

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for Building Conservation	
International Plumbing Code	2006	ADA Accessibility Guidelines	
International Fire Code	2006		
International Energy Conservation Code	2006		

A. Occupancy and Group: NA

Change in Use: Yes No Mixed Occupancy: Yes No
Special Use and Occupancy (e.g. High Rise, Covered Mall): _____

B. Seismic Design Category: _____ Design Wind Speed: _____ mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: _____ South: _____ East: _____ West: _____

E. Mixed Occupancies: _____ Nonseparated Uses: _____

F. Sprinklers:

Required: _____ Provided: _____ Type of Sprinkler System: _____

G. Number of Stories: _____ Building Height: _____

H. Actual Area per Floor (square feet): _____

I. Tabular Area: _____

J. Area Modifications:

$$a) A_a = A_t + \left[\frac{A_t I_t}{100} \right] + \left[\frac{A_t I_s}{100} \right] \quad I_t = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

- 1) One Story: _____
- 2) Two Story: $A_a(2)$ _____
- 3) Three Story: $A_a(3)$ _____

d) Unlimited Area Building: Yes No Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

L. Design Occupant Load: _____

Exit Width Required: _____ Exit Width Provided: _____

M. Minimum Number of Required Plumbing Facilities:

- a) Water Closets - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
- b) Lavatories - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
- c) Bath Tubs or Showers: _____
- d) Drinking Fountains: _____ Service Sinks: _____

FOOTNOTES:

- 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
 - a) High Rise Requirements.
 - b) Atriums.
 - c) Performance Based Criteria.
 - d) Means or Egress Analysis.
 - e) Fire Assembly Locator Sheet.
 - f) Exterior and Interior Accessibility Route.
 - g) Fire Stopping, Including Tested Design Number.

TAX COMMISSION VFD UPGRADE

DFCM # 07124310

210 NORTH 1950 WEST

SALT LAKE CITY, UT



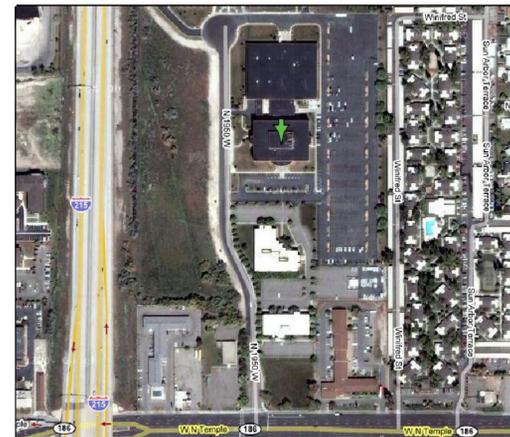
State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:

- M000 - TITLE SHEET
- MG001- MECHANICAL LEGEND AND GENERAL NOTES
- ME101- MECHANICAL PENTHOUSE PLAN



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MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY			AIR SIDE			WET SIDE			WET SIDE CONT		
	A	SECTION LETTER DESIGNATION			EXISTING AIR DUCT TO BE REMOVED			PUMP			ELBOW UP
	ME-101	SECTION DRAWN ON THIS SHEET			EXISTING AIR DUCT TO REMAIN			UNION			ELBOW DOWN
	A2	DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION			NEW AIR DUCT			MANUAL ACTUATOR (BALL, BUTTERFLY, NEEDLE, ETC. VALVES)			TEE UP
	1	MECHANICAL EQUIPMENT DESIGNATION			RECT. TO RECT. AIR DUCT TAKE-OFF			MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)			TEE DOWN
	AH	EQUIPMENT ITEM DESIGNATION			RECT. TO RND. AIR DUCT TAKE-OFF			MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)			EXISTING PIPING TO BE REMOVED
	CFM D-1	REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW			RND. TO RND. AIR DUCT TAKE-OFF			ELECTRIC MOTOR ACTUATOR			EXISTING PIPING TO REMAIN
	R-1	GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRE			RECT. TAKE-OFF AT END OF MAIN			SOLENOID ACTUATOR			NEW PIPING
	1	REVISION DESIGNATOR AND NUMBER			BURIED OR UNDER FLOOR DUCT			MOTORIZED 2-WAY CONTROL VALVE			PIPE CAP OR PLUG
	1	KEY NOTE DESIGNATOR AND NUMBER			FLEXIBLE AIR DUCT			MOTORIZED 3-WAY CONTROL VALVE			CONCENTRIC REDUCER
	POC	POINT OF CONNECTION			LINED DUCT			CHECK VALVE			ECCENTRIC REDUCER
	POR	POINT OF REMOVAL			VANED ELBOW		PRV	PRESSURE REDUCING VALVE			EXPANSION JOINT
	AFF	ABOVE FINISHED FLOOR			RADIUS ELBOW		PRV	PRESSURE REDUCING VALVE W/ CHECK			FLEXIBLE CONNECTION
	AP	ACCESS PANEL			CONCENTRIC DUCT TRANSITION		CBV	CIRCUIT BALANCING VALVE			NATURAL GAS PIPING
	CL	CENTER LINE ELEVATION			ECCENTRIC DUCT TRANSITION		BV	BALL VALVE			CHEMICAL FEED LINE
	INV. ELEV.	INVERT ELEVATION			FLEXIBLE AIR DUCT CONNECTION		SRV	SAFETY RELIEF VALE			MAKE-UP WATER LINE
	GC	GENERAL CONTRACTOR			VOLUME DAMPER			AUTOMATIC AIR VENT			CULINARY COLD WATER
	MC	MECHANICAL CONTRACTOR			SUPPLY AIR DIFFUSER			MANUAL AIR VENT			CULINARY HOT WATER
	ATC	CONTROL CONTRACTOR			RETURN AIR, FRESH AIR, AND TRANSFER AIR			STRAINER			RECIRCULATED CULINARY HOT WATER
	EC	ELECTRICAL CONTRACTOR			CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE			STRAINER W/ PLUGGED BLOW OFF			EQUIPMENT DRAIN
	FPC	FIRE PROTECTION CONTROL			RETURN OR OUTSIDE AIR DUCT UP		VTI	VENTURI			HEATING WATER SUPPLY
	NIC	NOT IN CONTRACT			SUPPLY DUCT UP			PRESSURE GAUGE AND GAUGE COCK - WATER			HEATING WATER RETURN
	NTS	NOT TO SCALE			EXHAUST AIR INTAKE UP			THERMOMETER AND THERMOWELL			CHILLED WATER SUPPLY
	C	COMMON			RETURN OR OUTSIDE AIR DUCT DOWN			WATER TEMPERATURE SENSOR AND THERMOWELL			CHILLED WATER RETURN
	NC	NORMALLY CLOSED			SUPPLY DUCT DOWN			FLOW SWITCH			CONDENSER SUPPLY
	NO	NORMALLY OPEN			EXHAUST DUCT DOWN		PS	PRESSURE SWITCH			CONDENSER RETURN
		FLEXIBLE DUCT CONNECTION			FILTER BANK			THERMOWELL			PRESSURE AND TEMPERATURE TAP
		FILTER BANK			COIL			DIRECTION OF FLOW			
	AP	ACCESS PANEL			COIL						
		EXISTING EQUIPMENT TO BE REMOVED			ACCESS PANEL						
		EXISTING EQUIPMENT TO REMAIN		RTU-1	WALL MOUNTED THERMOSTAT MECHANICAL EQUIPMENT CONTROLLED						
		NEW EQUIPMENT		S	WALL MOUNTED TEMP. SENSOR						
	SA	SUPPLY AIR		SA	SUPPLY AIR						
	RA	RETURN AIR		RA	RETURN AIR						
	EA	EXHAUST AIR		EA	EXHAUST AIR						
	OA	OUTSIDE AIR		OA	OUTSIDE AIR						
	MA	MIXED AIR		MA	MIXED AIR						
	FA	FRESH AIR		FA	FRESH AIR						
	RF	RELIEF AIR		RF	RELIEF AIR						

GENERAL NOTES:

- G-1** MECHANICAL & ELECTRICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL & ELECTRICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.
- A** - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.
- B** - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.
- C** - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.
- D** - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.
- E** - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.
- F**-ALL MECHANICAL AND ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE ALL WORK COMPLIES WITH CURRENT CODES, AND THAT FINAL SYSTEM OPERATES AND FUNCTIONS AS INTENDED.
- G-2** ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.
- G-3** CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.
- G-4** THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.
- G-5** THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.
- G-6** THE CONTRACTOR SHALL VERIFY ALL VOLTAGES AND PHASES WITH THE EXISTING CONDITIONS BEFORE ORDERING EQUIPMENT AND CONTROLS.
- G-7** SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE OWNER'S ATTENTION PRIOR TO BIDDING.
- G-8** CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.
- G-9** ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS, AND DFCM STANDARDS.
- G-10** ALL ELECTRICAL SHALL BE INSTALLED IN ACCORDANCE WITH THE 2005 NEC, ALONG WITH UTAH ANNOTATIONS, LOCAL AUTHORITY REQUIREMENTS, AND DFCM STANDARDS.
- G-11** ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

CONSULTANTS



PROJECT NAME & ADDRESS

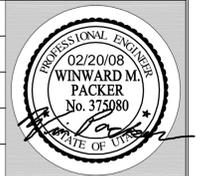
**TAX COMMISSION
VFD UPGRADE**

DFCM No. 07124310

210 North 1950 West
Salt Lake City, Utah

MARK	DATE	REVISION

PROJECT MANAGER:
WP
DRAWN BY:
STAFF
CHECKED BY:
WP
DATE:
02/20/2008
WHW JOB NO.:
07066

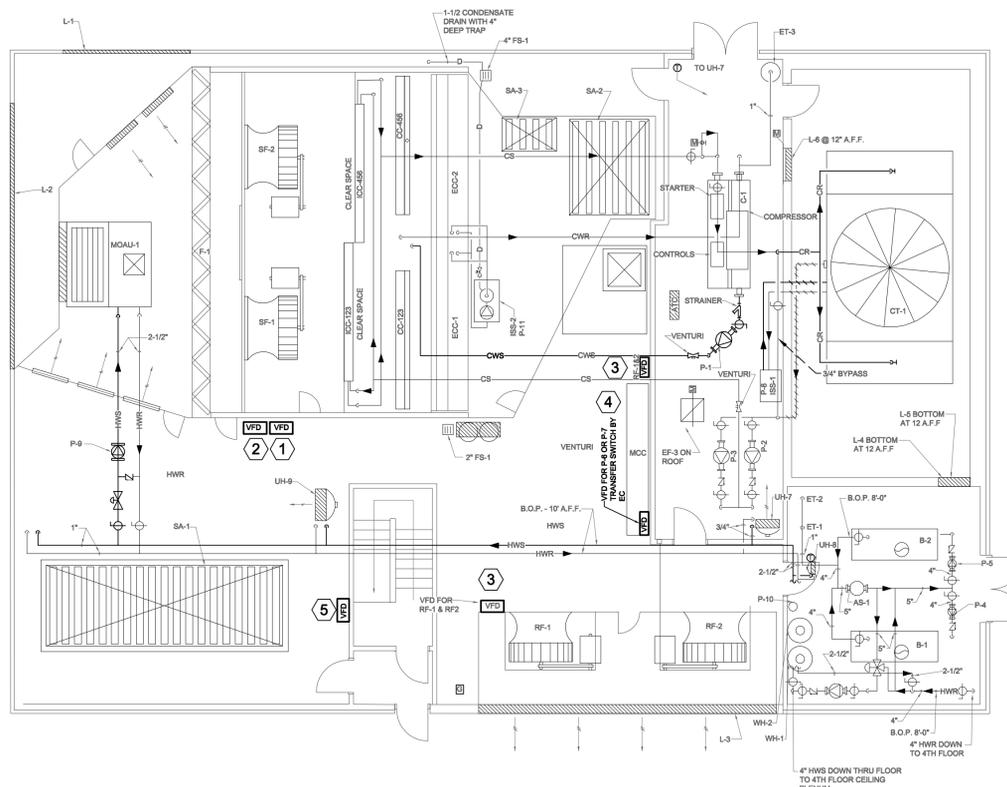


**MECHANICAL LEGEND &
GENERAL NOTES**

CONSULTANTS

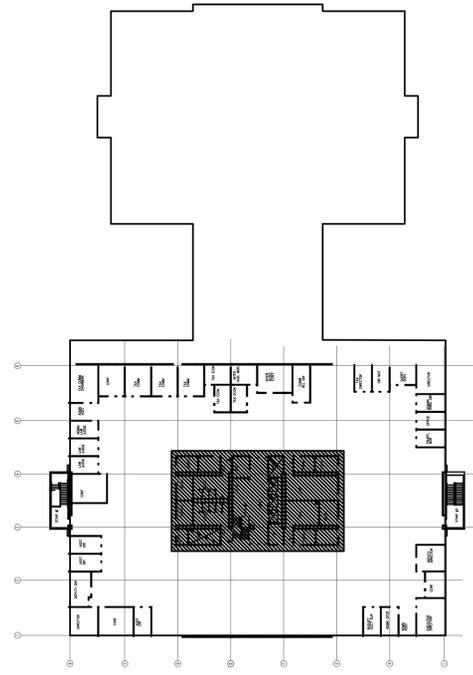


- SHEET NOTES:
- ① EXISTING VFD FOR SUPPLY FAN SF-2 HAS ALREADY BEEN REPLACED, AND SHALL REMAIN.
 - ② REMOVE AND REPLACE EXISTING VFD FOR SUPPLY FAN SF-1. INCLUDE ALL ELECTRICAL AND CONTROLS WORK AS NECESSARY.
 - ③ REMOVE AND REPLACE EXISTING VFD FOR RELIEF FANS RF-1 AND RF-2. INCLUDE ELECTRICAL AND CONTROLS.
 - ④ REMOVE EXISTING VFD FOR PUMPS P-6 AND P-7. PROVIDE 2 NEW VFDS SO EACH PUMP HAS A DEDICATED VFD. INCLUDE ALL ELECTRICAL AND CONTROLS.
 - ⑤ REMOVE THE EXISTING VFD THAT HAS ALREADY BEEN UNINSTALLED AND ABANDONED.



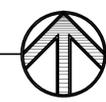
VARIABLE FREQUENCY DRIVE SCHEDULE			
TAG-EQUIPMENT SERVED	SIZE (HP)	V-Ø-HZ	SCHEDULE NOTES
VFD-SF1	125	460-3-60	1,2,3
VFD-RF1	15	460-3-60	1,2,3
VFD-RF2	15	460-3-60	1,2,3
VFD-P6	10	460-3-60	1,2,3
VFD-P7	10	460-3-60	1,2,3

1. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
2. SEE SPECIFICATIONS FOR FILTER REQUIREMENTS, AND ALL OTHER ACCESSORIES.
3. FIELD VERIFY MOUNTING LOCATIONS, SPACE AVAILABLE, EXISTING ELECTRICAL, AND ALL OTHER EXISTING CONDITIONS PRIOR TO ORDERING EQUIPMENT.



MECHANICAL PENTHOUSE PLAN

SCALE: 1/8" = 1'-0"



KEYPLAN

PROJECT NAME & ADDRESS

TAX COMMISSION
VFD UPGRADE

DFCM No. 07124310

210 North 1950 West
Salt Lake City, Utah

MARK	DATE	REVISION

PROJECT MANAGER:
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MECHANICAL
PENTHOUSE
PLAN

SHEET NO.
ME101