



February 03, 2018

CUST ID No. 915451

ATTN: Buildings & Structures Building Inspector

ANDY BOECK
TOTAL MECHANICAL
W234 N2830 PAUL RD
PEWAUKEE WI 53072

BUILDING INSPECTION
VILLAGE OF BROWN DEER
4800 W GREEN BROOK DR
BROWN DEER WI 53223

CONDITIONAL APPROVAL

(Please forward a copy of this letter to the fire department conducting inspections of this project.)

PLAN APPROVAL EXPIRES: 01/02/2019

SITE:

First Citizens Bank & Trust Co
4000 W Brown Deer Rd
Village of Brown Deer, 53209
Milwaukee County

Identification Numbers
Transaction ID No. 3048424 Site ID No. 607995
Please refer to both identification numbers, above, in all correspondence with the agency.

FOR:

Facility: 607995 FIRST CITIZENS BANK & TRUST CO
4000 W BROWN DEER RD
BROWN DEER 53209

Tenant Name or Addn/Alt Description: First Citizens Bank and Trust/ Guaranty Bank
Object Type: HVAC ICC System Regulated Object ID No.: 1741620 Code Applies Date: 01/03/18
11,664 sq ft Area Heated

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SITE REQUIREMENTS

- Contact both the State Inspector and the local municipality PRIOR to the start of construction.
- A full-size copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the full size set of plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction.

The following conditions shall be met during construction or installation and prior to occupancy or use:

REMINDERS

- IMC 603.6.2.1** - Provide flexible duct connectors which are listed and approved for such use, that are not over 14 ft in length, and convey air with a temperature less than 250 deg. F.
- IMC/SPS 364.0313(1)** - Every heating, ventilating and air-conditioning system shall be balanced upon installation. The person or agency responsible for balancing of the ventilating system shall document in writing the amount of outdoor air being provided and distributed for the building occupants, exhausts, and any other specialty ventilation. The document shall be retained at the site and shall be made available to the department upon request.
- The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements. Only those object types listed above have been approved; other submittals such as plumbing and those listed above under **REQUIRED SUBMITTAL(S)**, may also be required.

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FEB 0

- All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation. You are responsible for complying with state and federal laws concerning construction near or on wetlands, lakes, and streams.
- This plan has not been reviewed for compliance with fire code requirements, including those for fire lanes and fire protection water supply, so contact the local fire department for further information.
- In granting this approval, the Division of Industry Services reserves the right to require changes or additions, should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component. The Division does not take responsibility for the design or construction of the reviewed items.
- Per s. SPS 361.40(4), projects for buildings of over 50,000 cubic feet total volume shall have supervising professionals who file compliance statements with this agency and the local code officials prior to occupancy of the project. The compliance statement is available on our website. <http://verification.dsps.wi.gov/IndustryServices/Commercial-Buildings-Compliance/DSPSPMainForm.aspx>

Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

Sincerely,

Dave

Fee Required \$ 500.00

Fee Received \$ 500.00

Balance Due \$ 0.00

David Lintz

Architect / Bldg. Plan Reviewer, Division of Industry Services

(920)492-7728, Mon-Fri, 7:45 a.m. - 4:30 p.m.

david.lintz@wi.gov

cc: Total Mechanical Inc

Betty J Wiese, State Building Inspector, (414) 852-3694, Monday, 7:45 A.M. - 4:30 P.M.

Cindy Tinstman, First Citizens

NOTICE:
THIS DRAWING AND DESIGN MADE EXCLUSIVELY
FOR THE PARTY NAMED IN THE TITLE BLOCK AND
REMAINS THE PROPERTY OF TOTAL MECHANICAL
AND MAY NOT BE REPRODUCED OR COPIED IN
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CONSENT OF TOTAL MECHANICAL

Revisions	Date
State Plan Review	1/29/18

GENERAL NOTES:

DEMO ALL EXISTING GRILLES, REGISTERS DIFFUSERS AND
FLEX DUCT. CONFIRM WITH GENERAL CONTRACTOR THAT NEW
CEILING GRID ELEVATION WILL MATCH EXISTING CEILING
GRID ELEVATION, TYPE AND DIMENSIONS.

THERMOSTATS TO BE DEMO'D AND REPLACED WITH NEW STAND-ALONE THERMOSTATS.
THERMOSTATS LOCATED ON WALLS THAT ARE BEING DEMO'D ARE TO BE TEMPORARILY COILED
AND PLACED ABOVE EXISTING CEILING GRID.

KEYNOTES

01 EXISTING UNIT SERVES ADJACENT TENANT OFFICES

Sheet
**Partial
Second Floor HVAC
Demolition Plan**

Drawn By: BK Reviewed By: AB

Project
**First Citizens
Bank**
4000 West Brown Deer Road
Brown Deer, WI 53209

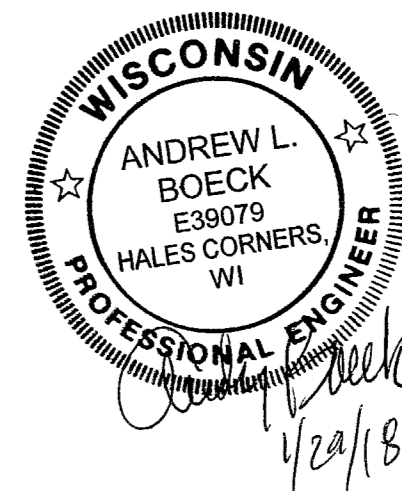
Job # 12448
DANIELS REV w/ TOTAL MECH
262-523-2500

Date
January 12, 2018

Project No
10xxx

Sheet No

M-1



1 Partial Second Floor HVAC Demolition Plan
SCALE: 1/8" = 1'-0"

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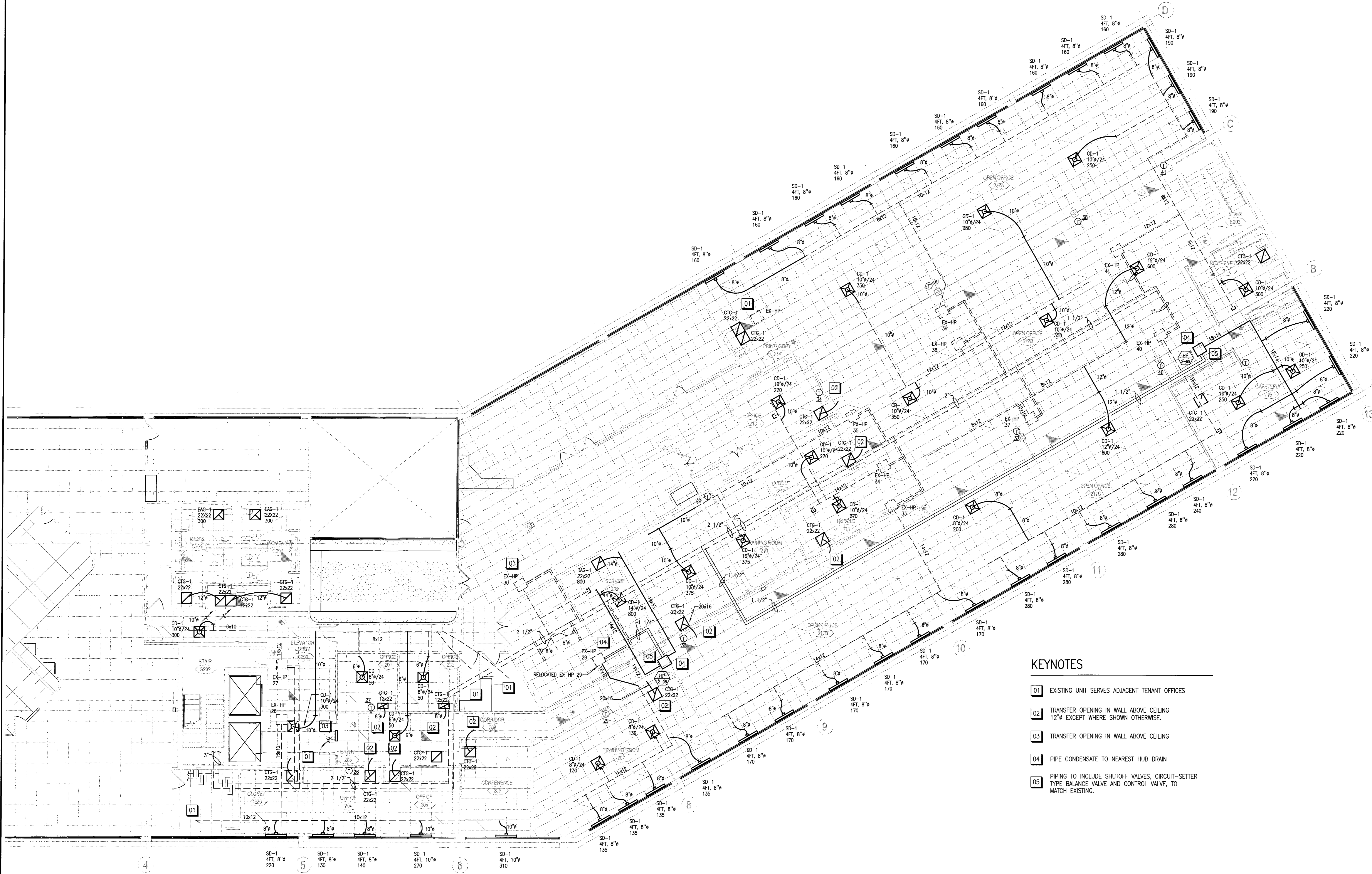
CONFIDENCE

1/24

3 2018

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Revisions	Date
State Plan Review	1/29/18



- KEYNOTES**
- 01 EXISTING UNIT SERVES ADJACENT TENANT OFFICES
 - 02 TRANSFER OPENING IN WALL ABOVE CEILING
12" EXCEPT WHERE SHOWN OTHERWISE.
 - 03 TRANSFER OPENING IN WALL ABOVE CEILING
 - 04 PIPE CONDENSATE TO NEAREST HUB DRAIN
 - 05 PIPING TO INCLUDE SHUTOFF VALVES, CIRCUIT-SETTER
TYPE BALANCE VALVE AND CONTROL VALVE, TO
MATCH EXISTING.

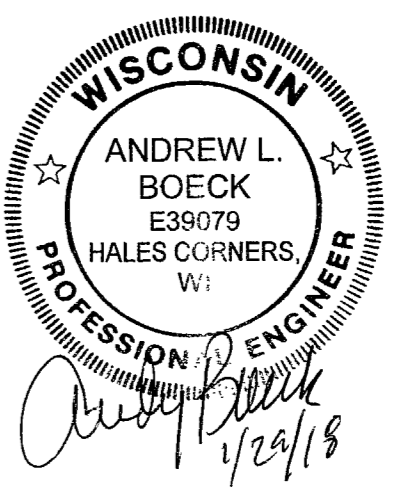
1 Partial Second Floor New HVAC Plan
SCALE: 1/8" = 1'-0"

Sheet
Partial
Second Floor New
HVAC Plan

Drawn By: BK Reviewed By: AB
Project
First Citizens
Bank
4000 West Brown Deer Road
Brown Deer, WI 53209

Date
January 12, 2018
Project No
10xxx
Sheet No

M-2



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Revisions Date
State Plan Review 1/29/18

HEAT PUMP UNIT SCHEDULE																	
UNIT TAG	AREA SERVED	MAKE	MODEL No.	SERIAL No.	REFRIGERANT TYPE	FILTERS	CFM	ESP *WG	WATER GPM	HEATING		COOLING		MCA	MFS	VOLTAGE	REMARKS
EX HP-26	SEE PLAN	SNYDER GENERAL	CC4042AMTS	7WC26741-07	R-22/55 OZ	16.5x35.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-27	SEE PLAN	SINGER	CC260B88	439460129	R-22/46 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT. FUSE BLOWN ON 460 VOLT DISCONNECT.
EX HP-29	SEE PLAN	SINGER	CC260B88	439420234	R-22/46 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-33	SEE PLAN	SINGER	CC330B88	439460115	R-22/67 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-34	SEE PLAN	SINGER	CC330B88	439460103	R-22/46 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT. UNIT HAS EXIST. NON-OPERATIONAL HUMIDIFIER.
EX HP-35	SEE PLAN	SINGER	CC260B88	430050048	R-22/46 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT. UNIT WON'T RUN. BAD CONTROLLER OR T-STAT.
EX HP-37	SEE PLAN	SINGER	CC520B88	439480023	R-22/80 OZ	18.5x32.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-38	SEE PLAN	SINGER	CC400B88	439420236	R-22/68 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-39	SEE PLAN	FLORIDA HEAT PUMP	EC041-4H2C-FRS	3540-303-000001-7111m26377	R-410A/70 OZ	20x16x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-40	SEE PLAN	JCI	RB5H042SR400CANUA7N02SSF	170800729	R-410A/70 OZ	18x18x2	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
EX HP-41	SEE PLAN	SINGER	CC330B88	439460116	R-22/57 OZ	18.5x23.5x1	-	-	-	-	-	-	-	-	15	460/3/60	EXISTING UNIT. WIRE TO STAND-ALONE T-STAT
HP-2-99	CAFETERIA 216	TRANE	GEHE0604-*---BLO	-	R-410A	1"	1,600	0.515	16.4	57.85	4.36	57.74	13.0	12.45	-	460/3/60	WIRE TO STAND-ALONE T-STAT. 10.50 FLA
HP-2-98	SERVER 209	TRANE	GEHE0244-*0---BLO	-	R-410A	1"	800	0.602	6.7	24.30	4.55	22.86	13.6	5.45	-	460/3/60	WIRE TO STAND-ALONE T-STAT. 4.55 FLA

NOTES: MCA = MINIMUM CIRCUIT AMPS MFS = MAXIMUM FUSE SIZE

DIFFUSER, REGISTER & GRILLE SCHEDULE					
UNIT TAG	MANUFACTURER	MODEL	TYPE	MOUNTING	REMARKS
CD-1	PRICE	SPD	CEILING PLAQUE DIFFUSER	LAY-IN	ROUND NECK, 4-WAY THROW
RAQ-1	PRICE	530	RETURN AIR GRILLE	LAY-IN	STEEL LOUVERED
EAG-1	PRICE	530	EXHAUST AIR GRILLE	LAY-IN	STEEL LOUVERED
CTG-1	PRICE	530	CEILING TRANSFER GRILLE	LAY-IN	STEEL LOUVERED
SD-1	PRICE	SDS100	SLOT DIFFUSER	T-BAR	4'-0", 1" 2-SLOT, 2-WAY

PIPING MINIMUM INSULATION TABLE (IN)		
FLUID	NOMINAL PIPE DIAMETER	
	≤ 1.5"	>1.5"
STEAM	1.5"	3"
HOT WATER	1.5"	2"
CHILLED WATER BRINE OR REFRIGERANT	1.5"	1.5"

NOTE:
1. PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 55F AND 105F.

DUCT INSULATION TABLE (MINIMUM R)			
DUCT LOCATION	DUCT TYPE	TEMP. DIFF.	HEATING & COOLING R-VALUE (MIN)
EXTERIOR	SUPPLY, RETURN, PLENUMS	---	8.0
EXTERIOR, UNCONDITIONED OR CONDITIONED SPACE	SUPPLY, RETURN, PLENUM	< 15	NONE
UNCONDITIONED SPACE	SUPPLY, RETURN, PLENUM	> 15	5.0
ATTIC SPACE/CRAWL SPACE	SUPPLY, RETURN, PLENUM	> 15	8.0
PLENUM	SUPPLY (ONLY)	> 15	5.0

NOTES: - DUCT AND PLENUM INSULATION SHALL BE PROVIDED IN ACCORDANCE WITH 2009 ENERGY CODE
- TEMPERATURE DIFFERENCE BASED ON AIR TEMPERATURE WITHIN THE DUCT OR PLENUM COMPARED TO THAT EXTERIOR TO THE DUCT OR PLENUM.
- EXCEPTION: WHEN LOCATED WITHIN EQUIPMENT (WHEN EQUIPMENT IS FURNISHED LINED OR INSULATED).

GENERAL NOTES

- ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
- SUPPLY FAN TO RUN CONSTANTLY DURING OCCUPIED PERIODS.
- MAINTAIN 10'-0" FROM ANY INTAKE TO ANY EXHAUST OR VENT.
- ALL DUCT INSTALLATION SHALL CONFORM TO ASHRAE AND SMACNA STANDARDS IN REGARD TO BUT NOT LIMITED TO DUCT GAUGES, TURNING RADIUS, AND THE INSTALLATION OF TURNING VANES AND/OR EXTRACTORS, WHETHER OR NOT SHOWN ON DRAWINGS.
- ALL DUCTWORK AND PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
- ALL DUCTWORK THAT REQUIRES INSULATION SHALL CONFORM WITH ALL APPLICABLE CODES. DIMENSIONS LISTED ARE INSIDE FREE AREAS AND DUCT SIZE MUST BE INCREASED TO ACCOUNT FOR THICKNESS OF INSULATION.
- HVAC CONTRACTOR OR BALANCING AGENT SHALL TEST, ADJUST, CALIBRATE AND BALANCE THE SYSTEMS AS REQUIRED UNDER Wisconsin Code. THE BALANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER, AND ONE COPY RETAINED AT THE JOBSITE.
- HVAC CONTRACTOR TO FOLLOW REQUIREMENTS FOR LEAKAGE TESTING DUCTWORK AS REQUIRED BY Wisconsin Code.
- ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS AND SYSTEM SCHEMATICS AS REQUIRED BY Wisconsin Code.
- DUCT INSULATION TO MEET THE REQUIREMENTS OF THE 2009 IECC.
PIPE INSULATION TO MEET THE REQUIREMENTS OF 2009 IECC.
- ALL EXHAUST DUCTWORK TO BE BARE SHEETMETAL.
- ALL HVAC EQUIPMENT TO MEET IRI, AGA, AND UL REQUIREMENTS.
- ALL TRANSFER DUCTS TO BE 1" LINED DUCT OR INSULATED FLEX (R-5)
- ALL LOW-VOLTAGE WIRING BY HVAC CONTRACTOR.
- LOW PRESSURE ROUND DUCT AFTER HEATPUMPS TO BE 1 1/2" FIBERGLASS ABOVE CEILINGS. (R-5 MIN.)
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS, OFFSETS, ETC. THESE DRAWINGS ARE FOR SCHEMATIC PURPOSES ONLY.

SEQUENCE OF OPERATIONS

HEAT PUMP

HEAT PUMP SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE AND COMPRESSOR SHALL CYCLE TO MAINTAIN COOLING / HEATING SETPOINTS.

LIST OF SYMBOLS	
SYMBOL	DESCRIPTION
-----	EXISTING PIPING, DUCTWORK & EQUIPMENT
	EXISTING PIPING, DUCTWORK & EQUIPMENT-DEMOLITION
----	NEW PIPING, DUCTWORK & EQUIPMENT
●	POINT OF CONNECTION
G-	PIPE DROPS
—○—	PIPE RISES
┌	PIPE END CAP
	BUTTERFLY VALVE
⊘	BALL VALVE
⊕	TEMPERATURE CONTROL VALVE
	SQUARE ELBOW WITH TURNING VANES
	ELECTRIC WALL HEATER
	EQUIPMENT DESIGNATION EQUIPMENT NUMBER
BOD	BOTTOM OF DUCT ELEVATION ABOVE FLOOR
AFF	ABOVE FINISHED FLOOR
Ⓢ	WALL THERMOSTAT
—┐ V0	MANUAL VOLUME DAMPER
—┐ M0	MOTOR OPERATED DAMPER
	CD-1 CEILING SUPPLY DIFFUSER ROUND NECK / SQUARE FACE AIR QUANTITY
	SD-1 SLOT DIFFUSER LENGTH, ROUND INLET SIZE AIR QUANTITY
	EAG-1 EXHAUST AIR GRILLE SIZE AIR QUANTITY
	RAQ-1 RETURN AIR GRILLE SIZE AIR QUANTITY
	RAR-1 RETURN AIR REGISTER SIZE AIR QUANTITY
	CTG-1 CEILING TRANSFER GRILLE SIZE AIR QUANTITY
	ROUND FLEXIBLE DUCT

Sheet
Schedules

Drawn By: BK Reviewed By: AB

Project
First Citizens
Bank
4000 West Brown Deer Road
Brown Deer, WI 53209

Date
January 12, 2018

Project No
10xxx

Sheet No

M-3

