CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2006	National Electrical Code	2008
International Mechanical Code	2006	Uniform Code for	
International Plumbing Code	2006	Building Conservation	
International Fire Code	2006	ADA Accessibility	
International Energy Conservation Code	2006	Guidelines	

A. Occupancy and Group: EXISTING NATIONAL GUARD ARMORY

Change in Use: Yes _____ No X Mixed Occupancy: Yes _____ No X

Special Use and Occupancy (e.g. High Rise, Covered Mall): _____

B. Seismic Design Category: D Design Wind Speed: 90 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) $A_a = A_t + \left[\frac{A_t I_f}{100}\right] + \left[\frac{A_t I_s}{100}\right]$ $\qquad I_f = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30}$

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.

LOGAN ARMORY HVAC UPGRADES
DFCM #09213470

*THIS PROJECT INCLUDES MECHANICAL EQUIPMENT REPLACEMENT AND CONTROLS UPGRADES. THERE WILL BE NO CHANGES TO USE OCCUPANCY, ARCHITECTURAL ELEMENTS, ETC.

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MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY		
A / ME-101		SECTION LETTER DESIGNATION / SECTION DRAWN ON THIS SHEET
A2		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION
1 / AH-1		MECHANICAL EQUIPMENT DESIGNATION / EQUIPMENT ITEM DESIGNATION
CFM / D-1		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW
R-1		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRED
1		REVISION DESIGNATOR AND NUMBER
1		KEY NOTE DESIGNATOR AND NUMBER
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL
AFF		ABOVE FINISHED FLOOR
AP		ACCESS PANEL
℄ EL.		CENTER LINE ELEVATION
GC		GENERAL CONTRACTOR
MC		MECHANICAL CONTRACTOR
ATC		CONTROL CONTRACTOR
EC		ELECTRICAL CONTRACTOR
FPC		FIRE PROTECTION CONTROL
NIC		NOT IN CONTRACT
NTS		NOT TO SCALE
VCP		VITRIFIED CLAY PIPE
C		COMMON
NC		NORMALLY CLOSED
NO		NORMALLY OPEN

SYMBOL	ABR.	DESCRIPTION
AIR SIDE		
		EXISTING AIR DUCT TO BE REMOVED
		EXISTING AIR DUCT TO REMAIN
		NEW AIR DUCT
		NEW SPIRAL DUCT
		NEW MEDIUM PRESSURE DUCT
		RECT. TO RECT. AIR DUCT TAKE-OFF
		RECT. TO RND. AIR DUCT TAKE-OFF
		RND. TO RND. AIR DUCT TAKE-OFF
		RECT. TAKE-OFF AT END OF MAIN
		MEDIUM PRESSURE TAKE-OFF
		MEDIUM PRESSURE HIGH EFFICIENCY TAKEOFF
		BURIED OR UNDER FLOOR DUCT
		FLEXIBLE AIR DUCT
		LINED DUCT
		VANED ELBOW
		RADIUS ELBOW
		CONCENTRIC DUCT TRANSITION
		ECCENTRIC DUCT TRANSITION
		FLEXIBLE AIR DUCT CONNECTION
VD		VOLUME DAMPER
		SUPPLY AIR DIFFUSER
		RETURN AIR, FRESH AIR, AND TRANSFER AIR
		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE
		RETURN OR OUTSIDE AIR DUCT UP
		SUPPLY DUCT UP
		EXHAUST AIR INTAKE UP
		RETURN OR OUTSIDE AIR DUCT DOWN
		SUPPLY DUCT DOWN
		EXHAUST DUCT DOWN
		ROUND DUCT UP
		LOWER DUCT DOWN
		RAISE DUCT UP
		LOWER DUCT DOWN
		FLEXIBLE DUCT CONNECTION
		PARALLEL BLADE DAMPER
		OPPOSED BLADE DAMPER
H H		HUMIDIFIER
		AIRFLOW MEASURING STATION
		FILTER BANK
		COIL
	AP	ACCESS PANEL
		EXISTING EQUIPMENT TO BE REMOVED
		EXISTING EQUIPMENT TO REMAIN
		NEW EQUIPMENT
M	MVD	MOTORIZED VOLUME DAMPER
BD	BD	BACKDRAFT DAMPER
F	FD	FIRE DAMPER
S	SD	SMOKE DAMPER
FS	FS	FIRE & SMOKE DAMPER
T / RTU-1	T-STAT	WALL MOUNTED THERMOSTAT MECHANICAL EQUIPMENT CONTROLLED
S		WALL MOUNTED TEMP. SENSOR
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR

SYMBOL	ABR.	DESCRIPTION
WET SIDE		
		PUMP
R		REGULATOR
		UNION
		MANUAL ACTUATOR (BALL, BUTTERFLY, NEEDLE, ETC. VALVES)
		MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)
		PNEUMATIC DIAPHRAGM ACTUATOR
M		ELECTRIC MOTOR ACTUATOR
S		SOLENOID ACTUATOR
		THREADED OR SWEAT VALVE CONNECTION
		FLANGED VALVE CONNECTION
		BUTTERFLY VALVE
		GATE VALVE
		GLOBE VALVE - STRAIGHT PATTERN
		GLOBE VALVE - ANGLE PATTERN
M		MOTORIZED 2-WAY CONTROL VALVE
M		MOTORIZED 3-WAY CONTROL VALVE
		CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
	PRV	PRESSURE REDUCING VALVE W/ CHECK
	CBV	CIRCUIT BALANCING VALVE
	BV	BALL VALVE
P	PRV	PRESSURE RELIEF VALVE
T	TRV	THERMAL RELIEF VALVE
S	SRV	SAFETY RELIEF VALE
		PLUG VALVE
		NEEDLE VALVE
	TDV	TRIPLE DUTY VALVE
		AUTOMATIC AIR VENT
		MANUAL AIR VENT
		STRAINER
		STRAINER W/ PLUGGED BLOW OFF
	VTI	VENTURI
		PRESSURE GAUGE AND GAUGE COCK - WATER
		PRESSURE GAUGE AND GAUGE COCK - STEAM
		THERMOMETER AND THERMOWELL
S		WATER TEMPERATURE SENSOR AND THERMOWELL
F		FLOW SWITCH
PS	PS	PRESSURE SWITCH
	TW	THERMOWELL
		PRESSURE AND TEMPERATURE TAP
T / IBT		INVERTED BUCKET STEAM TRAP
TT		THERMOSTATIC STEAM TRAP
F&T		FLOAT & THERMOSTATIC STEAM TRAP
		DIRECTION OF FLOW
		BACKFLOW PREVENTING VALVE

SYMBOL	ABR.	DESCRIPTION
WET SIDE CONT		
		PITCH DOWN
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		EXISTING PIPING TO BE REMOVED
		EXISTING PIPING TO REMAIN
		NEW PIPING
		PIPE CAP OR PLUG
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		EXPANSION JOINT
		FLEXIBLE CONNECTION
		ANCHOR POINT
CD		CONDENSATE DRAIN
G		NATURAL GAS PIPING
CF		CHEMICAL FEED LINE
MU		MAKE-UP WATER LINE
	CW	CULINARY COLD WATER
	HW	CULINARY HOT WATER
		RECIRCULATED CULINARY HOT WATER
DR		EQUIPMENT DRAIN
HWS		HEATING WATER SUPPLY
HWR		HEATING WATER RETURN
CHWS		CHILLED WATER SUPPLY
CHWR		CHILLED WATER RETURN
HTWS		HIGH TEMPERATURE HEATING WATER SUPPLY
HTWR		HIGH TEMPERATURE HEATING WATER RETURN
LPS		LOW PRESSURE STEAM
LPR		LOW PRESSURE STEAM RETURN
MPS		MEDIUM PRESSURE STEAM
MPR		MEDIUM PRESSURE STEAM RETURN
HPS		HIGH PRESSURE STEAM
HPR		HIGH PRESSURE STEAM RETURN
CS		CONDENSER SUPPLY
CR		CONDENSER RETURN
PC		PUMPED CONDENSATE
L		REFRIGERANT LIQUID
S		REFRIGERANT SUCTION
HG		REFRIGERANT HOT GAS
FOS		FUEL OIL SUPPLY
FOR		FUEL OIL RETURN
FOV		FUEL OIL VENT

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION OF THE EXISTING BUILDING AND SITE CONDITIONS, EXISTING PIPING, EXISTING ELECTRICAL, AND EXISTING SUPPORTS.

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.

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 MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES.

G-7 SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.

G-8 PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN.

G-9 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF DIFFUSERS AND GRILLES.

G-10 PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.

G-11 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-12 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-13 C.F.M. LISTED IS ACTUAL AIR.

G-14 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-15 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-16 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-17 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

G-18 THIS CONTRACTOR SHALL CONTRACT WITH A DESIGN BUILD ELECTRICAL CONTRACTOR FOR THE DESIGN AND CONSTRUCTION OF THE ELECTRICAL PORTION OF THIS PROJECT. ELECTRICAL INSTALLATION AND DESIGN SHALL BE PER 2008 NEC.

G-19 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

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PROJECT NAME & ADDRESS

LOGAN ARMORY HVAC UPGRADE

DFCM No. 09213470

Logan, Utah

MARK	DATE	REVISION

PROJECT MANAGER: WP
DRAWN BY: JB
CHECKED BY: SLW
DATE: 05/21/10
WHW JOB NO.: 09052

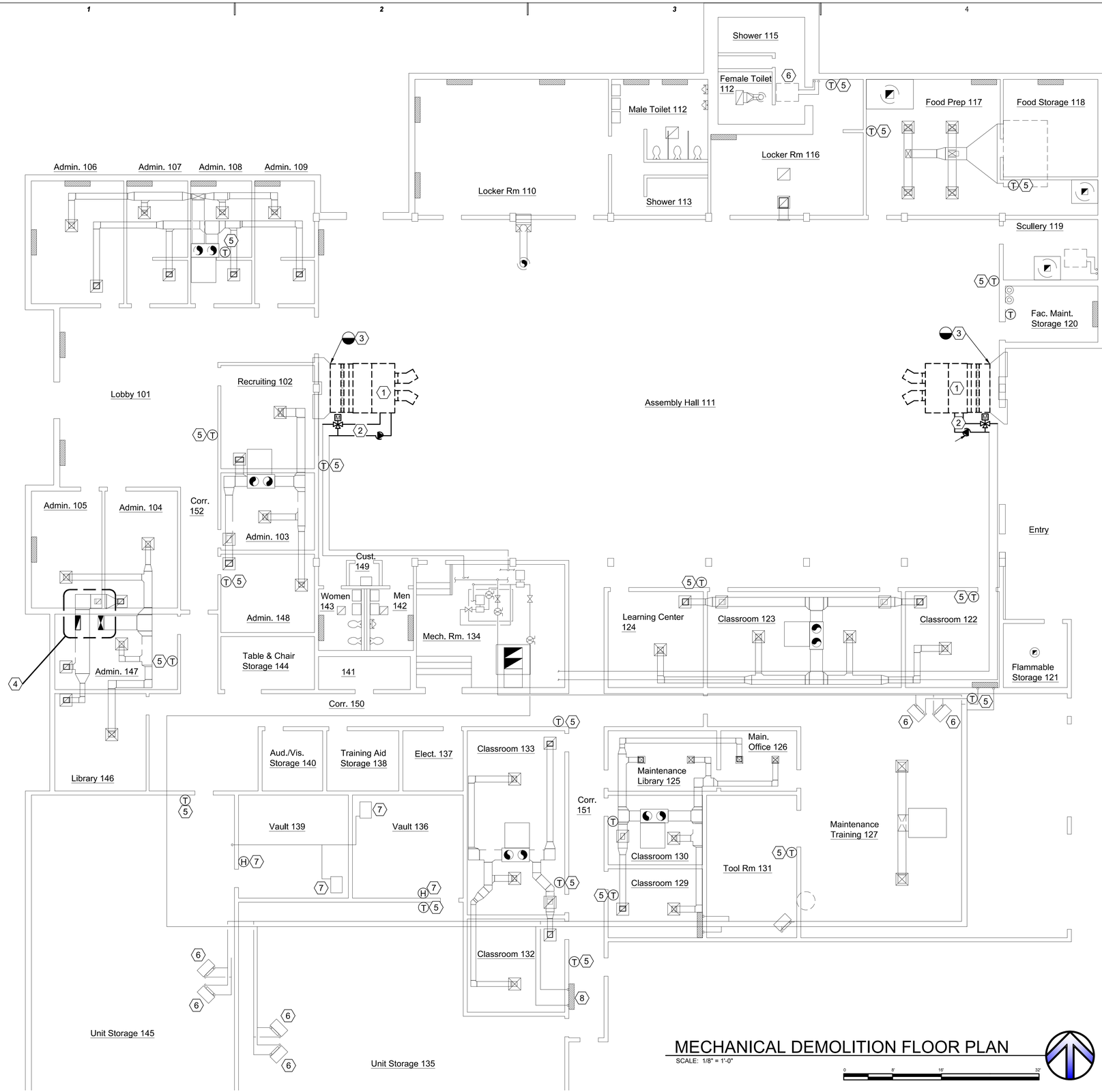
PROFESSIONAL ENGINEER 5/21/10 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE

MECHANICAL GENERAL NOTES AND LEGEND

SHEET NO.

MG001



MECHANICAL DEMOLITION FLOOR PLAN

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

0 8' 16' 32'

SHEET NOTES:

1. REMOVE EXISTING AIR HANDLING HEATING AND VENTILATION UNIT. SEE SHEET MD103 FOR DETAILS.
2. REMOVE EXISTING HWS AND HWR PIPING, VALVES, ETC. SERVING AIR HANDLING HEATING UNIT. FIELD VERIFY EXISTING CONDITIONS.
3. REMOVE ALL DUCT UP TO THIS APPROXIMATE LOCATION. REMOVE FLEXIBLE CONNECTION. DUCTED TRANSITION TO FRESH AIR LOUVERS SHALL REMAIN. FIELD VERIFY EXISTING CONDITIONS AND SIZE OF NEW AIR HANDLING UNIT TO DETERMINE EXACT POINT OF DEMOLITION.
4. ADD ALT #1: REMOVE ROOFTOP UNIT AT THIS APPROXIMATE LOCATION. ELECTRICAL SHALL REMAIN FOR RECONNECTION TO NEW UNIT. SEE SHEETS MD AND ME SHEETS FOR MORE DETAILS.
5. REMOVE AND REPLACE EXISTING THERMOSTAT WITH NEW DDC CONTROLS.
6. REMOVE AND REPLACE CONTROLS FOR EXISTING UNIT HEATERS.
7. REMOVE AND REPLACE CONTROLS FOR EXISTING HUMIDIFIERS.
8. REMOVE AND REPLACE CONTROLS AT EXISTING CONVECTOR.

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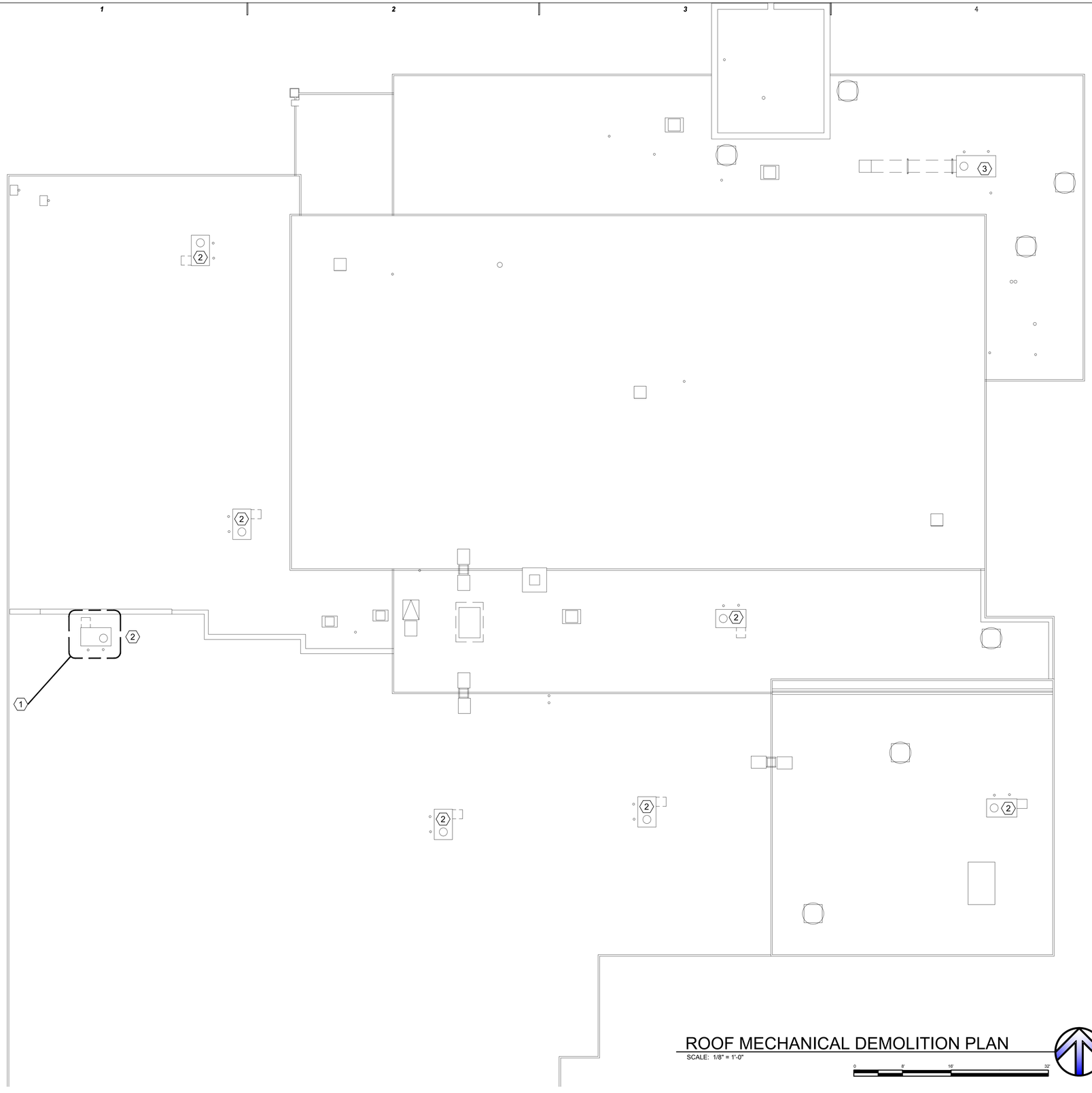
PROFESSIONAL ENGINEER 5/21/10 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE

MECHANICAL DEMOLITION FLOOR PLAN

SHEET NO.

MD101



ROOF MECHANICAL DEMOLITION PLAN

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

0 8' 16' 32'

SHEET NOTES:

1. ADD ALTERNATE 1: REMOVE EXISTING ROOFTOP UNIT. ALL ELECTRICAL AND ASSOCIATED OUTLETS ETC. SHALL REMAIN. SEE ME SHEETS FOR MORE DETAILS.
2. PROVIDE NEW DDC CONTROLS FOR EXISTING ROOFTOP UNIT.
3. PROVIDE NEW DDC CONTROLS FOR EXISTING MAKEUP UNIT.

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PROFESSIONAL ENGINEER
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STATE OF UTAH

SHEET TITLE

ROOF MECHANICAL DEMOLITION PLAN

SHEET NO.

MD102

REMOVE EXISTING DUCT WORK

EXISTING ANCHOR POINTS MAY BE REUSED IF APPLICABLE TO NEW AIR HANDLER UNIT

REMOVE EXISTING PIPING TO HOT WATER COIL. FIELD VERIFY POINT OF REMOVAL.

REMOVE CIRCULATION PUMP AND REINSTALL

REMOVE EXISTING AIR HANDLER UNIT

REMOVE EXISTING DUCT WORK AS NECESSARY FOR INSTALLATION OF NEW AIR HANDLER. DUCT THRU WALL SHALL REMAIN.

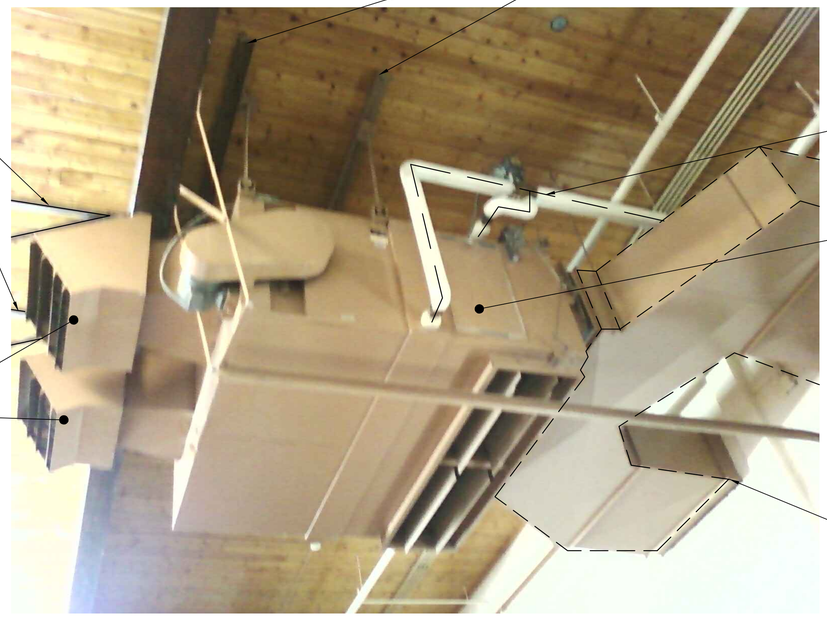
PROTECT BASKETBALL STANDARD DURING DEMOLITION PHASE. STANDARD SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE NEW AIR HANDLER. FIELD VERIFY EXACT CONDITIONS AND MODIFICATIONS NECESSARY.

C1 AIR HANDLER DEMOLITION DETAIL

SCALE: NONE

EXISTING ANCHOR POINTS MAY BE REUSED IF APPLICABLE TO NEW AIR HANDLER UNIT

PROTECT BASKETBALL STANDARD DURING DEMOLITION PHASE. STANDARD SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE NEW AIR HANDLER. FIELD VERIFY EXACT CONDITIONS AND MODIFICATIONS NECESSARY.



REMOVE EXISTING PIPING TO HOT WATER COIL. FIELD VERIFY POINT OF REMOVAL.

REMOVE EXISTING AIR HANDLER UNIT

REMOVE EXISTING DUCT WORK

REMOVE EXISTING DUCT WORK AS NECESSARY FOR INSTALLATION OF NEW AIR HANDLER. DUCT THRU WALL SHALL REMAIN.

A3 AIR HANDLER DEMOLITION DETAIL

SCALE: NONE

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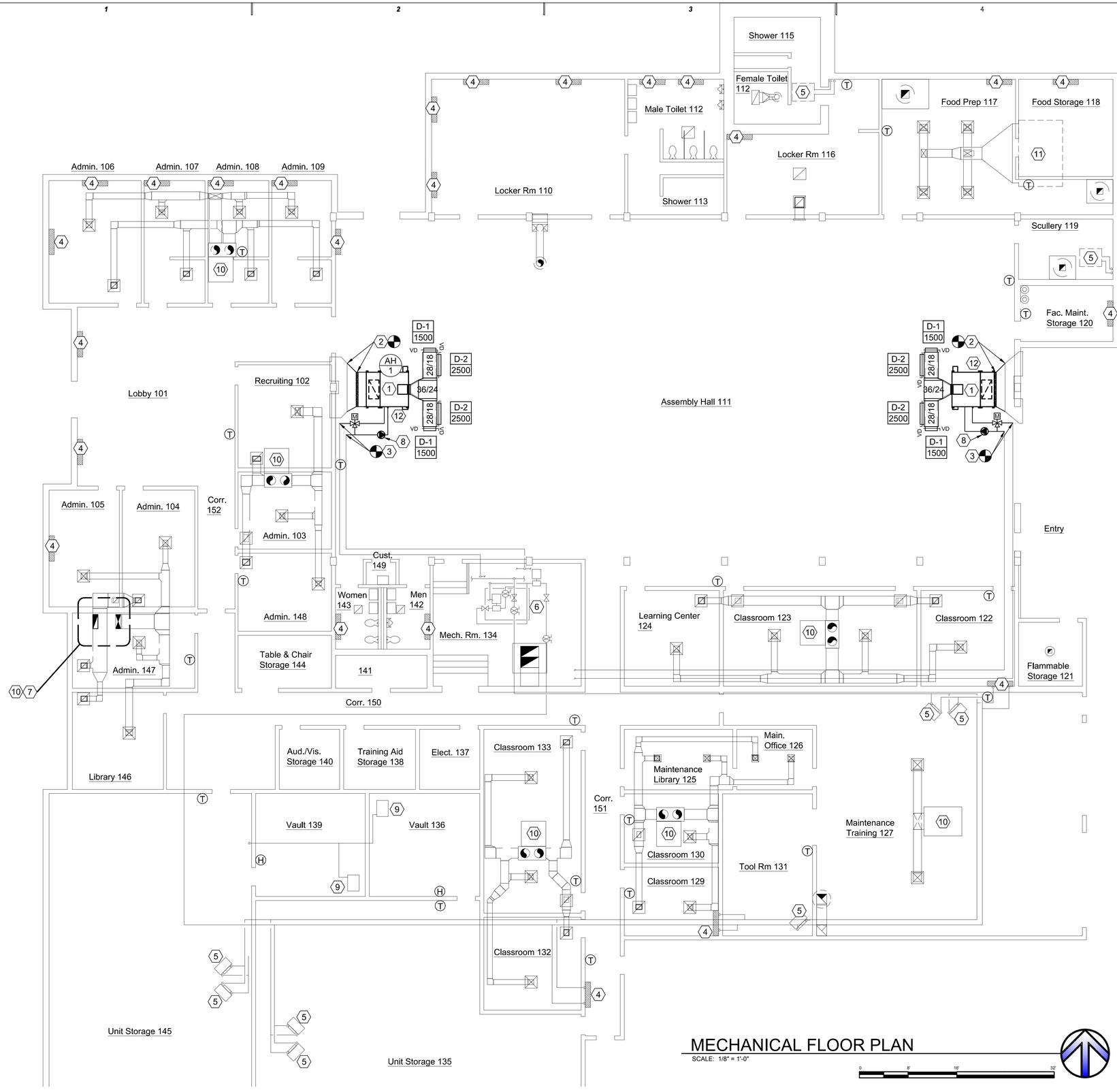
PROFESSIONAL ENGINEER 5/21/10 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE

MECHANICAL DEMOLITION DETAILS

SHEET NO.

MD103



MECHANICAL FLOOR PLAN

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

0 8' 16' 32'

1. HANDLING UNIT, DUCK WORK, COIL ETC. PROVIDE MOUNTING RODS, CLAMPS AND ISOLATION MOUNT IN SAME LOCATION AS EXISTING REMOVED UNIT. TIE UNIT INTO NEW DDC CONTROLS.
2. PROVIDE NEW FLEXIBLE CONNECTION AND TRANSITION TO EXISTING OUTSIDE AIR DUCT. FIELD VERIFY.
3. TIE INTO EXISTING PIPING AT THIS APPROXIMATE LOCATION. PROVIDE NEW CONTROL VALVE, CIRCULATION PUMP, AND ASSOCIATED VALVES ETC. AS NECESSARY FOR CONNECTION TO HOT WATER COIL. SEE SHEET ME501 FOR COIL PIPING DETAILS AND COMPONENTS. FIELD VERIFY.
4. TIE EXISTING FIN TUBE RADIATOR INTO NEW DDC CONTROL SYSTEM. REPLACE EXISTING THERMOSTAT AND HOT WATER CONTROL VALVE.
5. TIE EXISTING UNIT HEATER INTO DDC CONTROL SYSTEM. PROVIDE NEW CONTROL VALVE AND ASSOCIATED ITEMS FOR PROPER INSTALLATION. PROVIDE NEW THERMOSTAT IN PLACE OF EXISTING.
6. EXISTING BOILER IS ALREADY ON NEW BUILDING AUTOMATION SYSTEM.
7. ADD ALT #1: REPLACE ROOF TOP UNIT AT THIS APPROXIMATE LOCATION. TIE INTO EXISTING DUCT. PATCH AND SEAL EXISTING DUCT AS NECESSARY. TIE NEW ROOFTOP UNIT INTO NEW DDC CONTROLS SYSTEM. FIELD VERIFY.
8. REMOVE AND RE-INSTALL EXISTING CIRCULATOR PUMP AS NECESSARY TO INSTALL AND PIPE NEW AIR HANDLING UNIT.
9. PROVIDE NEW DDC CONTROLS FOR EXISTING HUMIDIFIRES.
10. PROVIDE NEW DDC CONTROLS FOR EXISITNG ROOFTOP UNITS. SEE ROOF PLAN.
11. PROVIDE NEW DDC CONTROLS FOR EXISTING MAKE-UP UNIT SEE ROOF PLAN.
12. ELECTRICAL: PROVIDE NEW COMBINATION STARTER/DISCONNECTS FOR NEW AIR HANDLING UNITS. REPLACE EXISTING BREAKERS, AND PULL NEW WIRING. FIELD VERIFY EXACT LOCATIONS.

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PROJECT NAME & ADDRESS

LOGAN ARMORY HVAC UPGRADE

DFCM No. 09213470

Logan, Utah

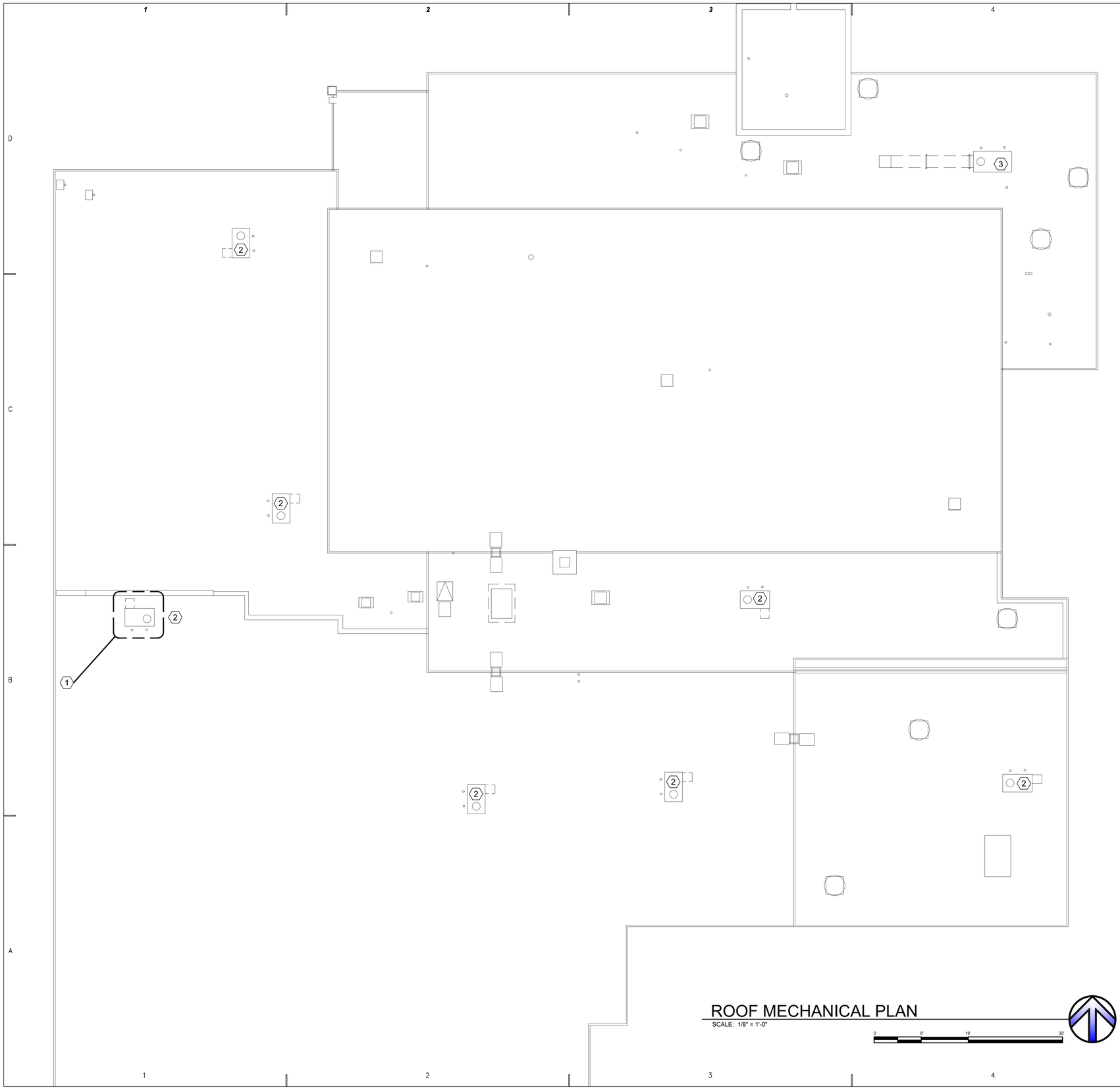
MARK	DATE	REVISION

PROJECT MANAGER: WP
DRAWN BY: JB
CHECKED BY: SLW
DATE: 05/21/10
WHW JOB NO.: 09052

PROFESSIONAL ENGINEER 5/21/10 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE
MECHANICAL FLOOR PLAN

SHEET NO.
ME101



ROOF MECHANICAL PLAN

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

0 8' 16' 32'

SHEET NOTES:

1. ADD ALT #1: PROVIDE NEW ROOFTOP UNIT, TRANSITION CURB, ELECTRICAL CONNECTION, ETC. TIE INTO EXISTING DUCT WORK AND MAKE CONNECTION TO THERMOSTAT. REUSE EXISTING ELECTRICAL. TIE INTO NEW DDC SYSTEM. FIELD VERIFY.
2. TIE EXISTING ROOF TOP UNIT INTO NEW DDC CONTROL SYSTEM. VERIFY PROPER OPERATION OF EXISTING EQUIPMENT PRIOR TO PERFORMING WORK. PROVIDE NEW THERMOSTAT IN SAME LOCATION AS OLD. PROVIDE NEW DAMPER ACTUATOR AND ECONOMIZER ACTUATOR AS NECESSARY TO ENSURE PROPER OPERATION WITH DDC.
3. TIE EXISTING MAKE-UP UNIT INTO NEW DDC CONTROL SYSTEM. VERIFY PROPER OPERATION OF EXISTING EQUIPMENT PRIOR TO PERFORMING WORK. PROVIDE NEW THERMOSTAT IN SAME LOCATION AS OLD. PROVIDE NEW DAMPER ACTUATOR AND ECONOMIZER ACTUATOR AS NECESSARY TO ENSURE PROPER OPERATION WITH DDC.

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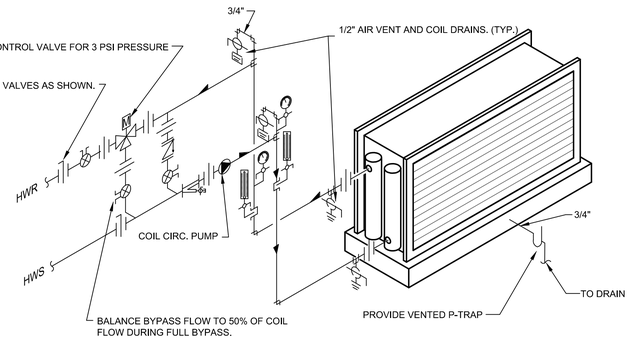
PROFESSIONAL ENGINEER
5/21/10
WINWARD M. PACKER
No. 375080
STATE OF UTAH

SHEET TITLE

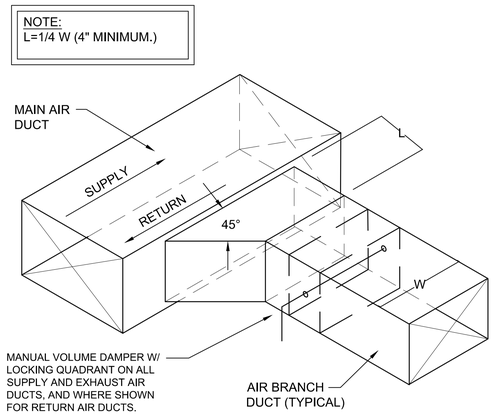
ROOF MECHANICAL PLAN

SHEET NO.

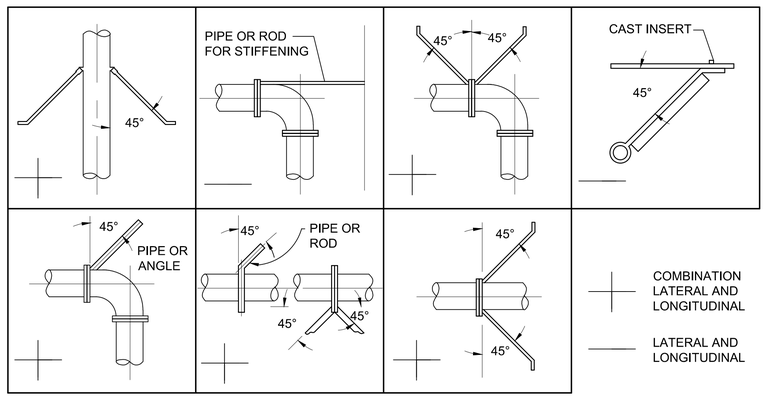
ME102



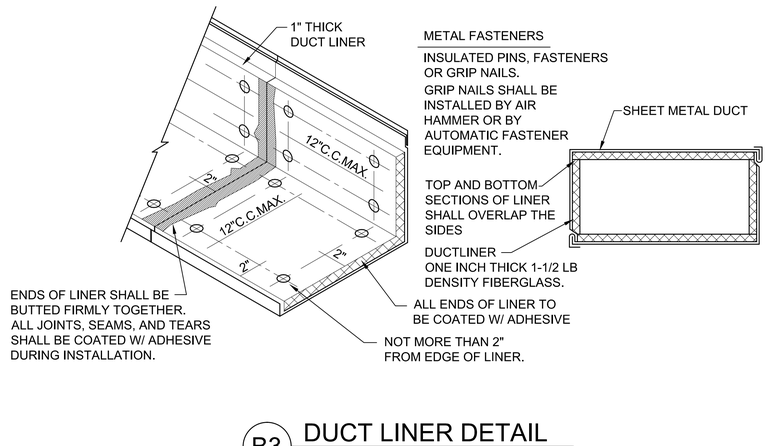
C1 COIL WITH CIRC. PUMP
SCALE: NONE



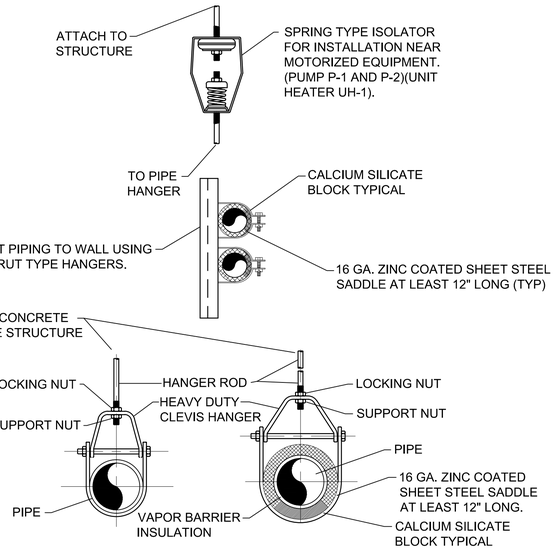
B1 BRANCH DUCT TAKE-OFF & DAMPER DETAIL
SCALE: NONE



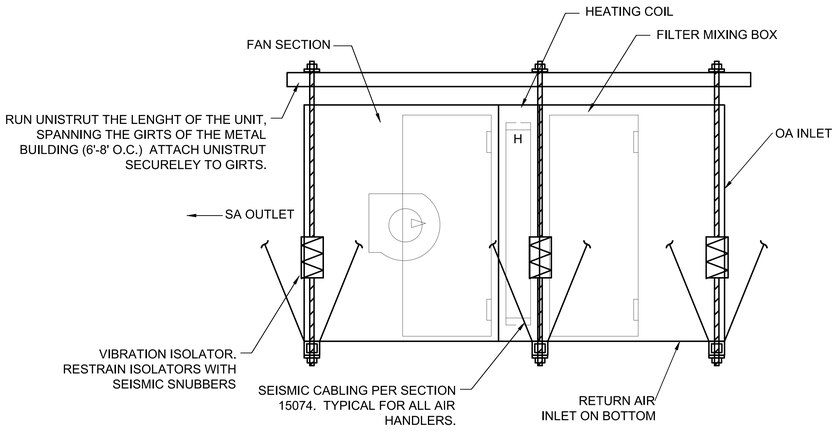
A1 SEISMIC PIPING SWAY BRACING DETAILS
SCALE: NONE



B3 DUCT LINER DETAIL
SCALE: NONE



C4 PIPE HANGER DETAIL
SCALE: NONE



A4 AHU-1 & AHU-2 DETAIL
SCALE: NOT TO SCALE

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WHW JOB NO.: 09052

PROFESSIONAL ENGINEER 5/21/10 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
ME501

AIR HANDLING UNIT SCHEDULE

SYMBOL	LOCATION	CFM	O.A. CFM	ESP ARR.	FAN MOTOR				HOT WATER HEATING COIL									MANUF. & MODEL #	SCHEDULE NOTES
					HP	VOLT	PHASE	CYCLE	MAX AIR PD.	MBH	GPM	EDB	LDB	MAX WATER PD.	WATER INLET TEMP	WATER OUTLET TEMP	AIR TEMP RISE		
AHU 1	ASSEMBLY CEILING	8,000	1,600	.75"	5	208	3	60	.19	438	34	45	104	4 FT	200	180	59	TRANE LPCA	1,2,3
AHU 2	ASSEMBLY CEILING	8,000	1,600	.75"	5	208	3	60	.19	438	34	45	104	4 FT	200	180	59	TRANE LPCA	1,2,3

1. PROVIDE WITH SUPPORTS TO HANG FROM CEILING.
2. PROVIDE WITH AUTOMATIC RETURN AIR DAMPER AND MIXING SECTION FOR OUTSIDE AIR.
3. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.

DIFFUSER SCHEDULE

SYMBOL	TYPE	MAX CFM	FACE SIZE	NECK SIZE	CEILING TYPE	BLOW	PATTERN	SCHEDULE NOTES
D-1 CFM	DUCT MOUNTED	1500	15 X 24	15 X 24	N/A	1--WAY	▲☒	1,2,3,4,5
D-2 CFM	DUCT MOUNTED	2500	15 X 42	15 X 42	N/A	1--WAY	▲☒	1,2,3,4,5

1. MAXIMUM NC 30 AT CFM LISTED.
2. PROVIDE TRANSITION TO DIFFUSER NECK SIZE AS REQUIRED TO DUCT WORK SHOWN ON PLAN.
3 DIFFUSER SHALL BE PRICE MODEL HCD OR EQUAL BY APPROVED MANUFACTURER IN SPECIFICATIONS.
4. FINISH SHALL BE COORDINATED WITH BUILDING OWNER.
5. PROVIDE WITH OPTIONAL DAMPER BY MFG.

ROOFTOP AIR CONDITIONER SCHEDULE (GAS HEAT)

SYMBOL	MANUFACTURER & MODEL NUMBER	SA CFM	OSA CFM	E.S.P. IN W.G.	HEATING	COOLING			ELECTRICAL					EER/ SEER	OPER. WT. (LBS)	SCHEDULE NOTES
					TOT. MIN. INPUT MBH	AMB. AIR (DB)	AMB. AIR (WB)	MIN. TOTAL MBH	V - Ø - Hz	COMPRESSOR #	COMPRESSOR TOTAL RLA	MCA	MOCP			
RT 1	TRANE	1200	240	0.5	99	80	62	33	208/3/60	1	11.5	21.4	30	13.0	532	1,2,3,4,5,6

1. E.S. P. DOES NOT INCLUDE LOSSES THROUGH ACCESSORIES.
2. RATED MINIMUM INPUT AT SEA LEVEL.
3. PROVIDE ONE 15 AMP, 120 VOLT, DUPLEX GFCI SERVICE OUTLET. FACTORY INSTALLED, FIELD WIRED.
4. BELT DRIVE UNIT.
5. PROVIDE WITH TRANSITION CURB TO ALLOW PLACEMENT ON EXISTING CURB. EXISTING UNIT IS TRANE YCC036F3HOAA. FIELD VERIFY.
6. PROVIDE WITH ECONOMIZER AND AUTOMATIC RETURN AIR DAMPER.

ADDITIONAL ALTERNATIVE #1

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SHEET TITLE

MECHANICAL SCHEDULES

SHEET NO.

ME601