

HVAC GENERAL NOTES:

1. SECURE ALL WARRANTIES, MANUALS, ETC. FOR EQUIPMENT AND SUBMIT TO OWNER.
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID/CONSTRUCTION. REPORT ANY DISCREPANCIES TO ARCHITECT/ENGINEER.
3. COORDINATE WORK WITH OTHER TRADES.
4. ALL EQUIPMENT AND COMPONENTS USED SHALL BE LISTED FOR THEIR INSTALLED PURPOSE.
5. MAINTAIN FILTERS IN A/C UNITS AT ALL TIMES DURING CONSTRUCTION. PROVIDE NEW FILTERS AND ONE SPARE SET PER UNIT UPON OWNER'S ACCEPTANCE.
6. PROVIDE TEST AND BALANCE REPORT UPON COMPLETION. SUBMIT REPORT TO OWNER/ARCHITECT. ALLOW FOR ONE CALL BACK TO REBALANCE TO SUIT OWNER.
7. CONDENSATES ARE NEW COPPER SIZED AS PER MANUFACTURER AND INSULATED.
8. ALL REFRIGERANT LINES SHALL BE NEW COPPER LINES SIZED AS PER MANUFACTURER. SUCTION LINE SHALL BE INSULATED. EXACT ROUTING TO BE COORDINATED BETWEEN MANUFACTURER AND OWNER. CONTRACTOR TO DETERMINE LONG LINE SIZING REQUIREMENTS, IF REQUIRED.
9. CONDENSATE AND REFRIGERANT PIPING SHALL BE INSULATED WITH 3/4" CLOSED CELL FLEXIBLE ELASTOMERIC WITH FLAME SPREAD AND SMOKE DEVELOPED RATINGS OF NO GREATER THAN 25/50. EXTERIOR PORTIONS OF REFRIGERANT PIPING SHALL BE LAMINATED WITH METAL FOIL AND COMPOSITE POLYMER FOR UV AND CHEMICAL RESISTANCE.
10. MAINTAIN RECORD DRAWINGS OF THE INSTALLATION AND NOTING ANY DEVIATIONS FROM THESE DOCUMENTS. SUBMIT TO OWNER/ARCHITECT/ENGINEER.
11. SUBMIT DRAWINGS AND/OR CUT SHEETS OF ALL MATERIALS & EQUIPMENT FOR APPROVAL PRIOR TO ORDER/PURCHASE.
12. ALL CONSTRUCTION TO COMPLY WITH 2017 FLORIDA BUILDING CODE, AND THE LATEST EDITIONS OF ASHRAE, AND SMACNA STANDARDS.
13. PROVIDE GREATER OF MANUFACTURER RECOMMENDED OR CODE REQUIRED CLEARANCES FOR ALL EQUIPMENT.
14. CONTRACTOR TO ENSURE EXISTING STRUCTURE REMAINS INTACT DURING ALL PHASES OF CONSTRUCTION.
15. FIELD VERIFY ALL EXISTING & NEW PENETRATIONS. COORDINATE WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER.
16. ALL PENETRATIONS OF FIRE OR SMOKE RATED ASSEMBLIES SHALL BE PROPERLY PROTECTED.
17. ANY NEW PENETRATIONS TO THE BUILDING ENVELOPE (INCLUDING ROOF AND FLOOR) MUST BE AUTHORIZED BY THE OWNER/LANDLORD IN ADVANCE, WHO MAY REQUIRE THESE PENETRATIONS TO BE INSTALLED BY A SPECIFIC CONTRACTOR TO MAINTAIN WARRANTY.
18. ALL HVAC EQUIPMENT THAT IS INSTALLED AT 16'-0" OR HIGHER ABOVE FINISHED FLOOR SHALL BE PROVIDED WITH PERMANENT APPROVED MEANS OF ACCESS FROM THE FLOOR LEVEL UP TO THE APPLIANCE'S SERVICE SPACE. REFER TO FBC MECHANICAL 306.5 AND COORDINATE EXACT REQUIREMENTS WITH A.H.J.
19. ALL CONCEALED EQUIPMENT AND VALVES SHALL HAVE ACCESS PANELS SIZED AND LOCATED TO ALLOW SERVICING AND REPLACEMENT OF EQUIPMENT; PROVIDE SHOP DRAWINGS OF PROPOSED PANELS TO OWNER, ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO PURCHASE.

DUCTWORK:

- SUPPLY & RETURN:**
 CONCEALED: RIGID 800 FIBERGLASS R-6 FOILFACED WITH U.L. 181 CLASS 1 AIR DUCT FLEX. FLEXIBLE AIR CONNECTORS ARE NOT ALLOWED.
 AIR DISTRIBUTION SYSTEM: ALL MATERIALS (REINFORCEMENT, ADHESIVES, SEALANTS, LINERS, ETC.) TO BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST EDITION OF SMACNA'S PUBLICATION "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE", AND NAIMA'S PUBLICATION "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS, 5TH ED", AS APPROPRIATE.
 PROVIDE MANUAL VOLUME DAMPERS AT ALL BRANCHES.
 GENERAL/TOILET EXHAUST: SNAPLOCK INSULATED WITH R-6 FOILFACED WRAP, DUCTED TO WALLCAP WITH BACKDRAFT DAMPER.
 KITCHEN EXHAUST/MAKE-UP: NONCOMBUSTIBLE RATED METAL DUCTWORK. REFER TO KITCHEN CONSULTANT'S DRAWINGS FOR ACCEPTABLE MATERIALS, SLOPE, CLEANOUT REQUIREMENTS, ETC.
 ALL ADHESIVES, MASTICS, SEALANTS, ETC. SHALL COMPLY WITH LOW-VOC REQUIREMENTS AS DEFINED BY SCAQMD RULE #1168 (I.E., COMPLIANT WITH LEED EQc4.1).
 ALL DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS. ADD 3" TO EACH DIMENSION TO ALLOW FOR INSULATION.
 FOR EXAMPLE, A 12x10 DUCT MEASURES APPROXIMATELY 15x13 OUTSIDE DIMENSIONS.

THERMOSTATS: NEW BASED ON HONEYWELL.

HEAT/COOL/FAN/AUTO/OFF - 24/7/365 - PROGRAMMABLE WITH BATTERY BACKUP BY A/C MANUFACTURER. WITH 2-SPEED CU/VARIABLE SPEED RTU CONTROL.

AIR DISTRIBUTION: NEW BASED ON ITTUS - REFER TO SCHEDULE.

- SUPPLY DIFFUSERS: TO BE PROVIDED WITH OPPOSED BLADE DAMPERS. SIZE, NECK, CFM AS NOTED.
 RETURN/TRANSFER GRILLES: SIZE AS NOTED.
 ALL GRILLES TO BE ALUMINUM. COORDINATE BORDER TYPES WITH ARCHITECT.
 ALL GRILLES SHALL BE FULLY SUPPORTED FROM THE STRUCTURE, NOT FROM THE DUCTWORK.

TOILET EXHAUST FAN: NEW BASED ON GREENHECK - REFER TO SCHEDULE.

- FURNISH FANS WITH INTEGRAL BACKDRAFT DAMPER OR PROVIDE IMMEDIATELY DOWNSTREAM OF DISCHARGE.
 TERMINATE AT WALL OR ROOF PER FLOOR PLANS. WITH BACKDRAFT DAMPER AND WIRE MESH SCREEN. ROOF TERMINATIONS SHALL FINISH MINIMUM 8" ABOVE ROOF DECK.
 DUCTWORK SHALL BE SIZED PER PLANS, NOT PER FAN OUTLET CONNECTION.

A/C UNITS: NEW BASED ON TRANE - REFER TO SCHEDULE.

- REFRIGERANT LINES TO BE SIZED AS PER MANUFACTURER BASED ON ROUTING.
 PROVIDE FLOAT SWITCH AT FACTORY SECONDARY CONDENSATE CONNECTION TO DE-ENERGIZE RTU'S. IF NO FACTORY OVERFLOW CONNECTION IS PRESENT, FURNISH NEW DRAIN PAN AND INSTALL FLOAT SWITCH IN DRAIN PAN AS PER FBC MECHANICAL 307.2.3.
 PROVIDE SMOKE DETECTOR IN PRIMARY SUPPLY AND RETURN DUCTS OF EACH RTU. PRIOR TO BRANCHES, TO DE-ENERGIZE RTU'S.
 DUCT DETECTOR SHALL BE SERVICED IN ACCORDANCE WITH FBC MECHANICAL 306.4.1.
 COORDINATE FINAL LOCATIONS OF REMOTE TEST STATIONS WITH FIRE MARSHAL PRIOR TO INSTALLATION.
 A/C SYSTEMS DESIGNED FOR REFRIGERANT R-410A.
 RTU'S TO HAVE BUILT-IN ELECTRICAL CIRCUIT BREAKER.
 PROVIDE MINIMUM 24" CLEARANCE AROUND ALL SIDES OF RTU'S AND 36" ON SERVICE ACCESS SIDE OR MANUFACTURER RECOMMENDED CLEARANCE, WHICHEVER IS GREATER.
 CONTRACTOR TO COORDINATE CONDENSING UNIT LOCATIONS AND THE DOWN METHODS WITH STRUCTURAL ENGINEER.
 PROVIDE FILTER DRIER, SIGHT GLASS, LIQUID LINE SOLENOID VALVE AND SIMILAR MANUFACTURER ACCESSORIES REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.
 OUTDOOR REFRIGERANT CIRCUIT ACCESS PORTS SHALL HAVE LOCKING-TYPE TAMPER-RESISTANT CAPS.
 ALL EQUIPMENT SHALL BE INSTALLED FULLY ABOVE FLOOD ELEVATION; NOTIFY ENGINEER PRIOR TO INSTALLATION IF RACKS ARE REQUIRED.

KITCHEN EXHAUST/MAKEUP FANS: NEW BASED ON KITCHEN HOOD DRAWINGS

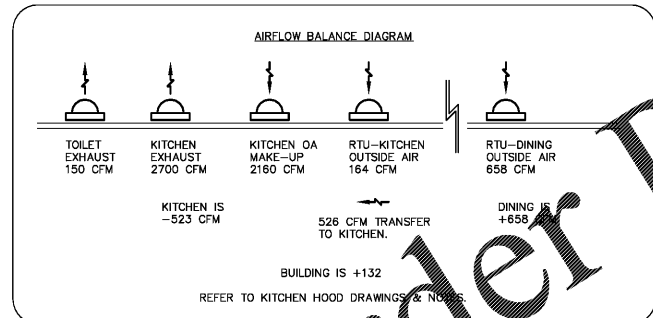
- REFER TO KITCHEN HOOD DRAWINGS FOR SCHEDULE, NOTES AND DETAILS. FIELD COORDINATE EXACT LOCATION OF EQUIPMENT WITH OTHER TRADES.
 PROVIDE LINE ITEM BID ALTERNATE FOR HIGHER QUALITY GREASE EXTRACTION SYSTEM (GREASE-XTRACTOR, GREASE GRABBER, OR SIMILAR).
 THE DESIGN SHOWN IN THESE DOCUMENTS IS BASED SOLELY UPON THE KITCHEN EQUIPMENT SCHEDULE PROVIDED BY THE OWNER. CONTRACTOR AND ALL SUB-CONTRACTORS TO VERIFY AND COORDINATE ALL KITCHEN EQUIPMENT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION. PRIOR TO PROCEEDING, IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN THESE CONSTRUCTION DOCUMENTS AND ACTUAL EQUIPMENT OR OWNER REQUESTS.

EQUIPMENT LOCATION:

- FIELD COORDINATE EXACT LOCATION OF ALL ROOFTOP EQUIPMENT (RTU'S, KITCHEN FANS, VTR'S, ETC.) WITH OTHER TRADES TO PROVIDE ALL REQUIRED CODE AND MANUFACTURER CLEARANCES, AND FOR STRUCTURAL PLACEMENT.
 EXHAUST AND INTAKE LOCATIONS SHALL BE COORDINATED WITH EXISTING EQUIPMENT AND SHALL COMPLY WITH NFPA 96, ASHRAE 62.1 AND FBC 2017.
 WINDLOAD CALCULATIONS TO BE COORDINATED BETWEEN MANUFACTURER AND ARCHITECT OR STRUCTURAL ENGINEER TO COMPLY WITH HWHZ FBC REQUIREMENTS.

FLORIDA ENERGY CODE COMPLIANCE:

- THE ATTACHED ENERGY CALCULATIONS ARE BASED UPON THE FOLLOWING BUILDING ENVELOPE DATA:
 ROOF: MINIMUM R-19 INSULATION.
 WALLS: MINIMUM R-11 INSULATION.
 GLASS: SINGLE PANEL CLEAR, METAL FRAME U-VALUE 0.90, SHGC 0.57.
 LIGHTING: REFER TO ELECTRICAL PLANS AND ATTACHED ENERGY CALCULATIONS FOR DESIGN LPD.



ASHRAE 62.1-2004 REQUIREMENTS

TABLE 6-1 MINIMUM VENTILATION RATES IN BREATHING ZONE:

RESTROOMS:
 80 SF x 0.15 CFM/SF = 150 CFM
 80 SF x 0.15 CFM/SF = 150 CFM
 30 CFM TOTAL OUTSIDE AIR REQUIRED DURING PEAK OCCUPANCY.
 680 CFM PROVIDED BY RTU-2 OA HOOD.

TABLE 6-2 MINIMUM EXHAUST RATES:

KITCHEN:
 497 SF x 0.70 CFM/SF = 348 CFM EXHAUST REQUIRED.
 2700 CFM EXHAUSTED BY KITCHEN HOOD.
 MAKEUP PROVIDED BY KITCHEN SUPPLY FAN & DINING AIR TRANSFER.

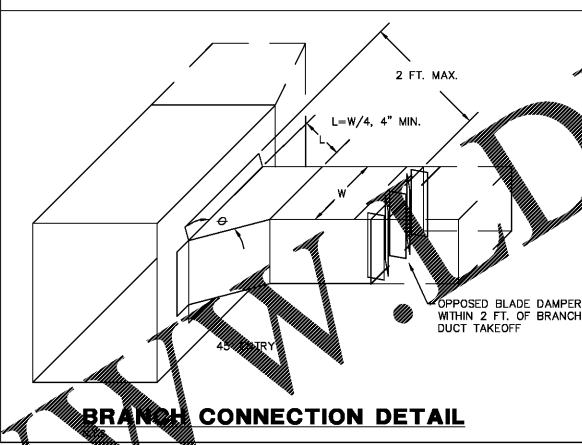
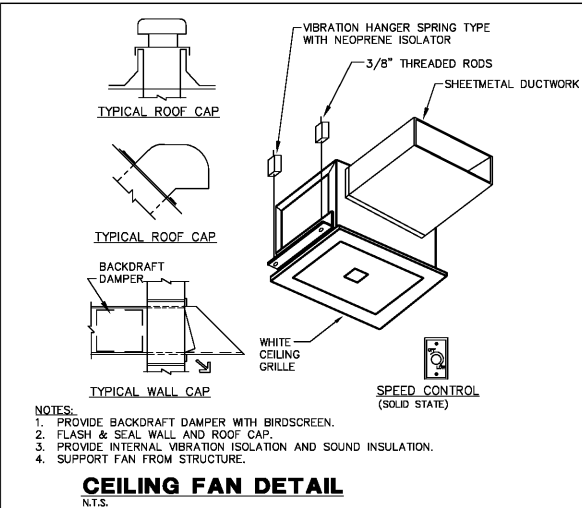
RESTROOMS:
 2 WC'S x 50 CFM/WC = 100 CFM EXHAUST REQUIRED.
 150 CFM INTERMITTENT EXHAUST PROVIDED BY TOILET EXHAUST FANS.
 MAKEUP PROVIDED BY DINING AIR TRANSFER.

HVAC UNIT SCHEDULE (BASED ON TRANE)

TAG	MODEL	VOLTS	MCA	MOCP	REFRIG	WxDxH	WEIGHT	HEAT	QT	QS	NOM TON	CFM	SEER	COMMENTS
RTU-1	THC060E3RLA	470/208/60	40.8A	45A	R-410A	53"x89"x41"	841 LBS	9.0 KW	63.0	35.7	5	2000	14.2	SEE NOTES
RTU-2	THC036E3RLA	3/208/60	38.8A	40A	R-410A	44"x70"x36	555 LBS	N/A	39.0	35.2	3	1200	15.0	SEE NOTES

RTU NOTES:

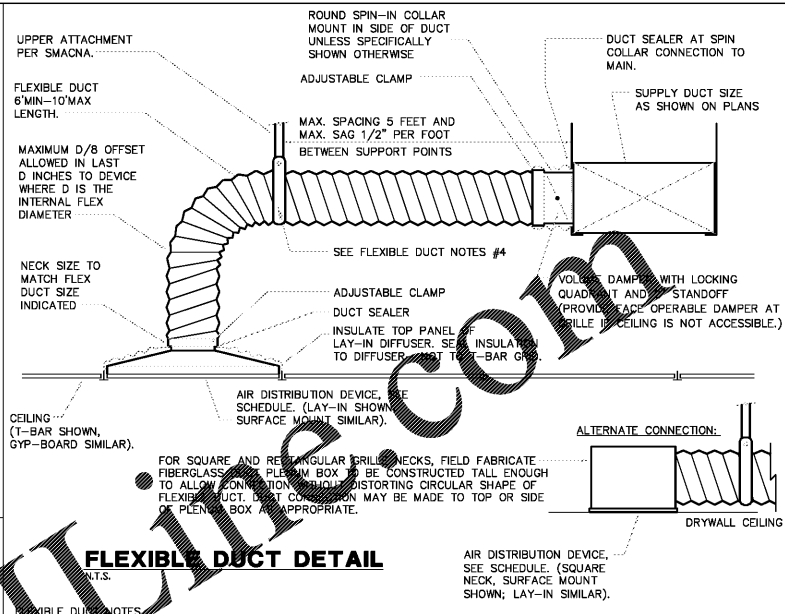
1. MANUFACTURER TO PROVIDE ON/OFF HOT GAS REHEAT (HGRH) FOR THE DINING ROOM ZONE, RTU-2



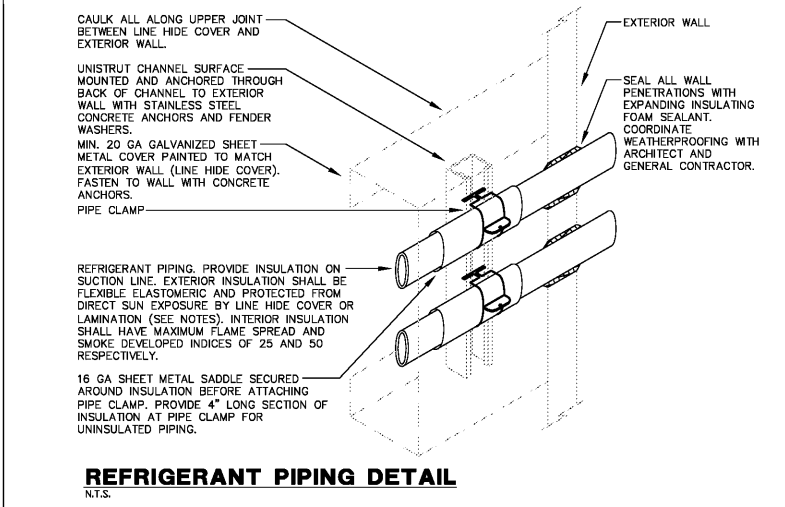
EXHAUST FAN SCHEDULE

Number	EF-A
Status	NEW
Manufacturer	GREENHECK
Model	SP-A90
CFM	74
ESP	0.2\"/>

FANS IN RESTROOMS SHALL BE UL LISTED FOR INSTALLATION ABOVE TUB/SHOWER ON A GFCI PROTECTED CIRCUIT.
 PROVIDE 800 AT FAN, SNAPLOCK DUCT SIZED AS PER PLANS.
 WHEN DUCTED TO ROOFCAP, FINISH MINIMUM 8" ABOVE ROOF DECK.
 PROVIDE ACCESS PANELS FOR INLINE FANS.



- DUCTWORK NOTES:**
1. FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
 2. FLEXIBLE DUCTS SHALL ONLY TERMINATE AT GRILLES. IT IS UNACCEPTABLE TO TERMINATE FLEXIBLE DUCTWORK AT A PLenum BOX FOR CONNECTION OF ADDITIONAL BRANCHES OR ANYTHING SIMILAR.
 3. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL, INSULATION AND SEAL WITH MASTIC.
 4. MINIMUM 1 1/2\"/>
- FBC MECHANICAL 603.10.3 FLEXIBLE DUCT INSTALLATION AND SUPPORT.
 FLEXIBLE DUCTS SHALL BE CONFIGURED AND SUPPORTED SO AS TO PREVENT THE USE OF EXCESS DUCT MATERIAL, PREVENT DUCT DISLOCATION OR DAMAGE, AND PREVENT CONSTRICTION OF THE DUCT BELOW THE RATED DUCT DIAMETER IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
1. DUCTS SHALL BE INSTALLED FULLY EXTENDED. THE TOTAL EXTENDED LENGTH OF DUCT MATERIAL SHALL NOT EXCEED 5 PERCENT OF THE MINIMUM REQUIRED LENGTH FOR THAT RUN.
 2. BENDS SHALL MAINTAIN A CENTER LINE RADIUS OF NOT LESS THAN ONE DUCT DIAMETER.
 3. TERMINAL DEVICES SHALL BE SUPPORTED INDEPENDENTLY OF THE FLEXIBLE DUCT.
 4. HORIZONTAL DUCT SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 5 FEET. DUCT SAG BETWEEN SUPPORTS SHALL NOT EXCEED 1/8 INCH PER FOOT OF LENGTH. SUPPORTS SHALL BE PROVIDED WITHIN 1/4 FEET OF INTERMEDIATE FITTINGS AND BETWEEN INTERMEDIATE FITTINGS AND BENDS. CEILING JOISTS AND RIGID DUCT OR EQUIPMENT MAY BE CONSIDERED TO BE SUPPORTS.
 5. VERTICAL DUCT SHALL BE STABILIZED WITH SUPPORT STRAPS AT INTERVALS NOT GREATER THAN 6 FEET.
 6. HANGERS, SADDLES AND OTHER SUPPORTS SHALL MEET THE DUCT MANUFACTURER'S RECOMMENDATIONS AND SHALL BE OF SUFFICIENT WIDTH TO PREVENT RESTRICTION OF THE INTERNAL DUCT DIAMETER. IN NO CASE SHALL THE MATERIAL SUPPORTING FLEXIBLE DUCT THAT IS IN DIRECT CONTACT WITH IT BE LESS THAN 1 1/2 INCHES WIDE.



REFRIGERANT PIPING. PROVIDE INSULATION ON SUCTION LINE. EXTERIOR INSULATION SHALL BE FLEXIBLE ELASTOMERIC AND PROTECTED FROM DIRECT SUN EXPOSURE BY LINE HIDE COVER OR LAMINATION (SEE NOTES). INTERIOR INSULATION SHALL HAVE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDICES OF 25 AND 50 RESPECTIVELY.

Order Plans @

WARNER ARCHITECTURAL ASSOCIATES

DATE: 03/15/19

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 PROJECT: V050
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MECHANICAL NOTES AND DETAILS

DRAWING NUMBER

M2

PROJECT #: 19022

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