

GENERAL NOTES:

- ALL MECHANICAL SYSTEMS ARE TO BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE NFPA STANDARDS, ANSI STANDARDS, THE LOCAL BUILDING CODE, NOISE & HEIGHT ORDINANCES, PLANS AND SPECIFICATIONS.
- ALL MATERIALS SHALL BE NEW AND ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, PRODUCT APPROVAL, RULES AND ORDINANCES. ANY DAMAGED EQUIPMENT SHALL BE REPLACED OR RESTORED TO ORIGINAL CONDITION.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, ACCESS PANELS, CONTROL SYSTEMS, DEVICES, PERMITS AND SERVICES NECESSARY FOR FURNISHING AND INSTALLING A COMPLETE OPERABLE MECHANICAL SYSTEM.
- ALL CUTTING, PATCHING, STRUCTURAL STEEL, WEATHER PROOFING, PAINTING, AND WALL OPENINGS SHALL BE BY THE GENERAL CONTRACTOR.
- ALL OPENINGS IN BUILDING STRUCTURE, FOR DUCTWORK, PIPING, ETC. TO BE 1/2" LARGER (ON ALL SIDES) THEN THE OUTSIDE DIMENSIONS. FILL VOIDS WITH FIRE RETARDANT SILICONE FOAM (I.E. CHASE-FOAM CTC PR-855 BY CHASE TECHNOLOGY CORP.).
- BUILDING HVAC CALCULATIONS ARE BASED ON THE FOLLOWING:
 - A. INDOOR DESIGN: SUMMER 75 DD6/50R RH, WINTER 72 DD8
 - B. OUTDOOR DESIGN: SUMMER 91 DD6/78 DWB, WINTER 42 DD8
- PROVIDE FLEXIBLE DUCT CONNECTORS, RATED AS REQUIRED, TO ALL FANS, A/C UNITS, OR MECHANICAL EQUIPMENT.
- PROVIDE MAINTENANCE AND OPERATION MANUAL ON ALL MECHANICAL EQUIPMENT OR SYSTEMS. PROVIDE 5 SETS OF SUBMITTALS ON ALL HVAC EQUIPMENT. SUBMITTALS SHALL HAVE A SUMMARY SHEET SHOWING ALL SCHEDULED INFORMATION.
- HVAC CONTRACTOR WILL WARRANT ALL MECHANICAL SYSTEMS, DUCTWORK, THERMOSTATS, AND ALL OTHER EQUIPMENT/PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER C.O. OF BUILDING. ANY REPAIRS REQUIRING SYSTEM SHUT DOWN WILL BE DONE DURING NON OPERATIONAL PERIODS. HVAC CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO BIDDING AND PURCHASING ANY EQUIPMENT.
- AIR QUALITY SHOULD BE TESTED BEFORE OCCUPANCY AND SHOULD BE INSTRUMENTED AND MONITORED THEREAFTER, OR AT LEAST AT REGULAR INTERVALS

AIR DISTRIBUTION / DUCTWORK NOTES :

- REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE.
- PROVIDE OFF WHITE FINISH (SUBJECT TO ARCHITECT'S APPROVAL).
- ALL DUCTWORK WHERE ALLOWED BY LOCAL CODES AND CEILING RATING SHALL BE 1" LOW PRESSURE DUCT, CLASS 1, AND AS FOLLOWS:
 - A. S/A & R/A - GALVANIZED SHEETMETAL WITH R-8 MIN. INSULATION
 - B. EXHAUST AIR DUCTWORK - GALVANIZED SHEETMETAL
 - C. OUTSIDE AIR DUCTWORK - INSULATED GALVANIZED SHEETMETAL
- ALL DUCTWORK AND DIFFUSERS SHALL BE RATED FOR THE USE, PRESSURE AND TEMPERATURE SPECIFIED AND AS REQUIRED BY THE CEILING SYSTEM RATING.
- ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH "SMACNA" STANDARDS AND LOCAL BUILDING CODES.
- ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
- SEAL ALL DUCTS, JOINTS AND SEAMS IN AN APPROVED MANNER AND INSURE AGAINST LEAKAGE.
- PROVIDE ACCESS DOORS AS REQUIRED FOR ALL MECHANICAL EQUIPMENT TO SERVICE AND VISUALLY CHECK ROTATION OF FANS AND MOTORS, POSITION OF DAMPERS, REPLACE FIRE DAMPER LINKS, ADJUST OR REPLACE CONTROLS, ETC.
- PROVIDE VANED ELBOWS IN ALL CASES, SPLITTER DAMPERS WHERE INDICATED

MECHANICAL EQUIPMENT NOTES:

- ALL MECHANICAL EQUIPMENT SHALL BE ARI & U.L. LISTED WHERE APPLICABLE AND RATED FOR THE REQUIRED SERVICE, TEMPERATURES, AND SHALL BE PROVIDED WITH ALL NECESSARY TRANSFORMERS, SEALS, VALVES, CONNECTIONS, ETC. TO FUNCTION PROPERLY.
- PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S OF 2000 CFM OR ABOVE. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHALL SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT.
- PROVIDE TYPE "B" FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED WALLS, PARTITIONS, FLOORS OR ROOF SLABS AND AT FRESH AIR INTAKES IF REQUIRED (SEE ARCHITECTS PLANS FOR RATINGS). PROVIDE RADIATION DAMPERS IN RATED CEILINGS FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY AS SPECIFIED BY ARCHITECT.
- PROVIDE BACKDRAFT DAMPERS ON ALL EXHAUST FANS AND/OR INLINE FANS.
- PROVIDE VIBRATION ISOLATORS ON ALL MECHANICAL EQUIPMENT AS CALLED FOR IN THE SPECIFICATIONS. IF NOT SPECIFIED, AS RECOMMENDED BY MANUFACTURER FOR QUIET OPERATION (WITH 99% ISOLATION EFFICIENCY).
- PROVIDE A MIN. OF 10" CLEARANCE BETWEEN O/A INTAKES AND VIR OR EXHAUST OPENINGS.
- INDEPENDENT CONTRACTOR SHALL TEST AND BALANCE ALL MECHANICAL EQUIPMENT AIR DEVICES, EXTRACTORS, DAMPERS, AHU'S & FAN RATES, ETC. TO PROVIDE THE DESIGN QUANTITIES AS SHOWN ON THE PLANS OR SCHEDULES. PROVIDE T & B REPORT IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS, SIGNED AND SEALED BY A REGISTERED FLORIDA ENGINEER. PROVIDE FINAL BALANCING FOR ALL SYSTEMS TO SATISFACTION OF OWNER AND ENGINEER. T & B CONTRACTOR SHALL VISIT JOB SITE DURING CONSTRUCTION TO ENSURE THAT ALL DUCTS, DAMPERS, ETC. ARE INSTALLED FOR PROPER AND QUIET AIR DELIVERY.
- THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION.
- RUN INSULATED CONDENSATE DRAINS AS PER PLUMBING DRAWINGS.
- MOUNT ALL ROOFTOP EQUIPMENT FOR WIND LOADS AND MOUNTING HEIGHTS AS REQUIRED BY LOCAL CODES. ALL CURBS SHALL EXTEND 8" MIN. ABOVE FINISHED ROOF.
- ALL PIPING AND DUCTWORK SHALL BE SLEEVED THRU WALLS, BEAMS, SLABS, ETC. AS REQUIRED AND COORDINATED WITH THE STRUCTURAL ENGINEER. REWORK BAR JOIST CROSS BRACING AND PROVIDE NECESSARY TRANSITIONS AS REQUIRED FOR DUCTWORK INSTALLATION.
- ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- PROVIDE MOTOR STARTERS AS FOLLOWS (UNLESS OTHERWISE RECOMMENDED BY MOTOR MANUFACTURER):
 - A: PROVIDE OVERLOAD PROTECTION - 1/3 HP AND ABOVE (ALL PHASES).
 - B: PROVIDE ACROSS THE LINE VOLTAGE STARTING BELOW 25 HP.
- ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCES. MIN. REQUIREMENT SHALL NOT EXCEED A NOISE LEVEL OF 65 DB AS MEASURED RADIALLY 30 FT FROM THE EQUIPMENT IN ALL DIRECTIONS.
- FOR ALL BELT DRIVEN RTU'S PROVIDE ADJUSTABLE PULLEYS
- FILTERS SHALL BE IN PLACE DURING CONSTRUCTION. PROVIDE A NEW SET PRIOR TO TEST AND BALANCE AND A FINAL SET AT THE END OF ONE YEAR SERVICE PERIOD.

ROOFTOP UNIT SCHEDULE

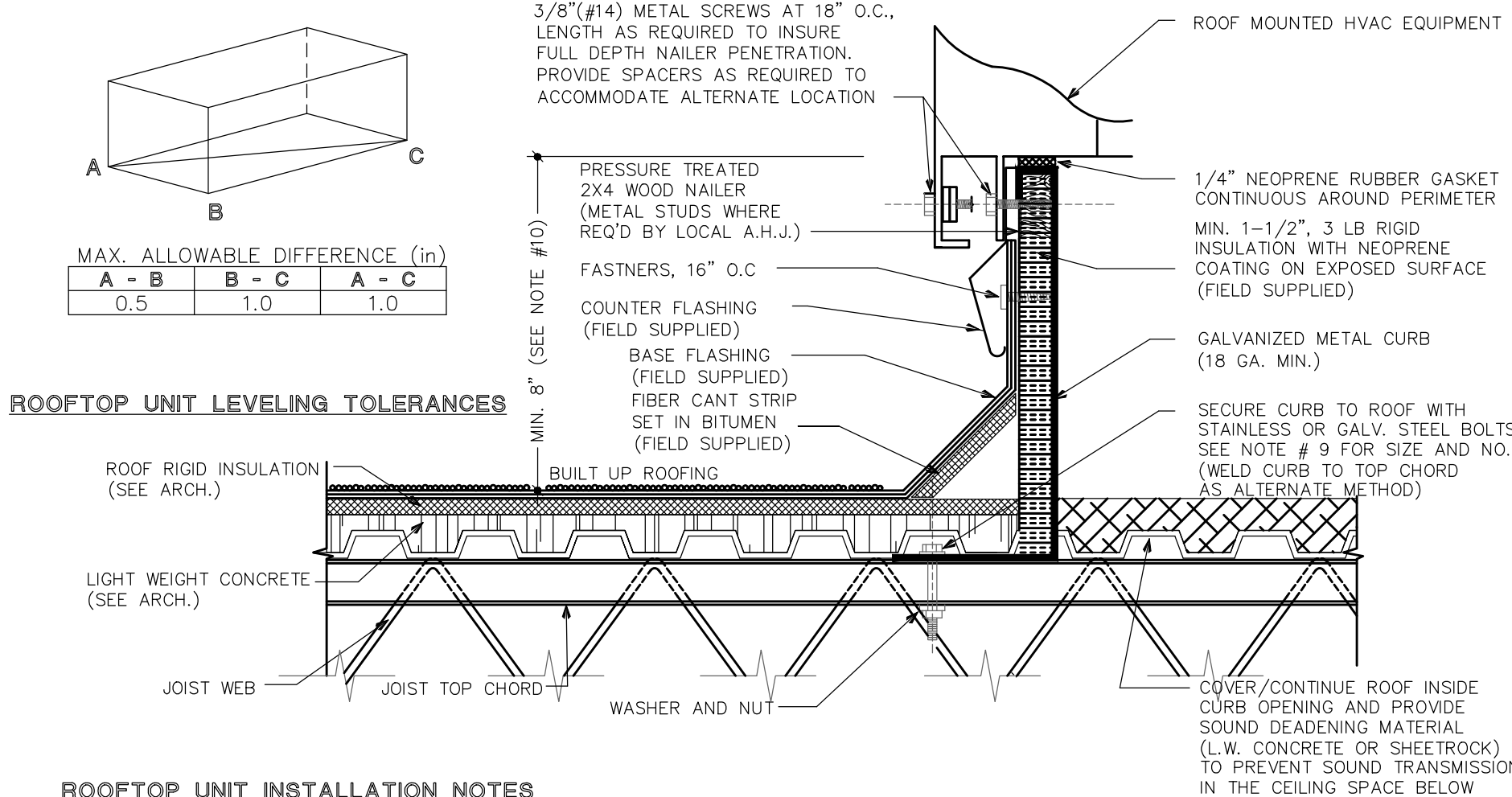
RTU UNIT TAG #	MANUFACTURER	RTU-1,2
	TRANE	
MODEL #	THC092E	
TOTAL SENSIBLE MBH	68.6	
TOTAL COOLING MBH	92.0	
ENT AIR TEMP D.B. /W.B. °F	80/67	
SUPPLY AIR CFM @ EXT. S.F.	3000	
OUTSIDE AIR CFM	SEE O/A TABLE	
POWER - VOLTS/PHASE	208-3-60	
MIN. CIRCUIT AMPS/ MAX. FUSE	41.9/50	
OPERATING WEIGHT (lbs)	---	
MINIMUM EER/SEER	12.6/14.5 IEER	
DIMENSIONS (LXWXH)	88.6X53.3X46.9	

SYSTEM SECTION	COMPRESSORS:	
	NO. OF COMPRESSORS	2
MODEL #	-	
NO. OF STEPS	1	
NOMINAL TONS	7.5	
F.L.A. EACH	-	
L.R.A. EACH	10	
CONDENSING SECTION	OUTDOOR FANS:	
	NO. OF FAN MOTORS	1
FAN MOTOR H.P. EACH	-	
FAN MOTOR F.L.A. EACH	3.5	
EVAPORATOR SECTION	INDOOR FAN:	
	FAN CFM	3000
	FAN E.S.P.	1.0
	FAN MOTOR H.P.	3.8
	FAN MOTOR F.L.A.(208/3/60)	8.5
ELECTRIC HEATER:		YES
HEATER KW	6.8	
NO. OF STEPS	-	
HEATER F.L.A.	-	

- NOTE:**
- BASIS OF DESIGN IS TRANE UNITARY PRODUCT
 - PROVIDE PROGRAMMABLE THERMOSTAT WITH HUMIDITY CONTROL.
 - MAY REQUIRED HI-STATIC INDOOR FAN MOTOR AND/OR FILED SUPPLIED DRIVE
 - PROVIDE FACTORY INSTALLED HOT GAS REHEAT
 - PROVIDE ALL UNITS WITH ELECTRICAL CONVENIENCE OUTLET.
 - SEE ROOF PLAN FOR UNIT DISCHARGE CONFIGURATION. COORDINATION BETWEEN MECHANICAL CONTRACTOR AND ARCHITECT IS REQUIRED PRIOR TO ANY PURCHASE.
 - PROVIDE MANUFACTURE INSTALLED SMOKE DETECTOR IN RETURN DUCT ON UNIT WITH OVER 2000 CFM
 - PROVIDE MOTORIZED DAMPER OPTION FOR O/A.

NOTE

DETAIL SHOWN FOR REFERENCE ONLY FOR ATTACHMENT PURPOSES. CODE COMPLIANCE SHALL BE DETERMINED AND VERIFIED BY A LICENSED STRUCTURAL ENGINEER.

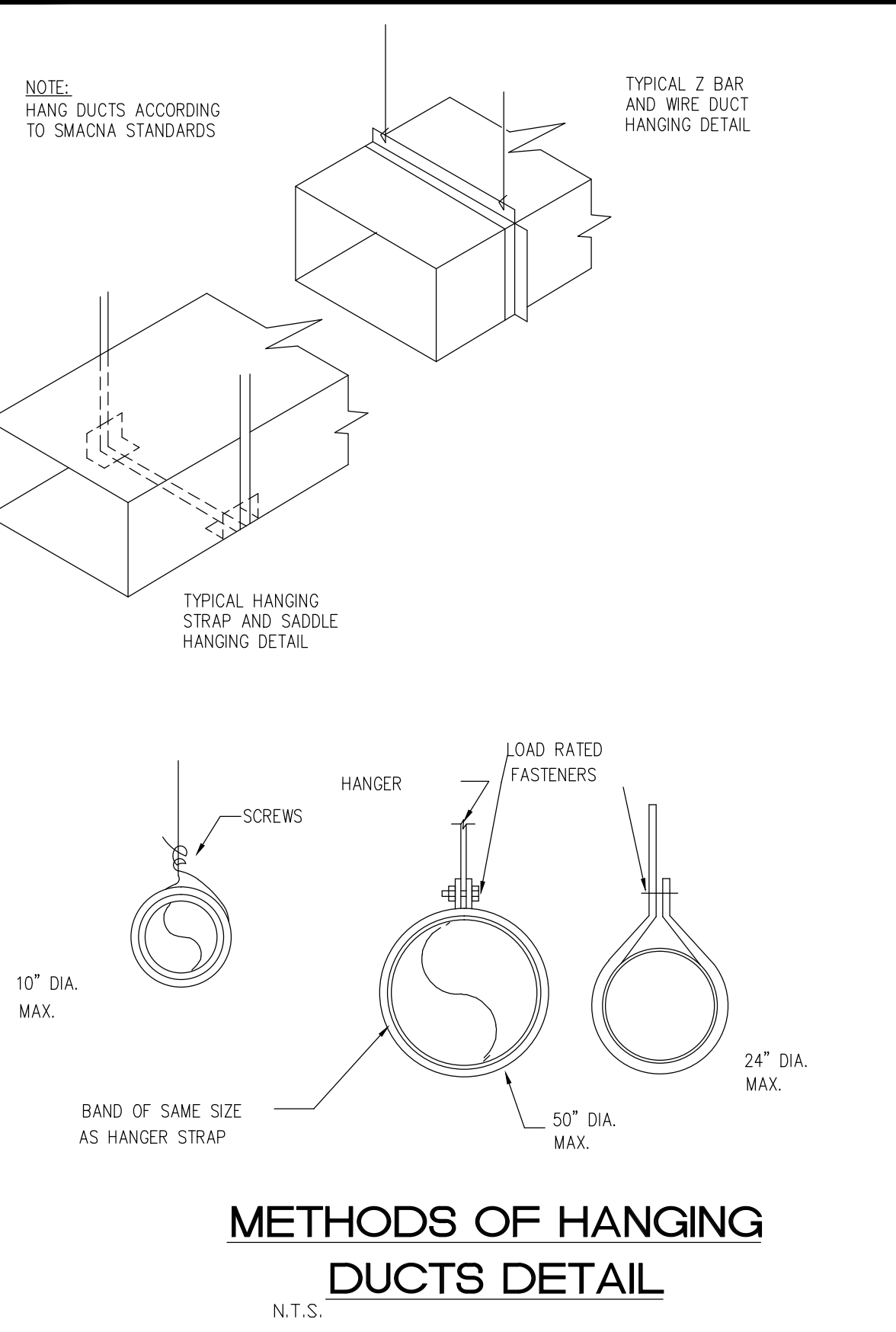


ROOFTOP UNIT LEVELING TOLERANCES

- ROOFTOP UNIT INSTALLATION NOTES**
- DUCT TRANSITION FROM RTU TO DUCT SIZE SHOWN ON MECH. FLOOR PLAN SHALL BE MADE BETWEEN RTU & TOP OF ROOF WITHIN CURB.
 - SIZE OF OPENING IN ROOF DECK TO BE AS SMALL AS POSSIBLE, 6" MAX. LARGER THAN DUCT SIZE SHOWN. COORDINATE W/STRUCTURAL PLANS.
 - INSTALL PER MANUFACTURER'S RECOMMENDATION AND INSTALLATION MANUAL.
 - ALL WIRING BY ELECTRICAL CONTRACTOR
 - SHM CURB AS REQUIRED TO PROVIDE HORIZONTAL INSTALLATION OF UNIT WITHIN PRESCRIBED TOLERANCES
 - CONTRACTOR SHALL COORDINATE LOCATION OF ROOF CURB WITH STRUCTURE PRIOR TO INSTALLATION.
 - ROOF CURB BY AIR CONDITIONER MANUFACTURER. PROVIDE ADDITIONAL BRACING AND SUPPORT. AS REQUIRED FOR ROOF CURB INSTALLATION TO WITHSTAND WIND LOAD PER LOCAL CODES.
 - CURB TO BE HEAVY GAUGE GALVANIZED STEEL CONSTRUCTION AS RECOMMENDED BY MANUFACTURER, ALL FASTENERS SHALL BE CORROSION PROTECTED IF EXPOSED TO OUTDOORS
 - FOR A/C UNIT ROOFCURB, PROVIDE "RED HEAD" WEDGE TYPE ANCHOR/TAPCON WITH MIN. EMBEDMENT AS RECOMMENDED BY ANCHOR MANUFACTURER. PROVIDE NUMBER AND SIZE OF ANCHORS AS RECOMMENDED BY STRUCTURAL ENGINEER
 - CLEARANCE OF UNIT TO ABOVE FINISHED ROOF SHALL COMPLY WITH LOCAL CODE REQUIREMENTS: PAR. 1509.7 FOR FLORIDA BUILDING CODE, 2010 ED.

HVAC EQUIPMENT ROOF CURB DETAIL

N.T.S.



FAN SCHEDULE

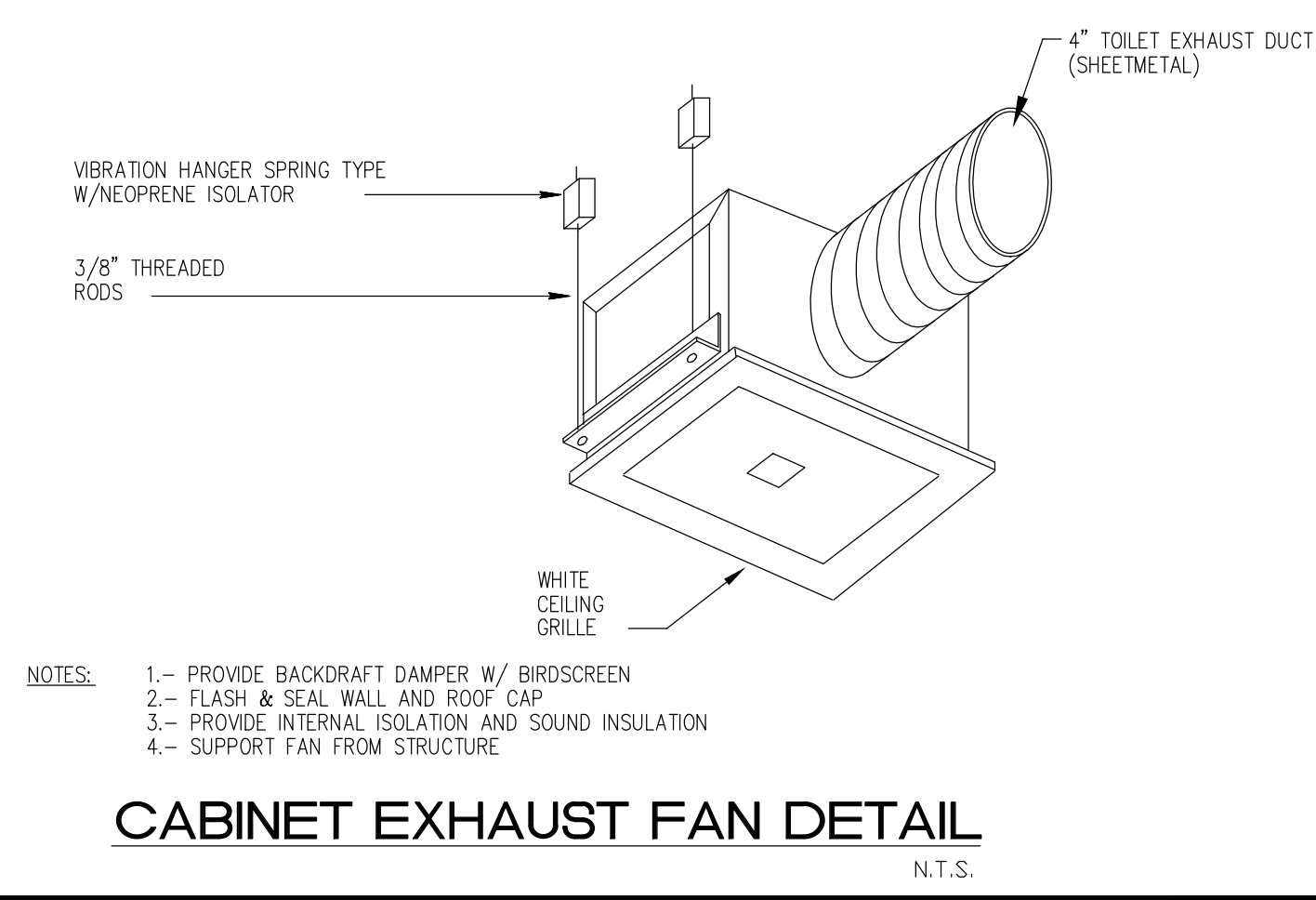
MARK	SELECTION BASED ON		TYPE/ SERVICE	CFM	TSP	MOTOR DATA	SONES
	MAKE	MODEL NO.					
EF-1	GREENHECK	SP-B80	BATHROOM	80	.125	29 /129-1-60	1.1

GENERAL FAN NOTES:

- PROVIDE BACKDRAFT FOR ALL EXHAUST FANS.
- FIELD ADJUST OPENINGS WITH STRUCTURE.
- COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
- SEE GENERAL, AIR CONDITIONING, DUCTWORK, AND COORDINATION NOTES FOR OTHER FIELD SUPPLIED ITEMS.
- PROVIDE BIRDSCREEN ON ALL INLETS AND OUTLETS.
- SWITCH WITH LIGHTS

MIN. VENTILATION RATE (2014 FBCM TABLE 403.3)

AREA	SYSTEM	GR/NET SQ. FT.	PERS./1000 SF	TOTAL PERS.	CFM/ PERS.	CFM/ SQ. FT.	CFM REQ'D	CFM PROVIDED
ADJUST OUTSIDE AIR TO VALUE AS SHOWN								RTU-1 390
								RTU-1 390



LEGEND

	NEW SUPPLY DIFFUSER
	NEW 24X24 RETURN AIR GRILLE.
	MANUAL VOLUME DAMPER
	NEW FLEXIBLE DUCT, U.L. CLASS 1 (R-6)
	FIRE DAMPER
	POINT OF CONNECTION EXISTING TO NEW.
	INSULATED SPIRAL DUCT
	PROGRAMMABLE T-STAT
	DUCT DETECTOR REMOTE TEST/RESET STATION
	DUCT SMOKE DETECTOR (WITH AUDIBLE AND VISBLE CAPABILITY)

PROFESSIONAL ENGINEER

VIET BACH NGUYEN, PE

LICENSE No. 69753

STATE OF FLORIDA

VIET BACH NGUYEN, PE

LICENSE No. 69753

STATE OF FLORIDA

date

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PROJECT:

BAY 39 WESTGATE SHOPPING CENTER
100 N STATE ROAD 7
LAUDERDALE LAKES, FL 33317

INTERIOR IMPROVEMENTS

FINAL CONTRACT DOCUMENTS

PROJECT NUMBER:	2016-00-4
DATE:	06-06-2016
CAD FILE NO:	

ADDENDA/REVISIONS

SEAL:

CYNTHIA C. SPRAY, AIA AR-94167

DRAWING TITLE:

MECHANICAL SCHEDULE AND DETAILS

DRAWING NO:

M-2

project no. 1623.00