

DESIGN WEATHER PARAMETERS

Design Parameters:

City Name	Raleigh/Durham
Location	North Carolina
Latitude	35.8 Deg.
Longitude	78.8 Deg.
Elevation	440.6 ft
Summer Design Dry-Bulb	93.0 °F
Summer Coincident Wet-Bulb	76.0 °F
Summer Daily Range	18.8 °F
Winter Design Dry-Bulb	16.0 °F
Winter Design Wet-Bulb	13.0 °F
Atmospheric Clearness Number	0.95
Average Ground Reflectance	0.20
Soil Conductivity	0.800 BTU/(hr ft °F)
Local Time Zone (GMT +/- N hours)	5.0 hours
Consider Daylight Savings Time	No
Simulation Weather Data	2001 ASHRAE Handbook
Current Data is	January to December

Air System Information

Air System Name	Split DX	Number of zones	1
Equipment Class	PKG ROOF	Floor Area	1669.0 ft²
Air System Type	SCZAV	Location	Raleigh/Durham, North Carolina

Sizing Calculation Information

Calculation Months	Jan to Dec	Zone CFM Sizing	Sum of space airflow rates
Sizing Data	Calculated	Space CFM Sizing	Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load	4.8 Tons	Load occurs at	Jul 13:00
Total coil load	67.1 MSH	OA DB / WB	90.9 / 76.5 °F
Sensible coil load	41.2 MSH	Entering DB / WB	76.2 / 66.4 °F
Coil CFM at Jul 13:00	2000 CFM	Leaving DB / WB	56.0 / 56.6 °F
Max block CFM	2000 CFM	Coil ADP	64.7 °F
Sum of peak zone CFM	2000 CFM	Bypass Factor	0.100
Sensible heat ratio	0.722	Resulting RH	67 %
RT/ton	330.0	Design supply temp.	58.0 °F
BTU/ton-hr	36.4	zone T-stat Check	1 of 1 OK
Water flow @ 10.0 °F rise	N/A	Misc zone temperature deviation	0.0 °F

Central Heating Coil Sizing Data

Max coil load	15.7 MSH	Load occurs at	Dec 8g
Coil CFM at Dec 8g	2000 CFM	BTU/(hr ft²)	10.0
Max coil CFM	2000 CFM	Ent. DB / Lv. DB	69.9 / 67.3 °F
Water flow @ 20.0 °F drop	N/A		

Supply Fan Sizing Data

Actual max CFM	2000 CFM	Fan motor BHP	0.65 BHP
Standard CFM	1968 CFM	Fan motor kW	0.43 kW
Actual max CFM/HP	1.27 CFM/HP	Fan static	1.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM	310 CFM	CFM/person	8.38 CFM/person
CFM/HP	0.20 CFM/HP		

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	Detail #	Sensible (BTU/hr)	Latent (BTU/hr)	Detail #	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0.0	0	0	0.0	0	0
Wall Transmission	0.0	0	0	0.0	0	0
Roof Transmission	0.0	0	0	0.0	0	0
Window Transmission	0.0	0	0	0.0	0	0
Skylight Transmission	0.0	0	0	0.0	0	0
Door Loads	0.0	0	0	0.0	0	0
Floor Transmission	1568	0	0	1568	0	0
Partitions	0.0	0	0	0.0	0	0
Ceiling	0.0	0	0	0.0	0	0
Overhead Lighting	1604 W	4552	0	0	0	0
Task Lighting	520 W	1568	0	0	0	0
Electric Equipment	2500 W	8062	0	0	0	0
People	311	571	7505	0	0	0
Miscellaneous	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Safety Factor	5% / 5%	936	3179	5%	0	0
>> Total Zone Loads		20203	7964		0	0
Zone Conditioning		32017	7964		0	0
Plenum Wall Load	0%	0	0	0	0	0
Plenum Floor Load	0%	0	0	0	0	0
Plenum Lighting Load	0%	0	0	0	0	0
Return Fan Load	2000 CFM	0	0	2000 CFM	0	0
Ventilation Load	310 CFM	6748	7901	310 CFM	17135	0
Supply Fan Load	2000 CFM	1403	0	2000 CFM	-1403	0
Space Fan Coil Fans	0	0	0	0	0	0
Duct Heat Gain Loss	5%	1046	0	5%	0	0
>> Total System Loads		41195	15865		16562	0
Central Cooling Coil		41195	15865		0	0
Central Heating Coil		0	0		15562	0
>> Total Conditioning		41195	15865		15562	0

Key: Positive values are ckg loads, Negative values are hkg loads

EXISTING FAN SCHEDULE

MARK	(E)JEF-1	
MANUFACTURER	NUTONE	
MODEL	8663RP	
TYPE	CEILING	
DRIVE TYPE	DIRECT	

PERFORMANCE

AIR FLOW (CFM)	90
EXT. STATIC (IN W.C.)	0.3
FAN SPEED (RPM)	EXISTING

ELECTRICAL

VOLTS/PH/Hz	120 / 1 / 60
FAN MOTOR WATTS	EXISTING
APPROX. WEIGHT (LBS.)	EXISTING
SERVES	RESTROOM
ACCESSORIES	EXISTING
NOTES	EXISTING

ACCESSORIES:

- EXISTING.

NOTES:

- EXISTING.

AIR DISTRIBUTION SCHEDULE

MARK	CATALOG NUMBER	MOD.	SIZE	SIZE	MOUNTING	OTHER	MATERIAL	BORDER STYLE	NOTES
SR-1	PRICE SDR100		4'-0" 2-SLOT	10"ø	●		STEEL	A	I
SR-2	PRICE SDR100		12"x10"	10"øx8"	●	DUCT	STEEL	A	I
RG-1	PRICE SDR100		4'-0" 2-SLOT	12"ø	●		ALUM.	A	I
RG-2	PRICE SDR100		12"x12"	10"x10"	●	DUCT	STEEL	A	I
RG-3	PRICE SDR100		24"x24"	22"x22"	●		ALUM.	C	

NOTES (APPLY TO ALL AIR DISTRIBUTION DEVICES):

SYMBOL KEY / MARK:

FIRST LETTER: S-SUPPLY R-RETURN E-EXHAUST
 SECOND LETTER: D-DIFFUSER R-REGISTER G-GRILLE

CATALOG NUMBERS REFER TO PRICE AIR DEVICES.

PROVIDE DIRECTIONAL BLOW FOR AIRFLOW OTHER THAN 4-WAY. SEE DETAIL ON THIS SHEET.

SEE ARCHITECTURAL SHEETS FOR FINISH COLOR, IF NO COLOR IS SPECIFIED, PROVIDE STANDARD WHITE.

BORDER STYLE:

- SURFACE MOUNTED.
- LAT-IN - PROVIDE WITH TITUS MODEL #TRM-S FRAME FOR DRYWALL CEILING MOUNTING. SEE DETAIL ON THIS SHEET.
- LAT-IN FRAME FOR T-BAR CEILING.

NOTES:

- PROVIDE SDR100 WITH ENGINEERED PLENUM AND BUTTERFLY VOLUME CONTROL DAMPER KIT #VCRBEC.

OUTSIDE AIR SCHEDULE

SPACE DESIGNATION	FLOOR AREA (SF)	SPACE OUTSIDE AIR REQUIREMENTS (NCHC 2012)				SERVICE	OUTSIDE AIR (CFM)
		OCCUPANCY	CFM PER PERSON	CFM PER SF	MINIMUM CFM		
SALES	1050	16	7.5	0.12	244	(E)JAHU-1	310
NON-SALES	519	2	-	0.12	62		

MINIMUM OUTSIDE AIR REQUIRED = 306

MINIMUM OUTSIDE AIR DELIVERED = 310 CFM

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	(E)JAGU-1
MANUFACTURER	CARRIER
MODEL # / EER	24ACC660
AMBIENT OAT ("FDB)	90.9
TOTAL CAPACITY (MBH)	59.4
SENSIBLE (MBH) / SEER	45.9

PHYSICAL DATA

NUMBER OF FANS	1
NO. OF COMPRESSORS	1

ELECTRICAL

VOLTS/PH/Hz	208/1/60
MCA (AMPS)	28
MOCP (AMPS)	40
MAX. WEIGHT (LBS)	400

ACCESSORIES

EXISTING	EXISTING
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NOTES:

- EXISTING.

AIR HANDLING UNIT SCHEDULE - SPLIT DX

MARK	(E)JAHU-1
MANUFACTURER	CARRIER
MODEL #	FX4DNF061
NOMINAL TONNAGE	5.0
SUPPLY AIR FLOW (CFM)	2,000
OUTSIDE AIR FLOW (CFM)	310
EXT. S.P. (IN. W.C.)	0.6

DX COOLING COIL

EAT ("FDB/MB)	79.2 / 67.1
TOTAL (MBH)	59.4
SENSIBLE (MBH)	45.9

ELECTRIC HEAT

INPUT (KW)	10.0
OUTPUT (MBH)	25.6
STAGES	1

ELECTRICAL

VOLTS/PH/Hz	208 / 1 / 7
MOTOR (HP)	0.75
MCA (AMPS)	53.8
MOCP (AMPS)	64

ACCESSORIES

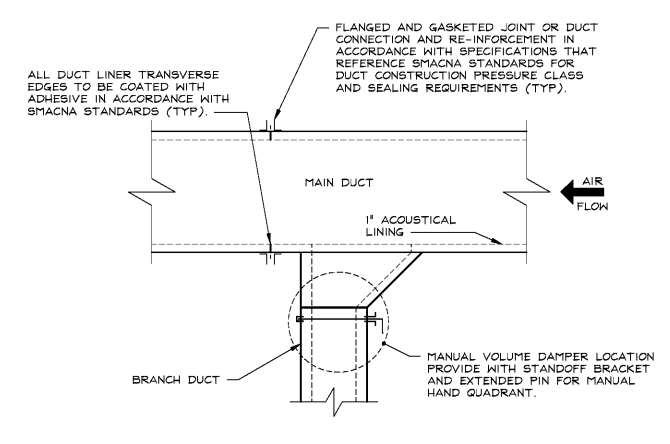
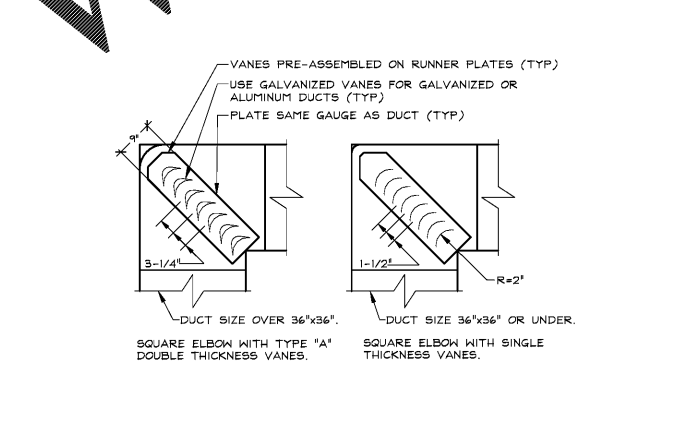
EXISTING	EXISTING
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NOTES:

- EXISTING.

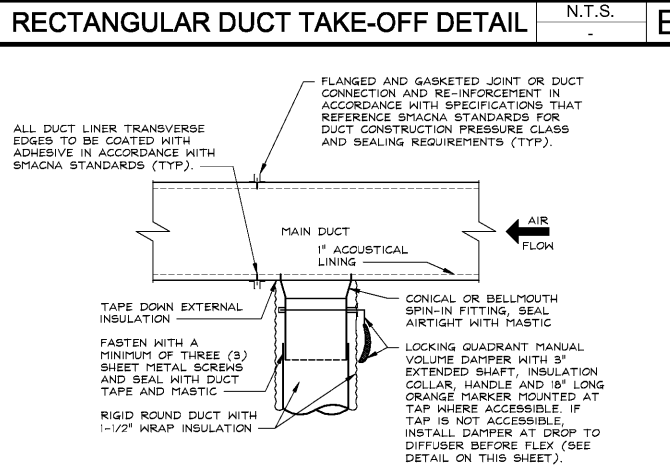
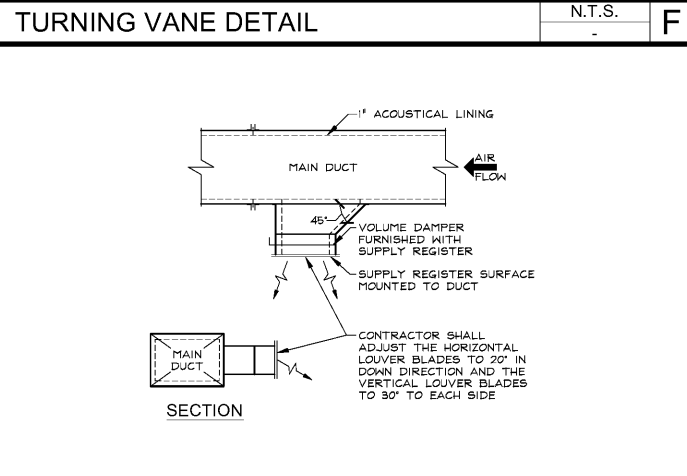
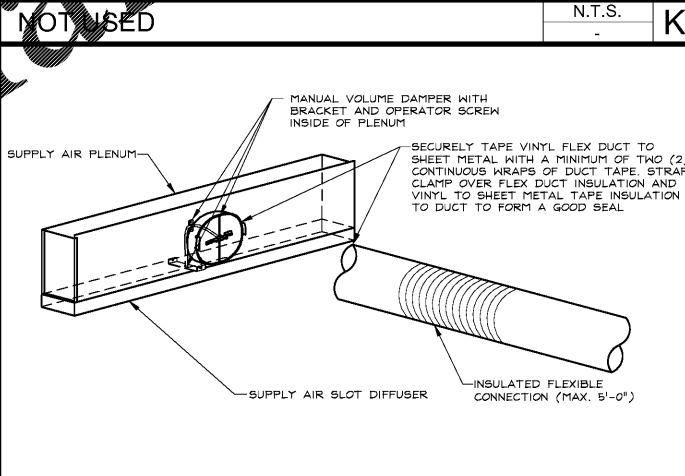
HVAC SCHEDULES

NOT USED	N.T.S.	K
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HVAC LOAD CALCULATIONS

NOT USED	N.T.S.	J
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NOT USED

NOT USED	N.T.S.	J
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LINEAR SLOT DIFFUSER DETAIL

NOT USED	N.T.S.	J
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DIFFUSER ON SQUARE DUCT DETAIL

NOT USED	N.T.S.	E
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ROUND DUCT TAKE-OFF DETAIL

NOT USED	N.T.S.	A
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OWNER: **UNTUCKit**
 SHIRTS DESIGNED TO BE WORN UNTUCKED.
 110 GREEN ST. SUITE 400
 DURHAM, NC, 27701

ARCHITECT / ENGINEER: **SHREMSHOCK**
 North Carolina Firm License Number: #C-3048
 Shremshock Architects & Engineers, Inc.
 7400 W. Clampus Rd. Ste. 150 New Albany, OH 43054
 T: 614 545 4550 F: 614 545 4556
 www.shremshock.com

VERIFY ALL CONDITIONS IN FIELD PRIOR TO BIDS.

STORE NO: -

PROJECT LOCATION: THE STREETS AT SOUTHPOINT
 6910 FAYETTEVILLE RD
 SPACE#: 1140
 DURHAM, NC 27713

DESIGN TYPE: C

REVISIONS:

REQUIRED BY:	DATE

*INDICATES NO REVISION TO THIS SHEET

DRAWN BY: CMH
 CHECKED BY: JTP

Bid Set TRCI
 04.10.18

DRAWING TITLE: MECHANICAL SCHEDULES AND DETAILS

DATE ISSUED: 03/30/2018
 PROJECT NO: 180088
 DRAWING NO: M2.0