

# HVAC LOAD CALCULATIONS

## LOAD COMPONENT SUMMARY

	DESIGN COOLING			DESIGN HEATING		
	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
<b>COOLING DATA AT Jul 1300</b>						
COOLING OA DB / WB 89.6 °F / 77.6 °F						
<b>HEATING DATA AT DES HTG</b>						
HEATING OA DB / WB 43.0 °F / 36.1 °F						
<b>ZONE LOADS</b>						
Window & Skylight Solar Loads	0 hp	0	-	0 hp	-	-
Wall Transmission	0 hp	0	-	0 hp	0	-
Roof Transmission	1856 hp	12382	-	1856 hp	6041	-
Window Transmission	0 hp	0	-	0 hp	0	-
Skylight Transmission	0 hp	0	-	0 hp	0	-
Door Loads	0 hp	0	-	0 hp	0	-
Floor Transmission	1856 hp	0	-	1856 hp	0	-
Partitions	0 hp	0	-	0 hp	0	-
Ceiling	113 hp	307	-	113 hp	317	-
Overhead Lighting	1463 W	4351	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1207 W	3693	-	0	0	-
People	31	6881	9978	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	8000	0	-	0	0
Safety Factor	20% / 20%	7123	1996	20%	1272	0
<b>&gt;&gt; Total Zone Loads</b>		<b>42737</b>	<b>11973</b>		<b>7829</b>	<b>0</b>
Zone Conditioning	-	46728	11973	-	8705	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Return Fan Load	2230 CFM	0	-	2230 CFM	0	-
Ventilation Load	0 CFM	0	0	0 CFM	0	0
Supply Fan Load	2230 CFM	0	-	2230 CFM	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
<b>&gt;&gt; Total System Loads</b>		<b>46728</b>	<b>11973</b>		<b>8705</b>	<b>0</b>
Central Cooling Coil	-	46728	11977	-	0	0
Central Heating Coil	-	0	-	-	8705	-
<b>&gt;&gt; Total Conditioning</b>		<b>46728</b>	<b>11977</b>		<b>8705</b>	<b>0</b>
<b>Key:</b>		Positive values are ckg loads		Positive values are htg loads		Negative values are htg loads
		Negative values are ckg loads		Negative values are htg loads		

SYSTEM	THERMOSTAT
EXISTING VAV-1	COOL (OCC.) - 75.0°F
SUPPLY AIR - 55°F ± 2°F	COOL (UNOCC.) - 85°F
2,230 CFM	HEAT (OCC.) - 60.0°F
START - 8:00	
DURATION - 14 HRS	

# HVAC SYMBOLS

—D—	CONDENSATE DRAIN LINE	DIFF.	DIFFUSER
TE	TOILET EXHAUST	☒	RETURN AIR GRILLE
☒	SMOKE DETECTION DEVICE	☒	SUPPLY AIR DIFFUSER
●	SPRINKLER HEAD	R.A.	RETURN AIR
☉	SMOKE DETECTOR	S.A.	SUPPLY AIR
⊖	THERMOSTAT	⊖	CONNECT TO EXISTING
⊖	TEMPERATURE SENSOR	⊖	AIR DEVICE TYPE
T.G.	TRANSFER GRILLE	⊖	AIR VOLUME IN CUBIC FEET/MINUTE (CFM)
— —	DAMPER		

## MECHANICAL CONTRACTOR'S NOTE

ALL OF THE MECHANICAL & SPRINKLER WORK IS NOT NECESSARILY SHOWN OR NOTED ON THESE DRAWINGS. THE CONTRACTORS SHALL VISIT THE JOB SITE AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE WORK PRIOR TO BIDDING. THOSE ITEMS NOT SHOWN OR NOTED, BUT ARE DEEMED NECESSARY FOR REMOVAL OR RELOCATION BY THE OWNER OR HIS REPRESENTATIVE, SHALL BE PART OF THIS CONTRACT. THE SUBMISSION OF THE PROPOSALS SHALL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTORS HAVE VISITED THE SITE. NO EXTRA PAYMENTS WILL BE ALLOWED, DUE TO EXTRA WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO VISIT THE JOB SITE.

SPENCER'S HAS A CEILINGLESS DESIGN.

## PLUMBING KEYED NOTES

- EXISTING TOILET ROOM FIXTURES AND DRINKING FOUNTAIN TO REMAIN. FIELD VERIFY EXACT LOCATION. INSPECT FOR LEAKS, CLEAN AND PROVIDE GENERAL MAINTENANCE AS REQUIRED.

## AIR DEVICE SCHEDULE

PLAN MARK	QTY.	*TITUS MODEL NO.	FACE SIZE	NECK SIZE	FLEX SIZE	TYPE	NOTES
A	1	300-RL	18"x8"	16"x6"	N/A	DIFF.	1,2,3
B	1	300-RL	10"x8"	8"x6"	N/A	DIFF.	1,2,3
C	6	300-RL	14"x8"	12"x6"	N/A	DIFF.	1,2,3
D	1	50F	24"x24"	22"x22"	N/A	T.G.	4
E	4	350-RL	32"x10"	30"x8"	N/A	T.G.	4
F	1	350-RL	26"x8"	24"x6"	N/A	T.G.	4

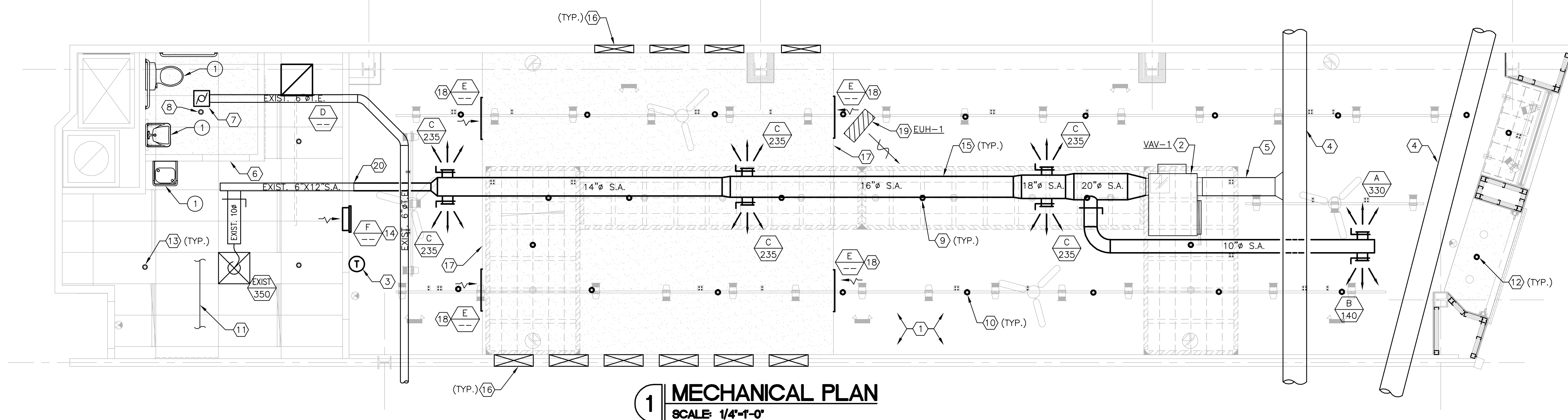
### NOTES:

- REFER TO PLAN FOR THROW PATTERN
- DUCT MOUNTED
- PROVIDE & INSTALL MANUAL VOLUME DAMPER
- FRAME SHALL FIT GYP. BOARD ROUGH IN

\* OR APPROVED EQUAL

# HVAC + SPRINKLER KEYED NOTES

- EXISTING HVAC EQUIPMENT, DUCTWORK, HANGERS, ASSOCIATED CONTROLS, ETC. NOT SCHEDULED TO BE RELOCATED OR RE-USED SHALL BE DISCONNECTED AND REMOVED FROM JOB SITE. DO NOT JUST ABANDON. FIELD VERIFY EXACT CONDITIONS AND LOCATIONS PRIOR TO BIDDING.
- EXISTING TRANE MODEL #VCC-24-12 VAV BOX TO REMAIN. FIELD VERIFY EXACT MAKE, MODEL, SIZE AND LOCATION. HVAC CONTRACTOR IS TO CLEAN UNIT AND PERFORM GENERAL MAINTENANCE AS REQUIRED. REPORT ANY DEFICIENCIES TO SPENCER'S ON-SITE REPRESENTATIVE PRIOR TO SUBMITTING A BID. ADJUST VAV BOX TO DELIVER 2,230 CFM AND MIN. SET POINT 500 CFM. ENSURE CONTROLS ARE IN PROPER WORKING ORDER. REPLACE CONTROLS AS REQUIRED.
- PROVIDE AND INSTALL NEW VAV COMPATIBLE THERMOSTAT WITH SUB-BASE AND LOCKING LUCITE COVER. COORDINATE WITH ELECTRICAL CONTRACTOR. MOUNTING HEIGHT 4'-0" A.F.F. TURN KEY OVER TO STORE MANAGER. EXISTING THERMOSTAT MAYBE RELOCATED AND REUSED IF IN GOOD CONDITION. FIELD VERIFY EXACT LOCATION AND CONDITION.
- EXISTING LANDLORD'S SUPPLY DUCT TO REMAIN. AVOID WITH NEW CONSTRUCTION. FIELD VERIFY EXACT SIZE, HEIGHT, AND LOCATION.
- EXISTING SUPPLY TAP TO EXISTING VAV BOX TO REMAIN. REPAIR/REPLACE AS REQUIRED. FIELD VERIFY EXACT SIZE AND LOCATION.
- CONTRACTOR TO ENSURE DOOR IS UNDERCUT ADEQUATELY.
- EXISTING TOILET EXHAUST FAN TO REMAIN. ENSURE POSITIVE OPERATION. FIELD VERIFY EXACT MAKE, MODEL, SIZE AND LOCATION. HVAC CONTRACTOR IS TO CLEAN UNIT AND PERFORM GENERAL MAINTENANCE AS REQUIRED. REPORT ANY DEFICIENCIES TO SPENCER'S ON-SITE REPRESENTATIVE PRIOR TO SUBMITTING A BID. EXISTING TOILET EXHAUST DUCT TO REMAIN.
- ENSURE EXISTING SPRINKLER HEAD ON TOILET ROOM CEILING. COORDINATE EXACT LOCATION WITH LIGHT/FAN FIXTURE. MODIFY SUPPLY PIPING AS REQUIRED.
- PROVIDE NEW SPRINKLER HEAD TO UNDERSIDE OF MEZZANINE AS REQUIRED. COORDINATE EXACT LOCATION WITH MEZZANINE. MODIFY SUPPLY PIPING AS REQUIRED.
- SPRINKLER HEAD (TYPICAL). PROVIDE NEW AS REQUIRED TO ACCOMMODATE OPEN-TO-DECK CEILING. COORDINATE EXACT LOCATION(S) WITH NEW LIGHTS AND CEILING FIXTURES. MODIFY SUPPLY PIPING AS REQUIRED.
- LANDLORD'S EXISTING SPRINKLER SYSTEM MAIN. FIELD VERIFY EXACT SIZE AND LOCATION.
- PROVIDE NEW/RELOCATE EXISTING FULLY CONCEALED SPRINKLER HEAD FOR STOREFRONT AS REQUIRED. FIELD VERIFY EXACT LOCATION. MODIFY PIPING AS REQUIRED.
- EXISTING SPRINKLER HEADS IN STOCK AREA TO REMAIN. VERIFY EXACT LOCATION IN FIELD. PROVIDE NEW/RELOCATE AS REQUIRED. MODIFY EXISTING PIPING AS REQUIRED.
- NEW TRANSFER AIR GRILLE SUPPLIED AND INSTALLED BY HVAC CONTRACTOR. INSTALL AS HIGH AS POSSIBLE/PRACTICAL IN WALL. COORDINATE WITH GENERAL CONTRACTOR AND OTHER TRADES. PAINT GRILLE TO MATCH ADJACENT SURFACE. REFER TO AIR DEVICE SCHEDULE FOR ADDITIONAL INFORMATION. TYPICAL OF 4.
- NEW "LOW PRESSURE" ROUND SUPPLY AIR DUCT SUPPLIED & INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE TRANSITIONS AS REQUIRED. DUCT DIMENSIONS ARE CLEAR INTERNAL AIR PATH DIMENSIONS. HOLD ALL DUCTWORK AS HIGH AS POSSIBLE/PRACTICAL IN JOIST SPACE.
- EXISTING 24"x24" RETURN AIR OPENINGS WITH FIRE DAMPERS IN DEMISING WALL TO REMAIN (TYP. OF 10). FIELD VERIFY EXACT SIZE AND LOCATION. DO NOT DISTURB ADJACENT TENANT'S RETURN AIR FLOW BACK TO LANDLORD'S HVAC SYSTEM. DO NOT OBSTRUCT AIR FLOW PATH IN CHASE.
- PROVIDE NEW GYP. BOARD CHASE TO CONNECT EXISTING RETURN AIR OPENINGS IN DEMISING WALLS FOR RETURN AIR PATH BACK TO LANDLORD'S HVAC SYSTEM. HOLD BOTTOM OF GYP. BOARD CHASE AS HIGH AS POSSIBLE WITHOUT OBSTRUCTING AIRFLOW SO NEW SUPPLY DUCT WORK MAY PASS BELOW. FIELD VERIFY EXACT LOCATION, CLEARANCES, HEIGHT, AND SIZE OF OPENINGS. ADJUST CHASE SIZE AND LOCATION ACCORDINGLY.
- NEW RETURN AIR GRILLES PROVIDED AND INSTALLED BY HVAC CONTRACTOR. REFER TO AIR DEVICE SCHEDULE. MOUNT ON GYP. BOARD RETURN AIR CHASE.
- RELOCATE EXISTING 4 KW UNIT @208V/1/60 HEATER TO LOCATION SHOWN. FIELD VERIFY EXACT MAKE, MODEL, AND SIZE. HVAC CONTRACTOR IS TO CLEAN UNIT AND PERFORM GENERAL MAINTENANCE AS REQUIRED. REPORT ANY DEFICIENCIES TO SPENCER'S ON-SITE REPRESENTATIVE PRIOR TO SUBMITTING A BID. SET INTEGRAL T-STAT AT 55°F.
- CONNECT NEW SUPPLY AIR DUCT TO EXISTING SUPPLY AIR DUCT TO STOCK AREA. VERIFY IN FIELD EXACT SIZE AND LOCATION. TRANSITION AS REQUIRED.



**1 MECHANICAL PLAN**  
SCALE: 1/4"=1'-0"

REGISTRATION SEAL

**FREDERICK J. GOGLIA**  
ARCHITECT, NCARB, RID  
1950 ORAIG ROAD, SUITE 300  
ST. LOUIS, MO 63146  
PH: (314) 415-2400 FAX: (314) 415-2800  
www.arvc.com



MALL AT WELLINGTON GREEN  
10300 W. FOREST HILL BLVD.  
WELLINGTON, FL 33414  
STORE #2018 - SPACE #249

REV.	DATE	DESCRIPTION

PROJECT NO: 110204  
DRAWN BY: WAT  
CHECKED BY: SL  
ISSUE DATE: 02/28/11  
MECHANICAL PLAN

**M100**