"	2-#12, 1-#12	KEF-3	16
17								3.1	--	1	--	--	--	Space	18
19						2.9	3.2								20
21	RTU-4	3-#8, 1-#10	1"	35 A	3		2.9	3.2	3	60 A	1"	3-#6, 1-#10	MAU-1	22
23								2.9	3.2						24
25						3.1	--		1	--	--	--	Space		26
27	COOLER CONDENSER	3-#12, 1-#12	1"	20 A	3		3.1	3.1							28
29								3.1	3.1	3	20 A	1"	3-#10, 1-#10	FREEZER CONDENSER	30
31						2	3.1								32
33	Kitchen Equipment - Non-Dwelling Unit Men 120	3-#12, 1-#12	1"	20 A	3		2	--			--	--	--	Space	34
35								2	--		--	--	--	Space	36
37	SPACE	--	--	--		--	--				--	--	--	Space	38
39	SPACE	--	--	--			--	--			--	--	--	SPACE	40
41	SPACE	--	--	--				--	--		--	--	--	SPACE	42
43	SPACE	--	--	--		--	--				--	--	--	Space	44
45	SPACE	--	--	--			--	0.6							46
47	SPACE	--	--	--				--	0.6	2	20 A	1"	2-#12, 1-#12	KEF-1	48
49						13.3	25.4								50
51	Panel LP	3-#4/0, 1-#4/0, 1-#4	2 1/2"	225 A	3		15.3	23.6							52
53								16.2	26.9	3	250 A	2 1/2"	3-#250, 1-#250, 1-#4	Panel K	54
				Total Load:		67.9 kVA		68.6 kVA		71.7 kVA					
				Total...		566 A		573 A		598 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	49316 VA	100.00%	49316 VA		
Kitchen Equipment - Non-Dwelling Unit	77736 VA	65.00%	50529 VA	**Total Conn. Load:**	208272 VA
Lighting - Dwelling Unit	360 VA	100.00%	360 VA	**Total Est. Demand:**	183144 VA
Motor	34744 VA	106.99%	37174 VA	**Total Conn.:**	578 A
Receptacle	20020 VA	74.98%	15010 VA	**Total Est. Demand:**	508 A
Lighting	18639 VA	125.00%	23298 VA		
Power	7474 VA	100.00%	7474 VA		

Notes:



1 E1.1 ELECTRICAL RISER DIAGRAM
12" = 1'-0"



NOTE:
1. TVSS MUST BE MOUNTED TOP OF PANEL EQUIPMENT PROTECTED TO MINIMIZE FEEDER LENGTH

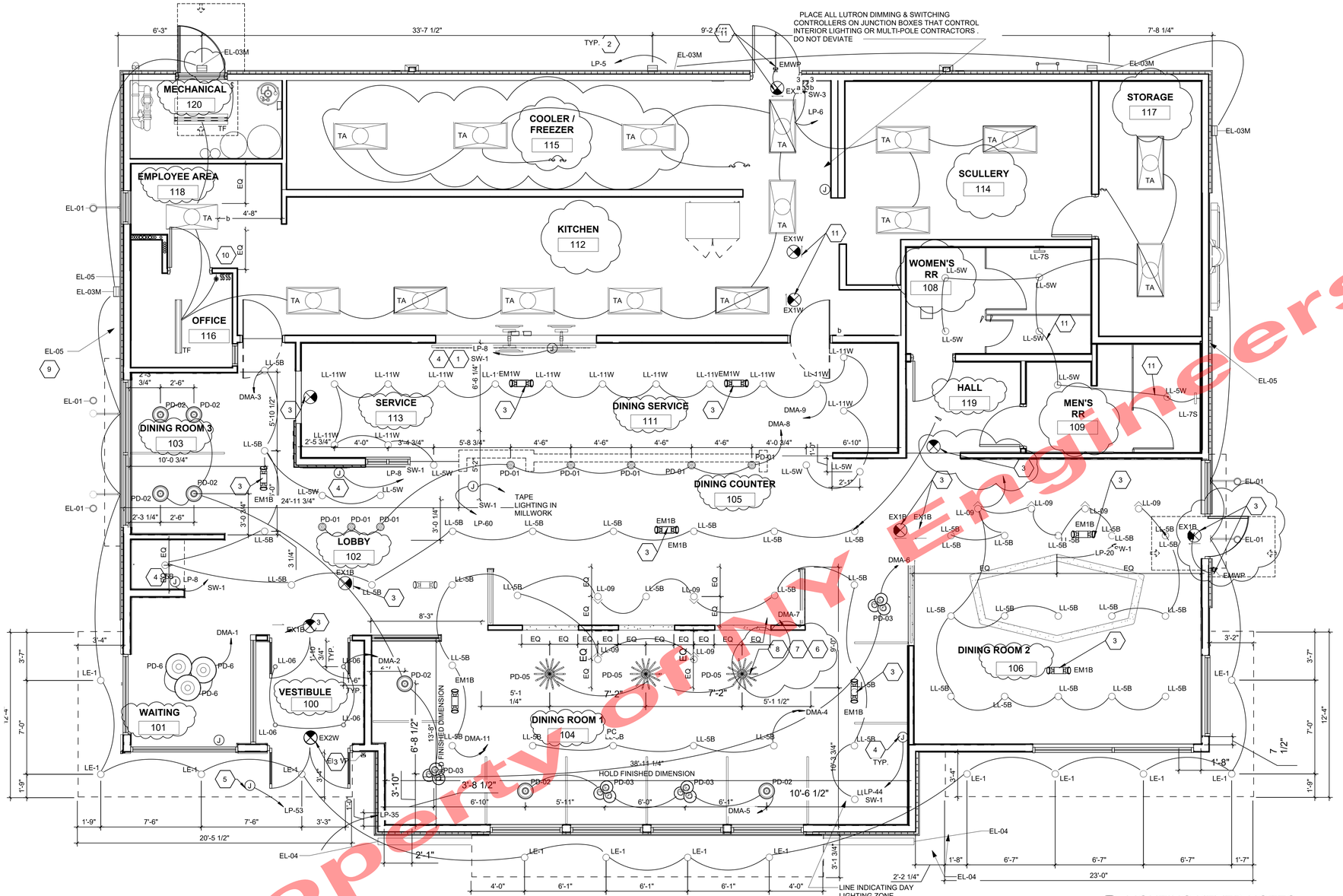
2 E1.1 WIRING DIAGRAM FOR SEPARATE ENCLOSURE TVSS
12" = 1'-0"

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
RISER DIAGRAM AND PANEL SCHEDULES

SHEET
E1.1



1 LIGHTING PLAN
E2.1 1/4" = 1'-0"

2 LIGHTING KEYED NOTES

E2.1 12" = 1'-0"

1. PROVIDE UP TO A 4-POLE ELECTRICALLY HELD LIGHTING CONTACTOR ABOVE CEILING OVER PANELBOARD TO CONTROL INTERIOR SIGNAGE AND CAFE BAR LED TAPE VIA LUTRON ON/OFF CONTROL OF 120V COIL; SW-1
2. PROVIDE UP TO A 12-POLE ELECTRICALLY HELD LIGHTING CONTACTOR ABOVE CEILING OVER PANELBOARD FOR EXTERIOR LIGHTING, SIGNAGE AND SITE LIGHTING VIA LUTRON ON/OFF CONTROL OF 120V COIL; SW-2
3. EXIT, EMERGENCY AND NIGHT LIGHTING FIXTURES SHOWN ARE FED FROM CONSTANT HOT.
4. FOR SIGN. COORDINATE WITH ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT. COORDINATE WITH FRANCHISEE FOR CONTROL METHOD.
5. (ALTERNATE DESIGN ITEM) PROVIDE POWER TO ILLUMINATED SLATE SYSTEM, COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH EQUIPMENT INSTALLER.
6. DETERMINE EXACT LOCTAION FOR ALL LIGHT FIXTURES IN FIELD. COORDINATE WITH CEILING GRID LAYOUT WHERE APPLICABLE AND WITH OTHER TRADES
7. REFER TO ARCHITECTURAL REFLECTED CEILIN PLANS AND ARCHITECTURAL ELEVATIONS AND DETAILS FOR MOUNTING HEIGHTS OF ALL PENDANT MOUNTED LIGHTING FIXTURES, UNDER COUNTER L.E.D TAPE LIGHT, EXTERIOR BUILDING MOUNTED LIGHTS AND SIGN.
8. FOR DRAWING CLARITY , INDIVIDUAL BRANCH CIRCUIT HOMERUNS ARE INDICATED. ELECTRICAL CONTRACTOR MAY RUN UP TP (3) -20A BRANCH CIRCUITS IN A SINGLE HOMRUN TO COMMON PANEL
9. DASH LINE INDICATES LOCATION OF CORNICE LIGHT SEE LIGHTING FIXTURE SCHEDULE AND ARCHITECTURE DRAWING
10. REFER TO E2.2 FOR LUTRON WIRELESS SWITCH BANK IN MANAGER OFFICE DASH LINE INDICATE LOCATION
11. THIS FIXTURE SHALL NOT BE SWITCHED . CONNECT TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS

Property of NY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
LIGHTING PLAN, DETAILS AND NOTES

SHEET
E-2.1

WIEDENBACH BROWN

HERITAGE 2.0 PROTOTYPE MASTER FIXTURE SCHEDULE

Denny's

ARCHITECTURAL LIGHTING - REV8.8 1/26/22

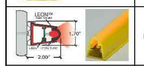
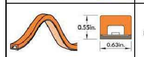
Image	Type	Description	Manufacturer	Fixture Part Number	Lamp Part Number	Dimmer	Voltage	Wattage	Notes
	PD1	CUSTOM 7" DIA X 6.75" H AMBER/YELLOW FROSTED GLASS PENDANT, G9.5 BASE, 18FT CLEAR CORD, FITTINGS AND CANOPY IN BRUSHED NICKEL FINISH, FIXTURE RATED TO 90 WATTS MAX	SEASCAPE	PD-1_DG-291	MAXLITE #E11A19GUDLE027/GT (14594411)	TRIAC/ELV	120V	9W	MUST BE ON DIMMER
	PD2	LARGE METAL RLM PENDANT 14" DIA X 10" H WITH MATTE BLACK FINISH ON EXTERIOR AND CANOPY, GOLD FINISH ON THE INTERIOR OF THE SHADE, 8FT BLACK CORD, FIXTURE RATED TO 90 WATTS MAX	SEASCAPE	PD-2_DM-301	ELKO LE DMV489/FIL/SB/827K-DIM (#09441) or SATCO 6419/SLW/LED/E26/927/120V (#512421)	ELV	120V	7W	MUST BE ON DIMMER
	PD3	TRIPLE SMALL METAL RLM FLARED CONE PENDANTS 8" DIA X 7" H WITH BLACK FINISH ON EXTERIOR AND CANOPY, GOLD FINISH ON THE INTERIOR OF THE SHADE, THREE 8FT BLACK CORDS, FIXTURE RATED TO 3 X 10W = 30 WATTS MAX	SEASCAPE	PD-3_DM-401	ELKO LE DMV489/FIL/SB/827K-DIM (#09441) or SATCO 6419/SLW/LED/E26/927/120V (#512421)	ELV	120V	3 X 7W 21W TOTAL	MUST BE ON DIMMER
	PD5	CUSTOM FRENCH DIAMOND 12-SPLINE PENDANT 20" DIA X 14" TALL, 1" WIDE WHITE OAK WOOD RIBS IN PASADENA OAK STAIN #7986, GUN GOLD INTERIOR EDGE, 8" DIA INNER WHITE GLASS GLOBE, 96" CLEAR CORD, G9.5 BASE, BLACK FINISH CANOPY/HARDWARE , FIXTURE DERATED TO 20 WATTS MAX	SEASCAPE	PD-5_DD-501-FA	MAXLITE #E11A19GUDLE027/GT (14594411)	TRIAC/ELV	120V	11W	MUST BE ON DIMMER
	PD6	CUSTOM CONE STYLE PENDANT 24" LONG X 14" UPPER DIA X 20" LOWER DIA, BLACK VINYL OUTER, GOLD PAINTED INTERIOR, NO LENS, 96" CLEAR CORD, MEDIUM BASE, BLACK FINISH CANOPY/HARDWARE , FIXTURE DERATED TO 15 WATTS MAX	SEASCAPE	PD-6-2AK-14x20x22-NL	BULB#TBC #LED6540/27K/FIL/AV/3 (774883)	TRIAC/ELV	120V	8W	MUST BE ON DIMMER
	EL-04	LED RIGID SIMULATED NEON, 24V, 20 LEDS PER FOOT, CONSISTING OF STRAIGHT RUNS AND CORNERS ACROSS THE FACADE WHERE SHOWN	LEKTRON	LE ON AMBER WITH ACCESSORIES	INTEGRAL AMBER/YELLOW LED	-	120V	0.7W PER FOOT	FURNISHED BY SIGNAGE CONTRACTOR
	EL-05	LED FLEXIBLE SIMULATED NEON, 24V, 305 LUMENS PER FOOT, 36 LEDS PER FOOT. CONSISTING OF A SINGLE RUN IN THE CHEVRON LIGHT COVE WHERE SHOWN	LEKTRON	LUMILINE 2700K WITH ACCESSORIES	INTEGRAL 2700K LED	-	120V	3.7W PER FOOT	FURNISHED BY SIGNAGE CONTRACTOR
	LL-5W	4" LED DOWNLIGHT ENGINE 798 LUMEN 12 WATT 90CRI 2700K WHITE FINISH. NEW CONSTRUCTION LED ONLY DOWNLIGHT HOUSING FOR INTERIOR/EXTERIOR USE. FOR USE IN RESTROOM AREAS	NICOR	DLR56 5081202KWH / 17014ALEDSD	INTEGRAL 2700K LED	TRIAC	120V	12W	MUST BE ON DIMMER
	LL-5B	6" LED DOWNLIGHT ENGINE 798 LUMEN 12WATT 90CRI 2700K DARK BRONZE FINISH. NEW CONSTRUCTION LED ONLY DOWNLIGHT HOUSING FOR INTERIOR/EXTERIOR USE. FOR USE IN DINING AREA	NICOR	DLR56 5081202KWH / DLR56STRDB / 17014ALEDSD	INTEGRAL 2700K LED	TRIAC	120V	12W	MUST BE ON DIMMER
	LL-6	4" LED DOWNLIGHT ENGINE 612 LUMEN 10 WATT 90CRI 2700K WITH DARK BRONZE FINISH. HOUSING AIRTIGHT NEW CONSTRUCTION LED HOUSING WITH DEDICATED CONNECTOR FOR INTERIOR/EXTERIOR USE . FOR ENTRY VESTIBULE AND WAITING AREA	NICOR	DLR4-3005-120-2K-DB4 / 19003A-LED-10	INTEGRAL 2700K LED	TRIAC	120V	10W	MUST BE ON DIMMER
	LL-09	6" LED ADJUSTABLE DOWNLIGHT, 1000 LUMEN, 12.5 WATT DOWNLIGHT IN DARK BRONZE FINISH FOR DINING AREA ARTWORK & MURAL WALLS	NICOR	DL056-10-120-2K-DB / 17014ALEDSD	INTEGRAL 2700K LED	TRIAC	120V	12.5W	MUST BE ON DIMMER
	LL-11W	4" HIGH-LUMEN LED DOWNLIGHT 1230 LUMEN 18 WATT 90CRI 2700K WHITE FINISH. NEW CONSTRUCTION LED ONLY DOWNLIGHT HOUSING FOR INTERIOR/EXTERIOR USE. FOR USE AT SERVER LINE	NICOR	DLR56-3012-120-2K-WH / 17014ALEDSD	INTEGRAL 2700K LED	TRIAC	120V	18W	MUST BE ON DIMMER
	LE-1	RECESSED WET LOCATION DOWNLIGHT FOR MARES CANOPIES, WEATHER PROOF FROM TOP AND BOTTOM OF FIXTURE.	LF ILLUMINATION	5911-1AA-T-13C-8030-M-DWU-SS	3000K INTEGRAL LEDS	TRIAC/ELV	120V	17W	

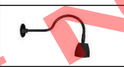
Image	Type	Description	Manufacturer	Fixture Part Number	Lamp Part Number	Dimmer	Voltage	Wattage	Notes
	LL-7S	13" LONG LED WALL SCONCE WITH SATIN NICKEL FINISH. FOR USE IN RESTROOM. FOR EXISTING APPLICATIONS. ONE PER LAVATORY	AFX	NVS513200L30D1SN	INTEGRAL 3000K LED	TRIAC	120V	15.5W	
	EX1W	SINGLE OR DOUBLE FACE EXIT SIGN, WHITE FINISH, RED LED, SELF-DIAGNOSTICS, WITH EMERGENCY BACK-UP BATTERY, WHITE FINISH. FOR USE AT SERVER LINE AND IN KITCHEN (IF NEEDED)	BEST	EZXTEUZRWEMSDT	INTEGRAL RED LED	-	120V	1.5W	
	EX2W	SINGLE OR DOUBLE FACE EXIT SIGN, INTEGRAL LED LIGHT BAR, WHITE FINISH, RED LED, SELF-DIAGNOSTICS, WITH EMERGENCY BACK-UP BATTERY, REMOTE CAPABLE, WHITE FINISH. FOR USE AT SERVER LINE AND KITCHEN	BEST	CLPLDRWRCSDT	INTEGRAL LED	-	120V	1.5W	
	EMIW	EMERGENCY BUG-EYE, TWO 5W AR16 HIGH OUTPUT RECESSED HEADS, BLACK FINISH, SELF DIAGNOSTICS, WITH EMERGENCY BATTERY, WHITE FINISH. FOR USE IN SERVER LINE, RESTROOMS, WALLS, AND KITCHEN (IF NEEDED)	BEST	RMR16-WH-PLED	INTEGRAL LED	-	120V	1.5W	
	EX1B	SINGLE OR DOUBLE FACE EXIT SIGN, WHITE FINISH, RED LED, SELF-DIAGNOSTICS, WITH EMERGENCY BACK-UP BATTERY, BLACK FINISH. FOR USE IN DINING AREA	BEST	EZXTEUZRBEMSDT	INTEGRAL RED LED	-	120V	1.5W	
	EX2B	SINGLE OR DOUBLE FACE EXIT SIGN, INTEGRAL LED LIGHT BAR, WHITE FINISH, RED LED, SELF-DIAGNOSTICS, WITH EMERGENCY BACK-UP BATTERY, REMOTE CAPABLE, BLACK FINISH. FIR USE IN DINING AREA	BEST	CLPLDRBRCSDT	INTEGRAL LED	-	120V	1.5W	
	EM1B	EMERGENCY BUG-EYE, TWO 5W AR16 HIGH OUTPUT RECESSED HEADS, BLACK FINISH, SELF DIAGNOSTICS, WITH EMERGENCY BATTERY, BLACK FINISH. FOR USE ON ALL DINING CEILINGS	BEST	RMR16-BL-PLED	INTEGRAL LED	-	120V	1.5W	
	EMWP	EXTERIOR LED REMOTE EMERGENCY HEAD IN GRAY FINISH. MUST BE CONNECTED TO TYPES EX1W, EX1B, EX2W OR EX2B FOR USE OUTSIDE OF EVERY DOOR DESIGNATED AS PATH OF EGRESS	BEST	RHLED1-WP-9.6V-HL	(1) 1.5W INTEGRAL LED		120V	N/A	
	TA	LED 2X4 6150 LUMEN GRID FLAT PANEL	RAB	EZPANNE2X4-46/MV/D10	4000K INTEGRAL LED	0-10V	120/277V	46W	
	TA- EM	LED 2X4 6150 LUMEN GRID FLAT PANEL WITH FACTORY INSTALLED EMERGENCY BATTERY PACK.	RAB	EZPANNE2X4-46/MV/D10/VE2	4000K INTEGRAL LED	0-10V	120/277V	46W	
	TF	4FT LED SURFACE MOUNT STRIP LIGHT 5539 LUMEN FOR HARD LID & T-BAR APPLICATIONS	RAB	STRP440-840/U	4000K INTEGRAL LEDS	0-10V	120/277V	40W	
	TG	4FT LED SURFACE MOUNT STRIP LIGHT 6035 LUMEN FOR HARD LID APPLICATIONS ON COOK LINES	RAB	GUS4-50NW/D10	4000K INTEGRAL LEDS	0-10V	120/277V	50W	
	TH	4FT LED SURFACE MOUNT STRIP LIGHT 6881 LUMEN FOR FREEZERS/COOLERS, IP66, NSF RATED, WITH JUNCTION BOX MOUNTING BRACKET	RAB	SHARK4-50NW/D10 JBSHARKB-G2	4000K INTEGRAL LEDS	0-10V	120/277V	50W	
	EL-01	SMALL EXTERIOR LED ADJUSTABLE 24 INCH GOOSENECK IN BLACK FINISH FOR OVER METAL CANOPIES	RAB	GNLED13YB	INTEGRAL 3000K LEDS	-	120V	13W	
	EL-03M	EXTERIOR LED WALL PACK IN DARK BRONZE FINISH, MOUNT AT 11-16FT AFF	RAB	SLIM27Y	INTEGRAL 3000K LEDS	-	120/277V	37W	

Image	Type	Description	Manufacturer	Fixture Part Number	Lamp Part Number	Dimmer	Voltage	Wattage	Notes
	LL-13	LED 2700K TAPE LIGHT WITH CONNECTORS AND POWER SUPPLIES - 39FT MAXIMUM RUN LED/6TH - UNDER REAR BAR DIE WALL. PROVIDE WITH ALUMINUM MOUNTING CHANNELS AND FROSTED CLEAR LENS COVER. FOR USE UNDER LUNCH COUNTER	WAC	LED-T24W-11WT / LED-TC-1C12 / EH-24100-R82-T / LED-T-CH	2700K INTEGRAL LEDS	ELV	ELV DRIVING OPTIONAL	3W PER FT	CONCEAL DRIVER IN MILLWORK

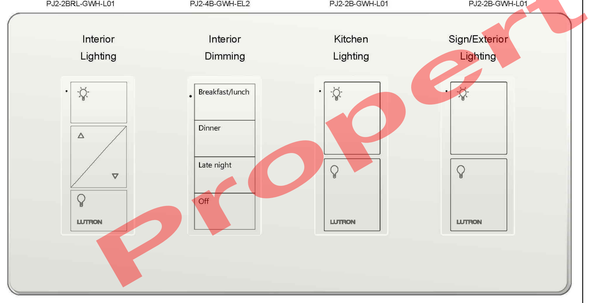
PREFERRED NATIONAL ACCOUNT SUPPLIER FOR LIGHTING, DIMMING, & POWER: WIEDENBACH-BROWN EMAIL: DENNYS@WBLIGHT.COM

Engraving

Area Name Floor 1\E2.1\Office 116

Device Name: Control Station 001 **Backbox Size:** 4	**Wallplate:** CW-4-WH-E **Color:** White	**Faceplate Engraving** **Alignment:** Center **Font Type:** Arial **Font Size:** 12	**Button Engraving** **Alignment:** Left **Font Type:** Helvetica **Font Size:** 9

PJ2-2BRL-GWH-L01 PJ2-4B-GWH-EL2 PJ2-2B-GWH-L01 PJ2-2B-GWH-L01



LUTRON. 7200 Suter Road Coopersburg, PA 18036, USA +1.610.282.3800 | Fax: +1.610.282.1146	**Project Name:** Dennys Heritage Prototype **Quotation Number:** 2154939.1.2	**Created by:** Joseph Sisson	**Location:** Spartanburg, South Carolina **Document Revision:** 2

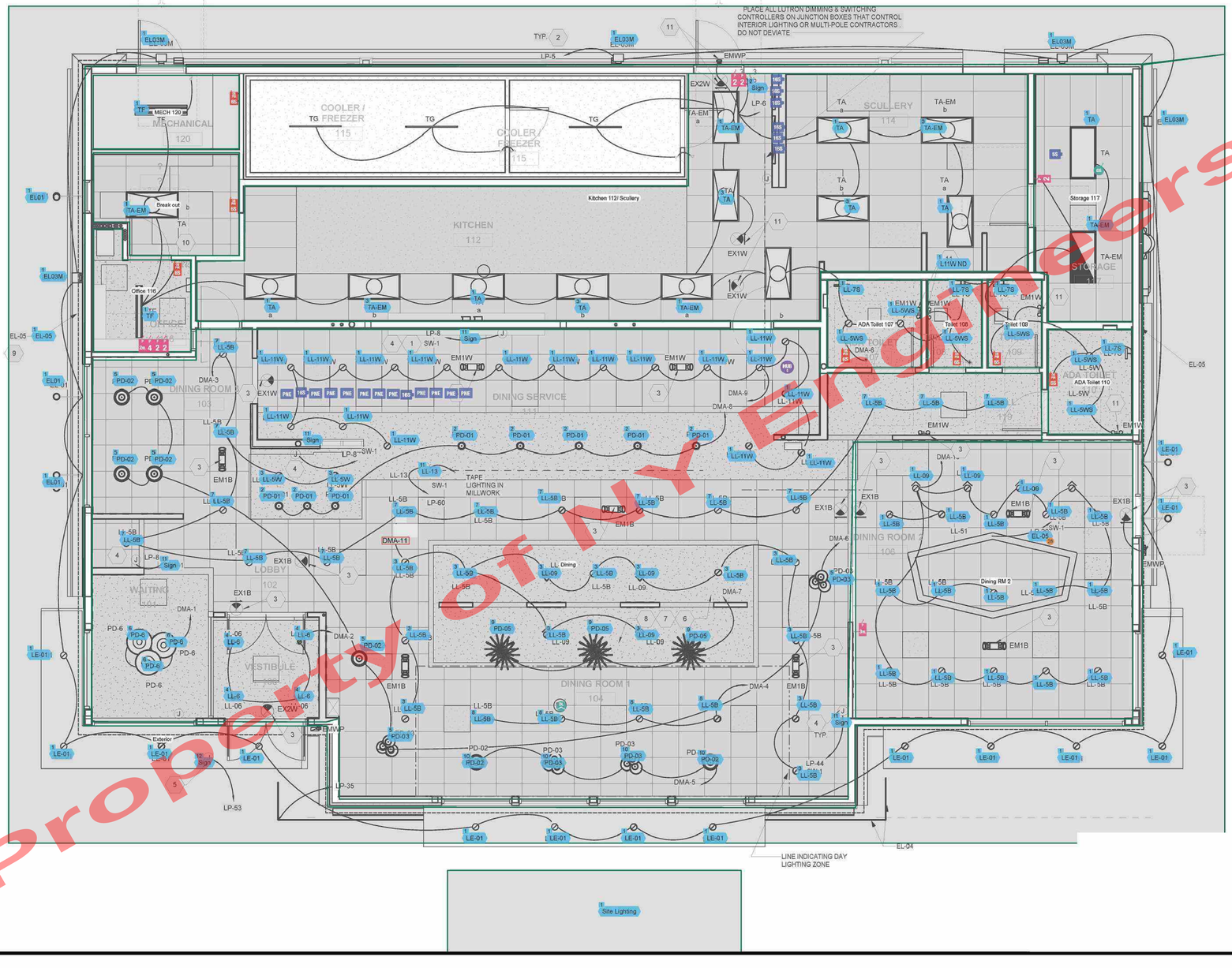
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PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
LIGHTING SCHEDULE

SHEET
E2.2



Property of NY Engineers

System Layout

General Notes

- This layout is for system schematic purposes only. Contractor shall locate, install, and wire equipment according to Lutron installation and specification documents.
  - If the Lutron Sensor Layout and tuning service has been purchased, then daylight and occupancy sensors are placed by Lutron.
- Verify shade design with Lutron.
- See Cover Sheet and One-Lines for additional information.

Legend

MS	MS-OPS6M2-DV-WH (7)
2	PJ2-2B-GWH-L01 (CW-1-WH) (5)
2BRL	PJ2-2BRL-GWH-L01 (CW-1-WH) (1)
3BRL	PJ2-3BRL-GWH-L01 (1)
4B	PJ2-4B-GWH-EL2 (CW-1-WH) (1)
LRF2	LRF2-DCRB-WH (1)
LRF2	LRF2-OCR2B-P (1)
HJS	HJS-0-FM (1)
16S	RMJS-16R-DV-B (8)
5S	RMJS-5R-DV-B (1)
PNE	RMJS-PNE-DV (11)

Project Name:
Dennys Heritage Prototype

Location:
Spartanburg, South Carolina

Project Number:
2154939.1.4

Created by:
Amro Khalil

File Name:
2154939_Dennys Heritage Prototype_Coopersburg, PA_rev3.lutd

Document Revision:
3

Date: February 25, 2022

Sheet: 11

Floor 1/E2.1

NOT FOR CONSTRUCTION

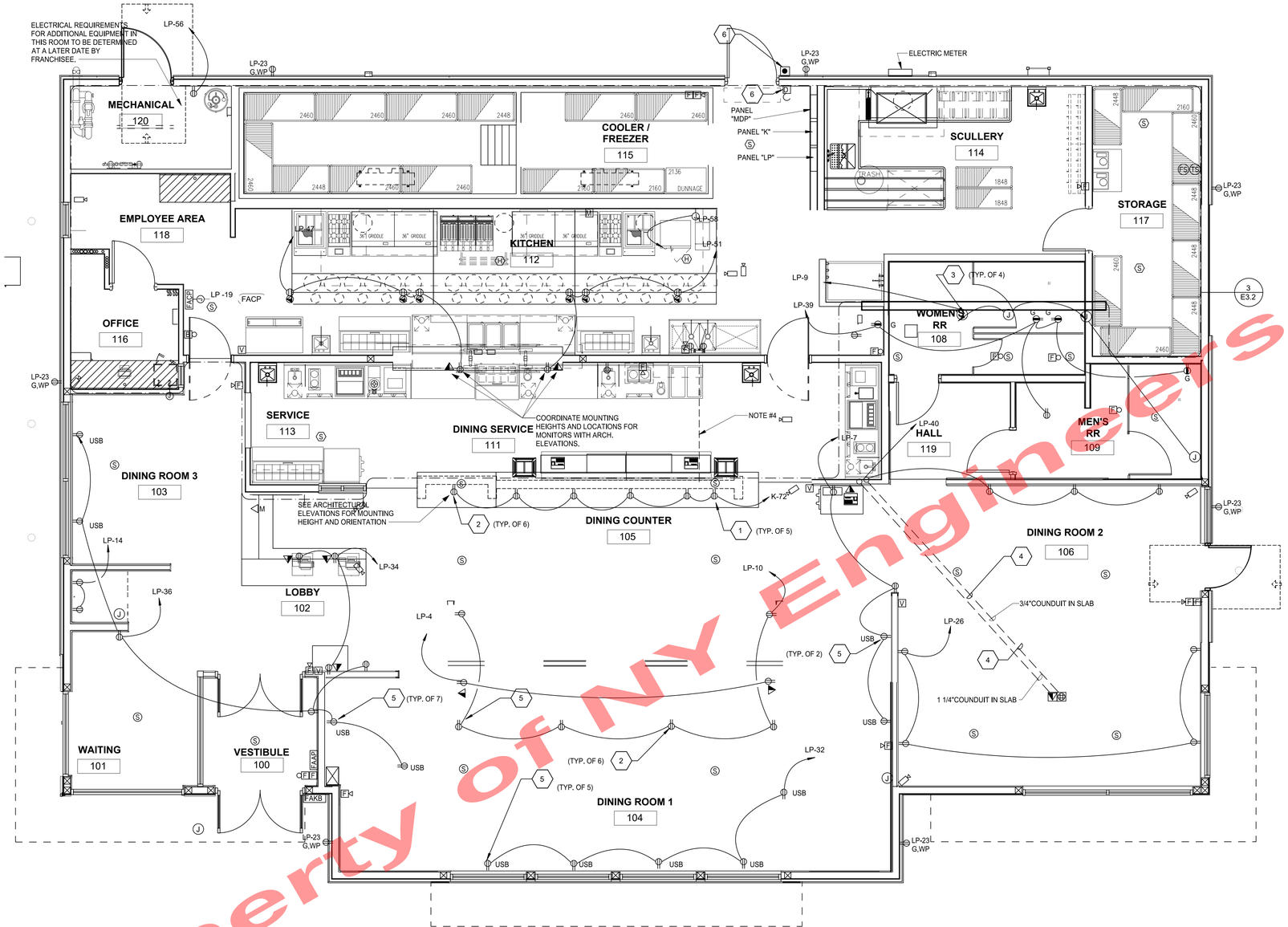
LUTRON
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Lutron Designer 21.7.0.1820

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
LIGHTING CONTROL SCHEDULES

SHEET
E-2.3



1 POWER & SPECIAL SYSTEMS PLAN
E3.1 1/4" = 1'-0"

1. FOR DRAWING CLARITY, INDIVIDUAL BRANCH CIRCUIT HOMERUNS ARE INDICATED. ELECTRICAL CONTRACTOR MAY RUN UP TO (3)-20A BRANCH CIRCUITS IN A SINGLE HOMERUN TO COMMON PANEL.
2. VERIFY ALL LOCATIONS, ELECTRICAL CIRCUIT AND CONNECTION REQUIREMENTS FOR ALL HVAC AND PLUMBING EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
3. COORDINATE WITH ARCHITECT FOR EXACT LOCATION OF ALL RECEPTACLES, TELECOMMUNICATIONS AND CABLE TELEVISION OUTLETS PRIOR TO PERFORMING ANY WORK.
4. SEE ARCHITECTURAL SHEET A1.3 FOR CONDUIT SIZES, TERMINATIONS AND ROUTING. ALSO SEE ARCHITECTURAL SHEET A1.7 FOR LOW VOLTAGE PLAN.

2 POWER & SPECIALTY SYSTEM PLAN NOTES
E3.1 12" = 1'-0"

1. RECEPTACLE MOUNTED HORIZONTALLY IN WALL UNDER COUNTER AT 2'-10" ABOVE FINISHED FLOOR. SEE ARCHITECTURAL ELEVATIONS.
2. COORDINATE MOUNTING OF DEVICES IN MILLWORK WITH GENERAL CONTRACTOR.
3. COORDINATE FLUSH VALVE CONNECTIONS WITH PLUMBING CONTRACTOR. PROVIDE ALL NECESSARY CONNECTIONS.
4. CONDUIT ROUTED UNDER SLAB, 1 1/2" WITH PULL STRING. VERIFY ROUTING AND TERMINATION LOCATIONS WITH ARCHITECTURAL AND MILLWORK DRAWINGS.
5. USB RECEPTACLE, CONNECT TABLE MOUNTED WIRELESS CHARGING PUCK. CORRDINATE LOCATION WITH GENERAL CONTRACTOR.
6. PROVIDE TRANSFORMER, BELL, PUSHBUTTON, AND LOWVOLTAGE WIRING AS NEEDED FOR A COMPLETE OPERATIONAL SYSTEM FOR DOOR CHIME.
7. WP/GFI RECEPTACLE IN LOCKABLE ECLOSURE. COORDINATE LOCATION WITH DENNY'S PM.

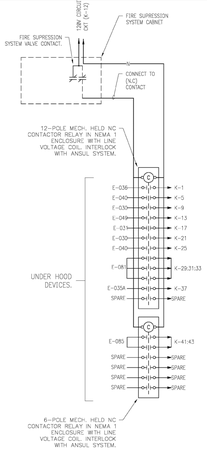
3 POWER & SPECIALTY SYSTEM PLAN KEYED NOTES
E3.1 12" = 1'-0"

Property of NY Engineers

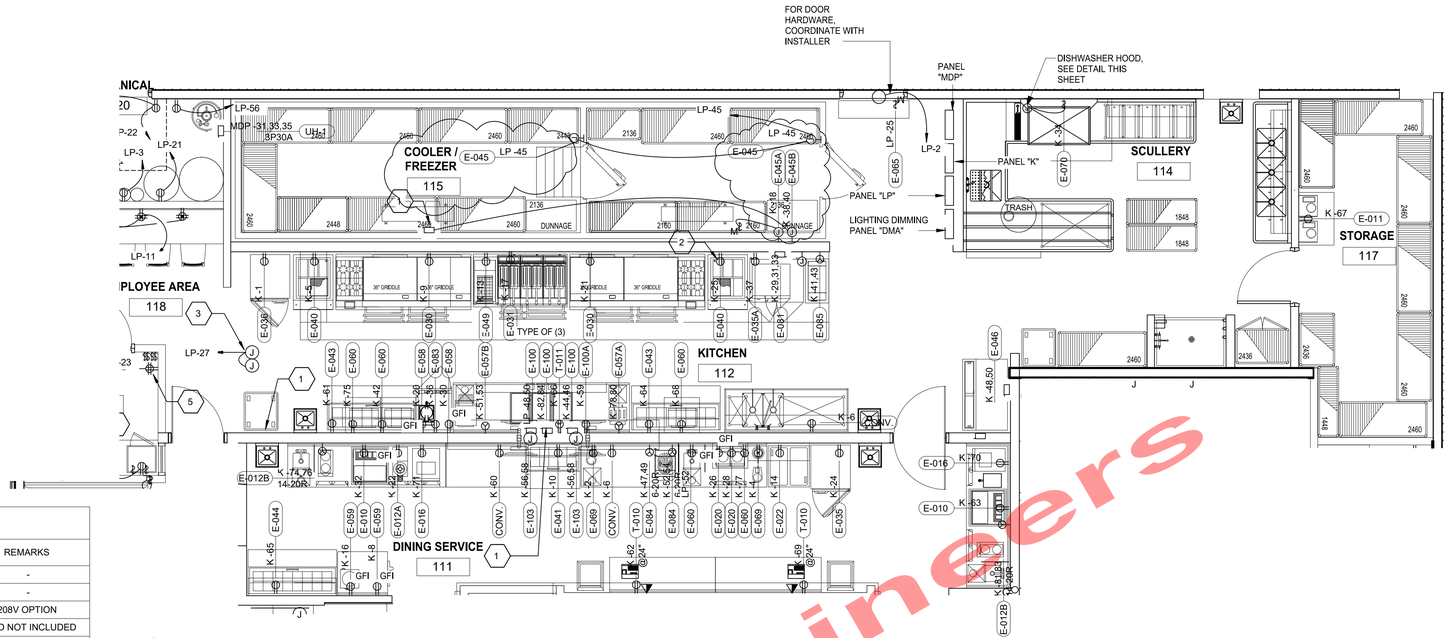
PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
POWER & SPECIAL SYSTEMS PLAN

SHEET
E-3.1



HOOD SHUNT TRIP



3 ENLARGED KITCHEN POWER PLAN

E3.2 1/4" = 1'-0"

1. FOR DRAWING CLARITY, INDIVIDUAL BRANCH CIRCUIT HOMERUNS ARE NOT INDICATED. ROUTE 2#12,#12(G)-3/4"C TO EACH CIRCUIT, UNLESS NOTED OTHERWISE. IF THE LENGTH EXCEEDS 75'-0", CONTRACTOR SHALL ROUTE 2#10,#10(G)-3/4"C FOR EACH BRACH CIRCUIT. ELECTRICAL CONTRACTOR MAY RUN UP TO (3)-20A BRANCH CIRCUITS IN A SINGLE HOMERUN TO COMMON PANEL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFING KITCHEN EQUIPMENT LOADS, CONNECTIONS REQUIREMENTS AND LOCATIONS WITH ARCHITECT AND EQUIPMENT VENDOR PRIOR TO ANY INSTALLATION.
3. PREWIRED LIGHTS AND SWITCH AT DOOR PANEL ON REFRIGERATION UNIT SHALL BE FURNISHED AND INSTALLED BY FOOD SERVICE EQUIPMENT CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE INTERCONNECTING WIRING AND MAKE FINAL CONNECTIONS.
4. WHERE EXPOSED PIPES AND CONDUITS ARE NECESSARY IN THE KITCHEN AREA, THEY SHOULD BE MOUNTED 1 TO 2 INCHE OFF THE WALL AND 6" OFF THE FLOOR TO ALLOW FOR CLEANING.
5. ALL SINGLE- PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPERES OR LESS AND THREE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPERES OR LESS INSTALLED IN THE FOLLOWING LOCATIONS SPECIFIED IN NEC ART 210.8(B)(1)- (8) SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION.
   NOTE THAT THE ISOLATED GROUNDING TYPE RECEPTACLES AND CLOCK TYPE RECEPTACLES LOCATED IN THE KITCHEN / SERVING AREA SHALL BE PROTECTED BY GROUND FAULT TYPE CIRCUIT BREAKERS RATHER THAN GROUND FAULT TYPE RECEPTACLES SINCE THESE RECEPTACLES ARE NOT AVAILABLE AS GROUND-FAULT TYPE RECEPTACLES. GFCI BREAKERS REQUIRE A DEDICATED NEUTRAL (NOT SHARED) TO OPERATE PROPERLY

   NOTE THAT THE ISOLATED GROUNDING TYPE RECEPTACLES AND CLOCK TYPE RECEPTACLES LOCATED IN THE KITCHEN/SERVING AREA SHALL BE PROTECTED BY GROUND FAULT TYPE CIRCUIT BREAKERS RATHER THAN GROUND FAULT TYPE RECEPTACLES SINCE THESE RECEPTACLES ARE NOT AVAILABLE AS GROUND-FAULT TYPE RECEPTACLES. GFCI BREAKERS REQUIRE A DEDICATED NEUTRAL (NOT SHARED) TO OPERATE PROPERLY.

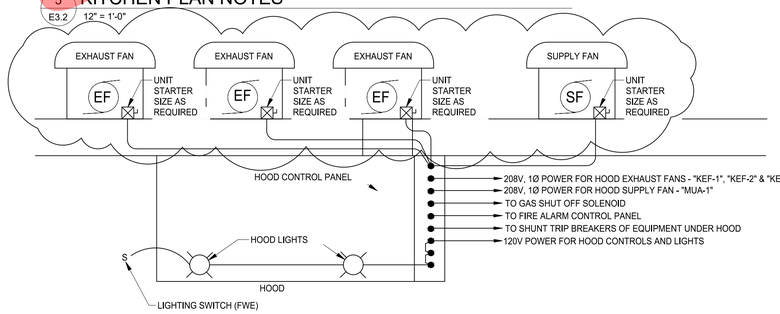
1. 2P30A NON-FUSED NEMA 1 DISCONNECT.
2. 3P30A NON-FUSED NEMA 1 DISCONNECT.
3. HOOD CONTROL PANEL (F.B.O), SEE DETAIL THIS SHEET.
4. MOUNTED ABOVE CABINETS, COORDINATE WITH ARCH. ELEVATIONS AND MILLWORK INSTALLER.
5. TELECOM BACK BOARD "TB", SEE DETAIL 4/E.02. COORDINATE LOCATION WITH FRANCHISEE.
6. COORDINATE HEIGHT AND LOCATION WITH FRANCHISEE AND EQUIPMENT PROVIDER.\
7. POWER FOR CO2 MONITOR SYSTEM COORDINATE LOCATION AND REQUIREMENTS WITH EQUIPMENT INSTALLER.

6 KITCHEN PLAN KEYED NOTES

E3.2 12" = 1'-0"

5 KITCHEN PLAN NOTES

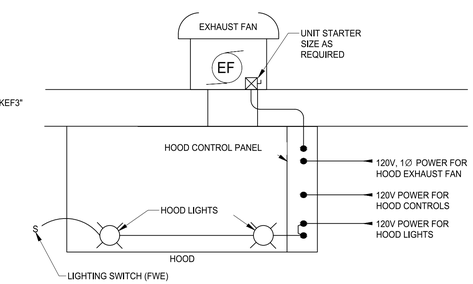
E3.2 12" = 1'-0"



KITCHEN HOOD#1 SCOPE:

THIS DETAIL IS PROVIDED AS AN AID TO THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH HOOD SUPPLIERS' SPECIFICATIONS FOR EXACT REQUIREMENTS AND PROVIDE FOR COMPLETE AND OPERATIONAL SYSTEM

1. FIRE SUPPRESSION TO BE WIRED TO JUNCTION BOX FOR CONNECTION TO 120V AC CIRCUIT BY ELECTRICAL CONTRACTOR.
2. LIGHTING AND SWITCH TO BE WIRED TO JUNCTION BOX FOR CONNECTION TO 120V AC CIRCUIT BY ELECTRICAL CONTRACTOR.
3. CONTROLS FOR EXHAUST FANS AND SUPPLY FAN ARE PROVIDED BY EQUIPMENT VENDOR. ELECTRICAL CONTRACTOR TO SUPPLY ALL PRIMARY CONDUCTORS TO DISCONNECT, INTERCONNECT WIRING BETWEEN CONTROL PANELS AND EQUIPMENT, PROVIDE AC WIRING TO SHUNT TRIP POWER CIRCUIT BREAKER AT PANEL FOR SUPPLY FAN AND ALL ELECTRICAL CIRCUITS UNDER HOOD SYSTEM. COORDINATE EXACT REQUIREMENTS.
4. ELECTRICAL CONTRACTOR TO PROVIDE INTERLOCKING TO 120V GAS SOLENOID SWITCH.
5. ELECTRICAL CONTRACTOR TO PROVIDE FIRE ALARM CONTROL MODULE AND TIE TO SUPPRESSION CONTROL PANEL AS REQUIRED.
6. ALL ELECTRICAL EQUIPMENT UNDER KITCHEN HOOD WILL REQUIRE SHUNT TRIP BREAKERS.



KITCHEN HOOD #2 SCOPE:

THIS DETAIL IS PROVIDED AS AN AID TO THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH HOOD SUPPLIERS' SPECIFICATIONS FOR EXACT REQUIREMENTS AND PROVIDE FOR COMPLETE AND OPERATIONAL SYSTEM

1. LIGHTING AND SWITCH TO BE WIRED TO JUNCTION BOX FOR CONNECTION TO 120V AC CIRCUIT BY ELECTRICAL CONTRACTOR.
3. CONTROLS FOR EXHAUST FAN IS PROVIDED BY EQUIPMENT VENDOR. ELECTRICAL CONTRACTOR TO SUPPLY ALL PRIMARY CONDUCTORS TO DISCONNECT, INTERCONNECT WIRING BETWEEN CONTROL PANELS AND EQUIPMENT.

1 COOKLINE HOOD DETAIL

E3.2 12" = 1'-0"

2 DISHWASHER HOOD DETAIL

E3.2 12" = 1'-0"

"E" EQUIPMENT CATEGORY

ITEM NO.	QTY.	DESCRIPTION	MANUFACTURER/ MODEL	VOLTS	PH	LOAD	CONN. TYPE	A.F.F.L.	REMARKS
E-010	2	SODA DISPENSER UNIT	BY VENDOR	120	1	2.0A	5-15P	12"	-
E-011	1	SODA SYSTEM CARBONATOR	BY VENDOR	120	1	7.0A	5-15P	72"	-
E-012A	1	TEA BREWER	BUNN-O-MATIC / ITCB-DV-HV	120	1	14.0A	5-15P	48"	208V OPTION
E-012B	2	COFFEE BREWER	BUNN-O-MATIC / AXIOM	120/220	1	13.0A	VER.	48"	CORD NOT INCLUDED
E-015	1	ICE TEA DISPENSER	BUNN / TDO-3.5	-	-	-	-	-	-
E-016	2	JUICE DISPENSER	MINUTE MAID / ESCORT III (BY VENDOR)	120	1	7.0A	5-15P	48"	-
E-020	2	BLENDER	BLENDTEC	120	1	15.0A	5-15P	48"	-
E-022	1	ICE CREAM FREEZER	C NEILSON / BD-4SC	120	1	8.0A	5-15P	18"	-
E-024	1	FUDGE WARMER	SERVER PRODUCT/ FSP 82060	120	1	4.2A	5-15P	48"	-
E-030	2	91" REFRIGERATED CUSTOM BASE	CUSTOM MFG	120	1	5.0A	5-15P	18"	-
E-031	1	64" FREEZER CUSTOM BASE	CUSTOM MFG	120	1	10.0A	5-15P	18"	-
E-035	1	SINGLE SECTION REFRIGERATOR	BEV-AIR / RL18-HGS	120	1	7.9A	5-15P	48"	-
E-035A	1	WORK TOP REFRIGERATOR	TRUE / TWT-44-HC	120	1	1.7A	5-15P	18"	-
E-036	1	SINGLE SECTION FREEZER	BEV-AIR / HF1-1HS	120	1	9.0A	5-15P	18"	-
E-040	2	EGG REFRIGERATOR	TURBO AIR / MST-28-12-N	120	1	2.8A	5-15P	18"	-
E-041	1	BUTTER REFIGERATOR	TURBO AIR / MST-36-N6	120	1	2.9A	5-15P	18"	-
E-043	2	PREP REFRIGERATOR-60"	TURBO AIR / MST-60-N	120	1	4.4A	5-15P	18"	-
E-044	1	SALAD REFRIGERATOR-60"	TURBO AIR / MST-60-N	120	1	4.4A	5-15P	18"	-
E-045	1	WALK-IN COOLER / FREEZER	U.S. COOLER / CUSTOM	120	1	5.0A	J-BOX	108"	LIGHTS & DOOR HEATER
E-045A	1	WALK-IN COOLER COIL	U.S. COOLER / CUSTOM	120	1	1.8A	J-BOX	108"	SEE SHOP DWG'S.
E-045A	1	WALK-IN COOLER CONDENSER	U.S. COOLER / CUSTOM	208	3	6.7A	J-BOX	ROOF	SEE SHOP DWG'S.
E-045B	1	WALK-IN FREEZER COIL	U.S. COOLER / CUSTOM	208	1	14.4A	J-BOX	108"	SEE SHOP DWG'S.
E-045B	1	WALK-IN FREEZER CONDENSER	U.S. COOLER / CUSTOM	208	3	11.9A	J-BOX	ROOF	SEE SHOP DWG'S.
E-046	1	ICE MAKER, 1300 LBS.	HOSHIZAKI / KM-1300SRH	208/120	1	12.4A	J-BOX	72"	INTERCONNECT POWER FROM ICE MAKER TO CONDENSER
E-049	1	FRY WARMER	MARSHALL / DENNYS	120	1	9.0A	5-15P	18"	-
E-050A	1	FRYER TIMER	NCC/AMETEK	120	1	2.0A	5-15P	-	POWERS THRU FRY WARMER
E-057A	1	TOASTERS, POP UP	TOASTMASTER / 424	208	1	13.0A	6-20P	48"	-
E-057B	1	TOASTER, CONVEYOR	HATCO / TQ400	208	1	10.7A	6-15P	48"	-
E-058	2	WAFFLE MAKER	F.S. CARBONS (BY VEND.) / R1	120	1	11.0A	5-15P	48"	-
E-059	2	SOUP WELLS	WELLS / SW-10T	120	1	6.9A	5-15P	48"	-
E-060	4	MICROWAVE OVEN	AMANA / HDC12	120	1	16.8A	5-20P	72"	-
E-062	0	ROLL WARMER, 1 DRAWER	WELLS/RW1HD	120	1	7.5A	5-15P	18"	-
E-065	1	AIR CURTAIN, 48"	MARS / 48CH	120	1	5.1A	J-BOX	VER	INSTALLED BY GC
E-069	2	DIPPERWELL	SERVER PRODUCTS/87770	120	1	1.0A	5-15P	18"	-
E-070	1	DISHWASHER	P&G - LEASE	120	1	23.0A	J-BOX	60"	VER. WITH VENDOR
E-076	2	EXHAUST HOOD,COOKLINE	CAPTIVE AIRE / NDPSP	120	1	VER.	J-BOX	VER.	SEE SHOP DWG'S.
E-076A	2	EXHAUST FAN, KITCHEN	CAPTIVE AIRE	208	3	VER.	J-BOX	VER.	SEE SHOP DWG'S.
E-076B	1	MAKE-UP AIR UNIT	CAPTIVE AIRE	208	3	VER.	J-BOX	VER.	SEE SHOP DWG'S.
E-077	1	FIRE SUPPRESSION SYSTEM	CAPTIVE AIRE - ANSUL R102	120	1	2.0A	J-BOX	VER.	-
E-078A	1	EXHAUST FAN, DISHWASHING	CAPTIVE AIRE	120	1	VER.	J-BOX	VER.	SEE SHOP DWG'S.
E-081	1	COMBI OVEN	RATIONAL / SCC XS 6 2/3E	208	3	16.5A	J-BOX	48"	30A-BREAKER #12 WIRE
E-083	1	HOLDING CABINET	HATCO / FSHC-7-1	120	1	14.1	D.C.O.	18"	-
E-085	1	RETHERMOLIZER	PITCO / CRTE	208	1	28.8A	6-30P	48"	-
E-084	2	INDUCTION SKILLET WARMER	VOLRATH -	208	1	10.8A	6-20P	48"	-
E-100	2	STEAM TABLE	WELLS MFG./ MDW100	208	1	2.9A	J-BOX	18"	-
E-100A	1	STEAMTABLE TIMER	NCC/AMETEK	120	1	2.0A	5-15P	48"	-
E-103	2	PASS-THRU HEAT LAMPS	HATCO / GRAH-60D	208	1	13.4A	J-BOX	NOTE 1	MTD. THRU PASS SHELF

"T" TECHNOLOGY CATEGORY

ITEM NO.	QTY.	DESCRIPTION	MANUFACTURER/ MODEL	VOLTS	PH	LOAD	CONN. TYPE	A.F.F.L.	REMARKS
T-010	7	POS SYSTEM W/ 19' MONITORS	IMB	120	1	5.0A	5-15P	VERIFY	-
T-011	2	POS PRINTING	EPSON TM-U22	120	1	5.0A	5-15P	VERIFY	-
T-019	6	KVS MONITORS	BY OWNER	120	1	5.0A	5-15P	90"	-

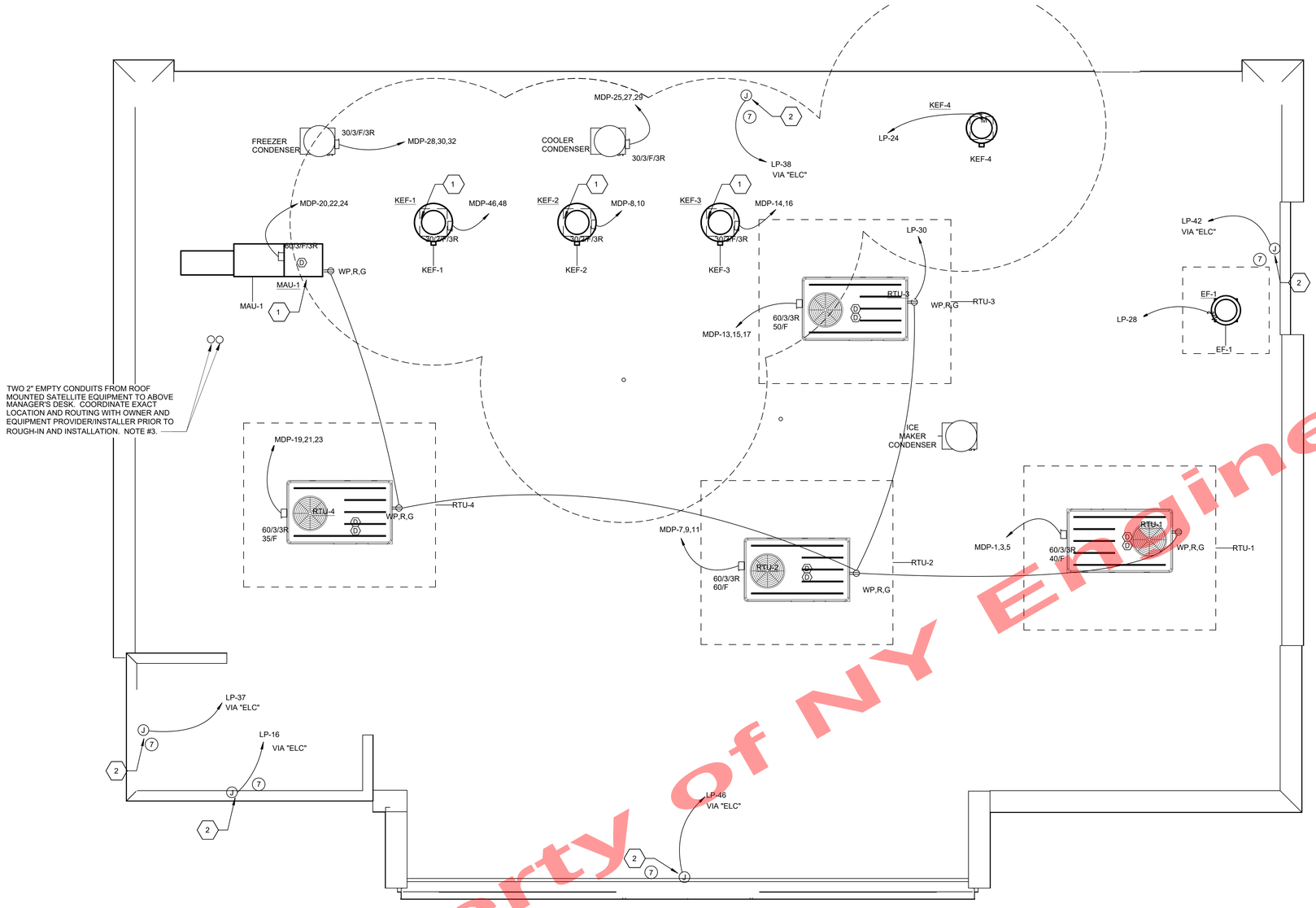
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Denny's

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
ENLARGED KITCHEN POWER PLAN, SCHEDULE & DETAILS

SHEET
E-3.2



1 ELECTRICAL ROOF PLAN
E3.3 1/4" = 1'-0"

SEE SHEET E2.1 FOR EXT. LIGHTING

1. FOR DRAWING CLARITY, INDIVIDUAL BRANCH CIRCUIT HOMERUNS ARE INDICATED. ELECTRICAL CONTRACTOR MAY RUN UP TO (3) 20A BRANCH CIRCUITS IN A SINGLE HOMERUN TO COMMON PANEL.
2. VERIFY ALL LOCATIONS, ELECTRICAL CIRCUIT AND CONNECTION REQUIREMENTS FOR ALL HVAC AND PLUMBING EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
3. SEE ARCHITECTURAL SHEETS FOR CONDUIT PLAN AND ENLARGED OFFICE PLAN AND DETAILS.

2 ROOF PLAN NOTES
E3.3 12" = 1'-0"

1. COORDINATE EXACT INTERCONNECTION REQUIREMENTS FROM HOOD CONTROLS TO HOOD FANS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND HOOD PROVIDER PRIOR TO ROUGH-IN.
2. JUNCTION BOX FOR ILLUMINATED SIGN. COORDINATE ELEVATION , LOCATION, CONTROLS AND REQUIREMENTS WITH SIGN PROVIDED/INSTALLER.
3. CONNECT EXHAUST FAN TO "ETC", ONLY TO BE CONTROLLED BY TIME CLOCK.

3 ROOF PLAN KEYED NOTES
E3.3 12" = 1'-0"

AUDANCY NOTES

(7) PROVIDE 12- POLE ELECTRICALLY HELD LIGHTING CONTACTOR ABOVE CEILING OVER PANELBOARDS
FOR EXTERIOR LIGHTING , SIGNAGE , AND SITE LIGHTING VIA AUDACY ON/ OFF LUMINARE CONTROLLER ; SW-2

Property of NYY Engineers

PROJECT
DENNY'S RESTAURANT #

SHEET TITLE
ELECTRICAL ROOF PLAN

SHEET
E-3.3