SECTION 00 9111 ADDENDUM NUMBER 1

PARTICULARS

- 1.01 DATE: AUGUST 4, 2014
- 1.02 PROJECT: UNIVERSITY OF SOUTH CAROLINA SOM ANIMAL CARE RENOVATIONS
- 1.03 PROJECT NUMBER: STATE PROJECT #H27-Z152, A/E #14015.01
- 1.04 OWNER: UNIVERSITY OF SOUTH CAROLINA
- 1.05 ARCHITECT: GMK ASSOCIATES, INC.
- **TO: PROSPECTIVE BIDDERS**
- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS DATED 6/30/2014, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.
- 2.03 THIS ADDENDUM CONSISTS OF 2 PAGES AND THE FOLLOWING ATTACHMENTS:
 - A. Pre-Bid Meeting attendance sign in sheets
 - B. Fire Sprinkler System Specification Sheet
 - C. DRAWING A-1.04
 - D. DRAWING A-2.0
 - E. DRAWING A-3.0
 - F. DRAWING A-4.0
 - G. DRAWING FP1.0
 - H. DRAWING M1.0
 - I. DRAWING M2.0
 - J. DRAWING M5.1
 - K. DRAWING M6.1
 - L. DRAWING M7.1

CHANGES TO THE PROJECT MANUAL

- 3.01 SECTION 09-9600
 - A. Delete section in its entirety.
- 3.02 SECTION 09-6723 RESINOUS FLOORING
 - A. Revise paragraph 2.03.B.3. to read:

"3. OVERALL SYSTEM THICKNESS SHALL BE 1/8" TO 3/16".

CLARIFICATIONS

- 5.01 AUGUST 7, 2014 AT 2:00 PM IS THE LATEST TIME THAT AN ADDENDUM CAN BE ISSUED.
- 5.02 THE DEADLINE FOR QUESTIONS OR SUBSTITUTIONS IS AUGUST 5, 2014 COB.
- 5.03 THE OWNER WILL REMOVE ANY MOVABLE FURNITURE, FIXTURES AND EQUIPMENT FROM THE PROJECT AREA. COORDINATE WITH THE OWNER AS REQUIRED.
- 5.04 PARKING SPACES WILL BE PROVIDED TO THE CONTRACTOR. COORDINATE WITH THE OWNER FOR LOCATIONS.
- 5.05 THERE IS EXTREMELY LIMITED LAY-DOWN AREA AROUND THE PROJECT SITE.
 - A. USC will provide a location for a dumpster.
- 5.06 THE CONSTRUCTION WORK WILL BEGIN ON OCTOBER 1 AND MUST BE COMPETED 92 DAYS FROM START OF CONSTRUCTION.
 - A. The Contract will be awarded as soon as possible after bid opening to accomodate the shop drawing and equipment/material procurements in advance of the work period.

PRE-BID MEETING ATTENDANCE SIGN IN SHEET

6.01 ISSUED AS PART OF THIS ADDENDUM FOR INFORMATION ONLY. SEE ATTACHED.

CHANGES TO THE DRAWINGS

7.01 DRAWING A-1.0

A. Replace sheet A-1.0 in its entirety.

7.02 DRAWING A-2.0

A. Replace sheet A-2.0 in its entirety.

7.03 DRAWING A-3.0

A. Replace sheet A-3.0 in its entirety.

7.04 DRAWING A-4.0

A. Replace sheet A-4.0 in its entirety.

7.05 DRAWING FP1.0

A. Add sheet FP1.0 in its entirety.

7.06 DRAWING M1.0

A. Replace sheet M1.0 in its entirety.

7.07 DRAWING M2.0

A. Replace sheet M2.0 in its entirety.

7.08 DRAWING M5.1

A. Replace sheet M5.1 in its entirety.

7.09 DRAWING M6.1

A. Replace sheet M6.1 in its entirety.

7.10 DRAWING M7.1

A. Replace sheet M7.1 in its entirety.

END OF ADDENDUM NUMBER 1

University of South Carolina Pre Bid Sign In Sheet Columbia, South Carolina

Project Name: Project Number: USC SOM Amimal Care Renovations H27-Z152 July 29, 2014 @ 10 am

Pre Bid Date & Time:

			129701	formation electronically.	****By signing this sheet you agree to receive information electronically.
	Ficard @ groka.com	0000-151-48	Columbia St	GML ASSOC	Josep Richero
	melaro@mailbux. sc.edu	91.65 -605-608		USC HARMAT	ERIC MEURO
	Joele Randolp builders com	-585-406	Dine Culp Ped.	Builders, Inc.	Jeft Randolph
		the second secon	THE GREEN ST.	Usc Design Freelity	Strong Hollvoley
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	chalic. white e foicustrution com	843.753,990	Plosenec, on 29501 2240 Ducho Solest 843.753,9956	FB: Condustion	Chaptie bethide
	Email	Phone #	Address	Company Name	Name

****By signing this sheet you agree to receive information electronically.

University of South Carolina Pre Bid Sign In Sheet

Columbia, South Carolina

USC SOM Amimal Care Renovations H27-Z152

Pre Bid Date & Time: Project Name: Project Number: July 29, 2014 @ 10 am

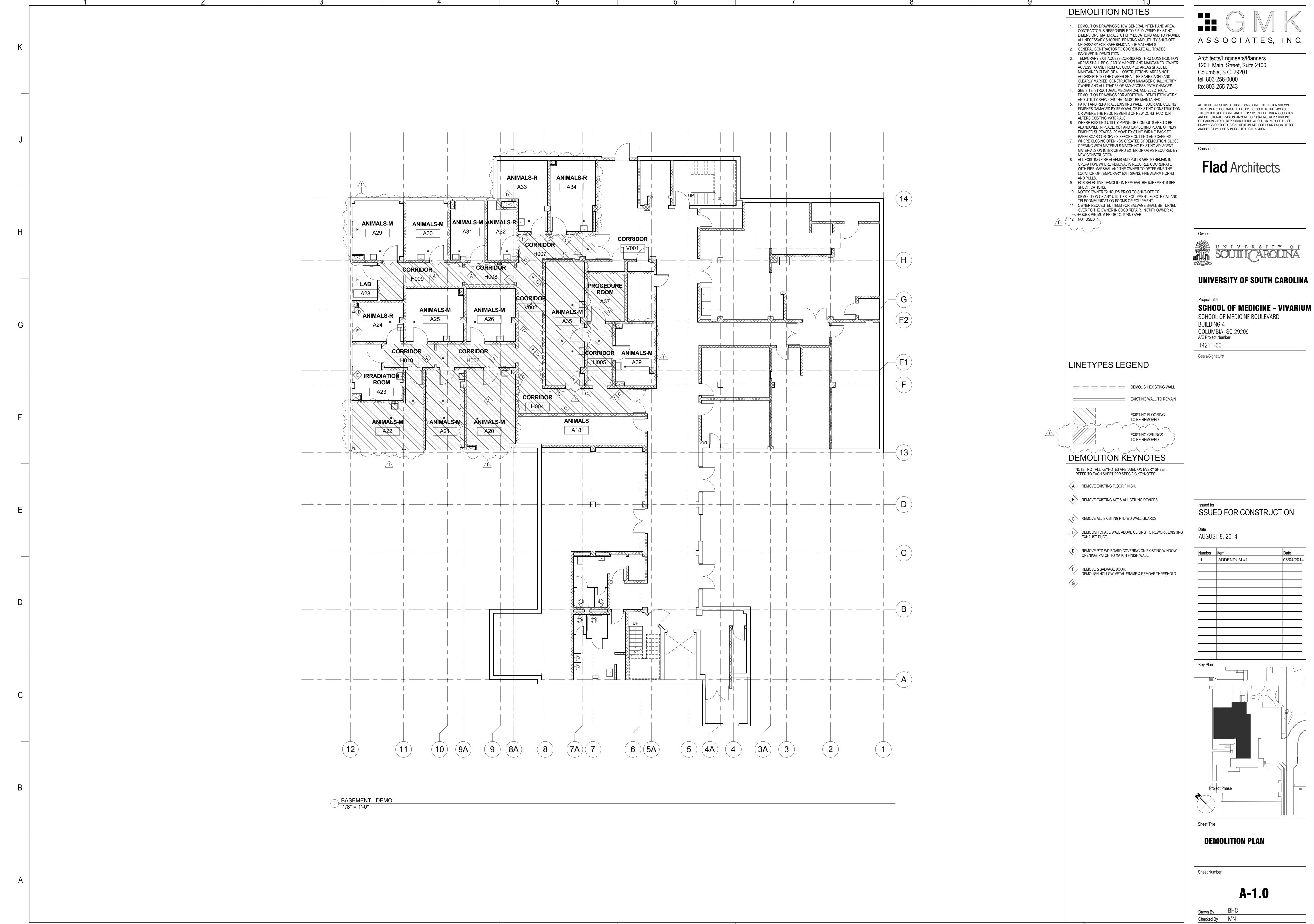
^{****}By signing this sheet you agree to receive information electronically.



$\frac{Fire\ Sprinkler\ System\ Specification\ Sheet}{\text{(Per\ \$40-10-250)}}$

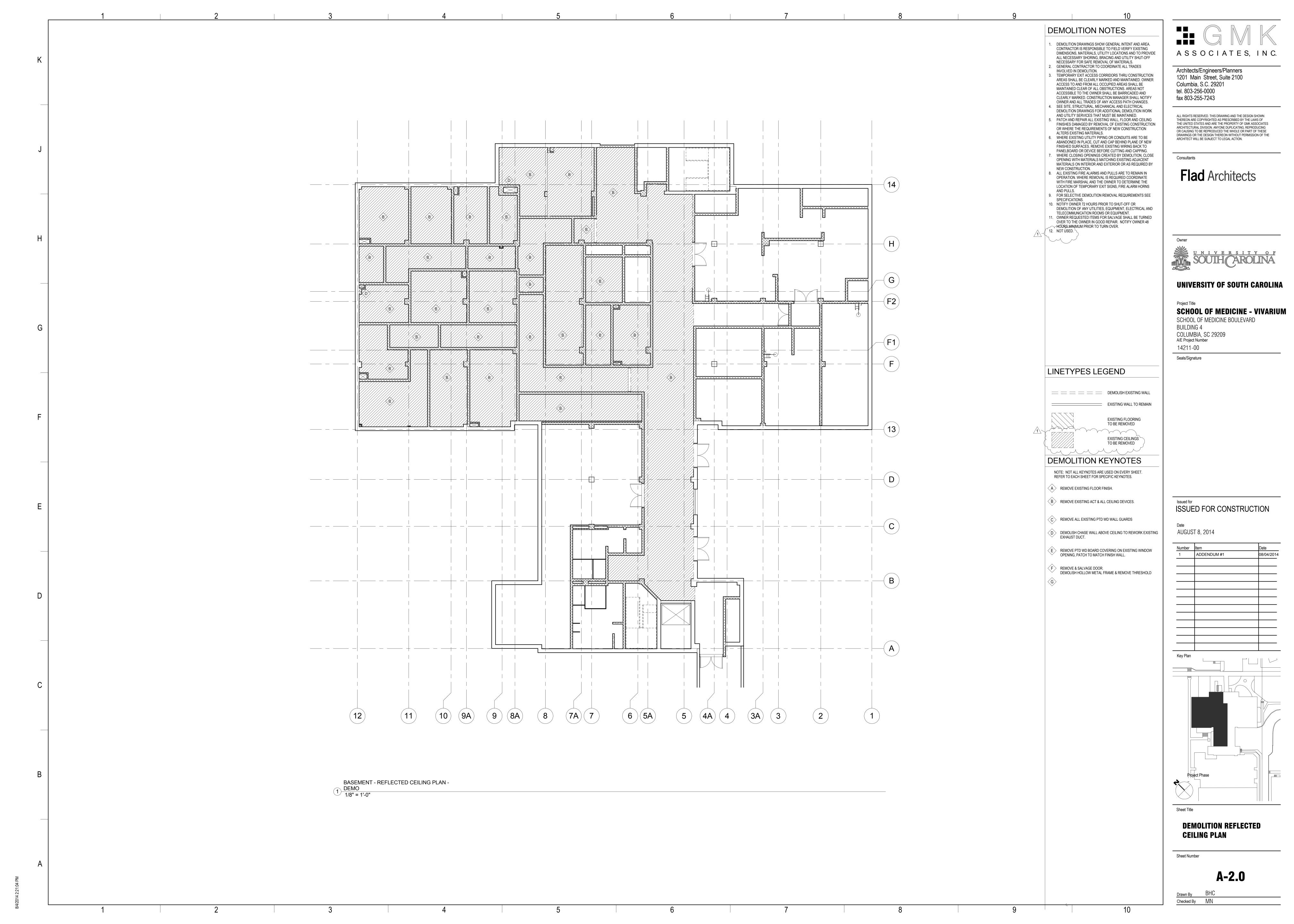


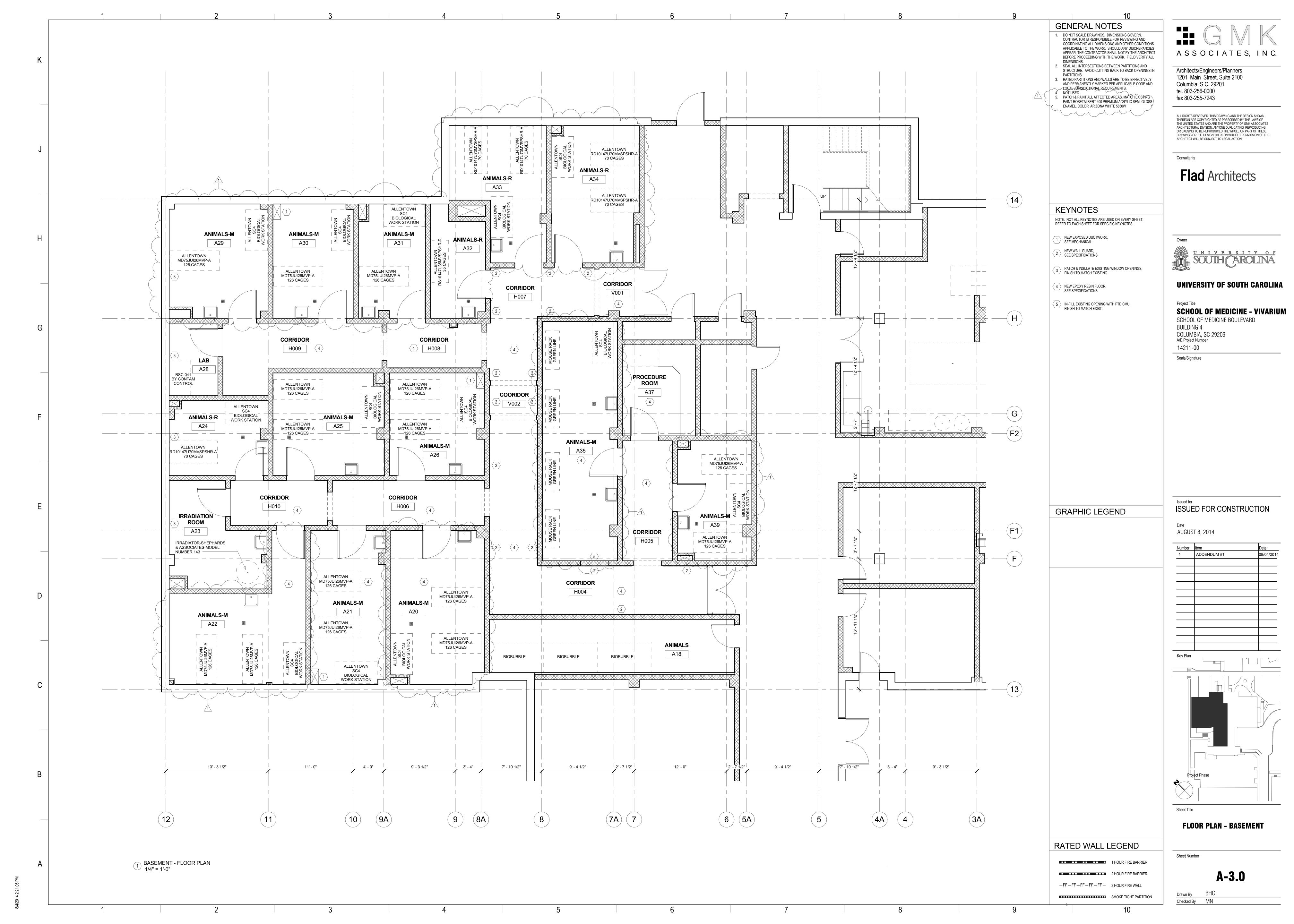
					Proj	ect Data				
Project name: USC School of Medicine - Vivarium										
		Addre	ss: School	of Medic	ine Blvd. Build	ing #4			Stat	te project: Yes X No
South C	arolina:	City:	Columbia			County: Ricl	hland		State pro	oject #:
				(flow test	Water Supp	oly Informati	on	NOT NO		
Date test	t conducted	l: 0	6 / 27						i): 50	Flow (gpm): 1110
Distance	es of test ga	auges re	elative to	the base o		_	1			
						ulation 🗆 Other:			<u> </u>	·
Test dat	a by/from:	: Na	me: Von I	Ray Price			Title:	Inspector		•
			ganization	: LifeGua	rd Fire Protectio	n		-	Teleph	one #: n/a
Fire pur	np:	☐ Yes 2	X No		Pump Capacity	(gpm):	Churi	n Pressure (p	osi):	
		□ New	☐ Existing		Rated Pressure	(psi):	Press	ure @ 150%	flow (ps	i):
On-site	storage tar	nk:	☐ Yes	X No [☐ New ☐ Existing	Tank capa	city (gallons):		
					NFPA Hazai	rd Classificat	ion			
			ference	Office and	ion of Hazard P	rotected (com	modity descri	ption, storage h	neight, and	arrangement as applicable.)
	Light nazar	u		Office and	Laboratory spaces					
					D					
							ssary)			
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Seismic 1	Design Dat	ta: S _S =	0.567							
	11 0 1	01		·				4111	NUMBER OF STREET	
			dards & E	Editions (i.	e. "2006 IBC", "200	7 NFPA 13", etc.)) for the So	cope of Wor	rk on the	Sprinkler System
			012 Edition							
	- Danding		JIZ Edition							
Scope of	work (such	ac enrinkle	er system A I	G from 1'-0"	A F F II G from t	an to 5!-0" outside	e etc) and r	otes (attach o	continuation	a nage when negeccary).
										r page when necessary).
					Specifier's	Information				
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Engineeri			ed through	n a firm: X	Yes □ No	THE STREET	TH CARO	Mary .	Mar es	OFESSION A
Firm nam	ne: GN	MK Asso	ociates, In	c		- 11160	3,000	State of the state		8 11/MX7/2007
Address:	1201 Mai	in Street	, Suite 210	00			GMK. INC		18	No. 21299
City:	Columbia						No. C0028	7 2		
State:	SC		Zip	: 29201			2	12	10	9914 8
Phone #:	803-256-0	0000	Fax		A	- THE	COTTAIN	HOTHER	THE	DANIEL BICHIT
E-mail:		rd@gmk				— Certifie	ate of Auth	orization	Profes	JOHN Engineer's Seal
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Levision N	lo.: <u>0</u>				Page	<u>1</u> of <u>1</u>		Signature:		1/20



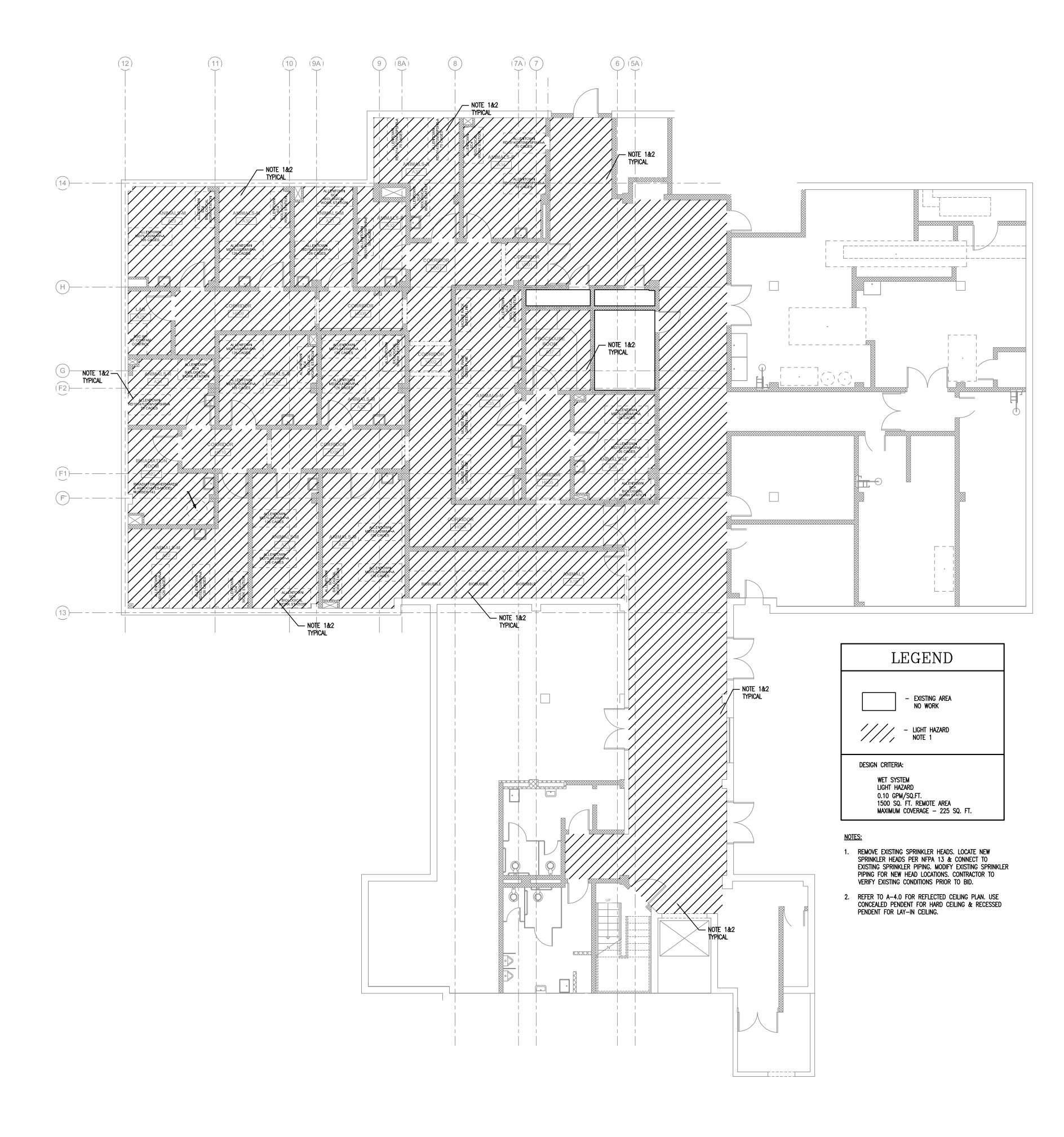
ASSOCIATES, INC.











1 PARTIAL BASEMENT PLAN - PROTECTION PLAN

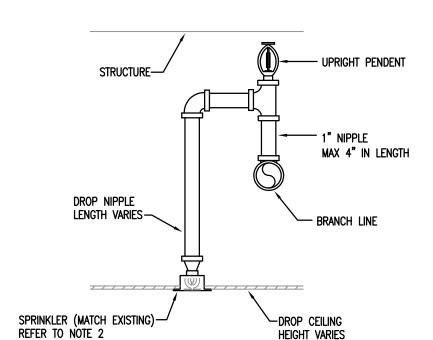
FIRE PROTECTION GENERAL NOTES

SYSTEMS SHALL COMPLY WITH N.F.P.A. 13 & 14 & ALL APPLICABLE STATE & LOCAL CODES.

INSPECTIONS & FINAL APPROVAL BY FIRE DEPARTMENT & ARCHITECT / ENGINEER.

- 2. CONTRACTOR SHALL OBTAIN APPLICABLE PERMITS & LICENSES
- 4. PIPE ROUTING SHALL BE COORDINATED WITH OTHER TRADES TO MAINTAIN PROPER CLEARANCES. FIRE PROTECTION CONTRACTOR TO VERIFY STRUCTURAL, MECHANICAL, ELECTRICAL INSTALLATIONS & AVOID ANY / ALL OBSTRUCTIONS OR INTERFERENCE'S WITH FIRE
- 5. ABOVE CEILING HORIZONTAL FIRE PROTECTION PIPING SHALL BE RUN AS CLOSE TO CEILING CONSTRUCTION & LIGHTING AS POSSIBLE
- (U.N.O.)
- 6. REFER TO ARCHITECTURAL REFLECTED CEILING & ELECTRICAL LIGHTING DRAWINGS FOR CEILING DESCRIPTIONS & HEIGHTS.

 7. PROVIDE FIRE RATED SLEEVES & FIRE STOP ALL PENETRATIONS OF SMOKE / FIRE WALLS, CEILINGS, ETC.
- 8. PROVIDE ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS & WALLS. COORDINATE WITH ARCHITECTURAL DRAWINGS.
- 9. SPRINKLER HEADS ARE TO BE COORDINATED WITH ALL DIFFUSERS, GRILLES, LIGHTING FIXTURES & CEILING SYSTEMS.
- 10. FIRE PROTECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SUPPLYING & INSTALLING SPRINKLER HEADS AT PENETRATION LOCATIONS PROVIDED BY CEILING SUBCONTRACTOR.
- 1. SPRINKLER HEADS SHALL BE INSTALLED IN THE CENTER OF THE ACOUSTICAL TILE PANEL
- 12. ON SHOP DRAWINGS INDICATE CENTER TO CENTER DIMENSIONS & / OR PIPE CUT LENGTHS & NOMINAL PIPE DIAMETERS ON ALL
- 13. INDICATE PIPE TYPE, SCHEDULE OF WALL THICKNESS & METHOD OF JOINING ON SHOP DRAWINGS.
- 14. PROVIDE THE ROOM NAMES FOR EACH AREA ON SHOP DRAWINGS.
- 15. PROVIDE STOCK OF EXTRA SPRINKLER HEADS IN ACCORDANCE WITH N.F.P.A. 13 3-18.7.3.
- 16. SHOP DRAWINGS SHOULD PROVIDE DETAIL & INDICATE TYPE OF HANGER TO BE INSTALLED FOR SPRINKLER PIPING.
- 17. MATERIAL SUBMITTALS SHALL BE SUBMITTED TO ARCHITECT / ENGINEER & SHALL BE APPROVED BEFORE ANY INSTALLATION.
- 18. PIPE 2" OR SMALLER SHALL BE STEEL, SCHEDULE 40, BLACK & IN ACCORDANCE WITH SPECIFICATION ASTM A120.
- 19. SCHEDULE 40 BLACK STEEL PIPE SHALL BE JOINED BY SCREWED JOINTS IN ACCORDANCE WITH SPECIFICATION ANSI B2.1.
- 20. PIPE 2-1/2" OR LARGER GROOVED PIPE SHALL BE STEEL, SCHEDULE 10, BLACK.
 21. AUTOMATIC SPRINKLER TEMPERATURE RATINGS TO BE IN ACCORDANCE WITH N.F.P.A. 13.
- 22. METHODS OF HANGING PIPES, HEADERS & BRANCHES SHALL BE APPROVED BY N.F.P.A. 13. ALL HANGERS ON 4" PIPE & LARGER SHALL BE CLEVIS TYPE HANGERS. HANGERS SHALL NOT INTERFERE WITH ANY OTHER TRADE.
- 23. ALL VALVES FOR FIRE SERVICE SHALL BE APPROVED BY THE UNDERWRITER'S LABORATORIES INC., & THE FACTORY MUTUAL LABORATORIES. VALVES SHALL BE MARKED "UL" & "FM", 175 P.S.I. WORKING PRESSURE.
- 24. NO SPRINKLER HEAD SHALL BE INSTALLED FURTHER THAN 7'-6" FROM A MAGNETICALLY HELD OPEN SMOKE DOOR.
- 25. SPRINKLERS SHALL COVER THE ENTIRE AREA OF THE ROOM INCLUDING ALCOVES. SPRAY SHALL NOT BE BLOCKED BY WALLS OR
- 26. THE FIRE PROTECTION CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT / ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THESE PLANS, THE ARCHITECTURAL PLANS & / OR FIELD CONDITIONS PRIOR TO CONSTRUCTION.
- 27. MAKE NO CHANGES WITHOUT ARCHITECT / ENGINEER'S WRITTEN PERMISSION. IN CASE OF DISPUTE OR DOUBT AS TO INTENT OF DRAWINGS OR SPECIFICATIONS, OBTAIN ARCHITECT / ENGINEER'S DECISION BEFORE PROCEEDING WITH WORK INVOLVED. FAILURE TO FOLLOW THIS INSTRUCTION SHALL MAKE THE CONTRACTOR LIABLE FOR DAMAGE TO OTHER WORK & FOR REMOVING & REPAIRING DEFECTIVE OR MISLOCATED WORK IN PROPER MANNER.
- 28. BEFORE SUBMITTING PROPOSAL OF BID, THIS TRADE SHALL EXAMINE ALL DRAWINGS & SPECIFICATIONS RELATING TO THIS PROJECT, THE AMOUNT OF SPACE AVAILABLE FOR PIPING EQUIPMENT & CONNECTING SERVICES, THE SITE OF THE WORK, THE REQUIREMENTS TO CORRELATE THE FIRE PROTECTIONS WORK WITH THAT OF OTHER TRADES, & THE TIME SCHEDULE NECESSARY TO PERFORM THE WORK.
- 29. THIS TRADE, AFTER EXAMINATION OF ALL PLANS & SPECIFICATIONS, SHALL INCLUDE ALL THE COSTS NECESSARY FOR A COMPLETE & FINISHED INSTALLATION IN ALL ASPECTS. IT IS THE INTENT THAT ALL COSTS FOR THE WORK REQUIRED BE INCLUDED IN THE BID OF THIS TRADE.
- 30. THE FIRE PROTECTION CONTRACTOR SHALL PERFORM FLOW TEST AS REQUIRED PER NFPA 13 & LOCAL CODES. FLOW TEST SHALL BE PERFORMED ON SITE & WITNESSED BY THE OWNER & ARCHITECT/ENGINEER. SUBMIT FLOW DATA WITH HYDRAULIC CALCULATIONS AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH DESIGN.
- 1. SUBMIT HYDRAULIC CALCULATIONS PROVING THE VIABILITY OF THE MOST HYDRAULICALLY REMOTE AREAS OF THE PROJECT. INDICATE HYDRAULIC REFERENCE POINTS & SUBMIT COMPUTER ANALYZED NODAL CALCULATIONS IN BOTH TABULAR & GRAPHICAL FORMATS. HYDRAULIC IMBALANCE SHALL NOT EXCEED 0.01 GPM AT A NODE, & WATER VELOCITY SHALL NOT EXCEED 25 FEET PER SECOND. DEMONSTRATE COMPLIANCE WITH THE REQUIREMENTS OF NFPA-13 REGARDING DENSITY, AREA OF COVERAGE, SELECTION OF HYDRAULICALLY REMOTE AREAS, & MAXIMUM COVERAGE PER SPRINKLER.
- 32. DRAWINGS ARE PERFORMANCE SPECIFICATION LEVEL. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR A FULL DESIGN INCLUDING HYDRAULIC CALCULATIONS, SPRINKLER LAYOUT, AND PIPING DESIGN. SHOP DRAWINGS AND CALCULATIONS SHALL BE DESIGNED BY A MECHANICAL/FIRE PROTECTION ENGINEER LICENSED IN NORTH CAROLINA. CONTRACTOR PROVIDED ENGINEER SHALL COMPLETELY REVIEW ALL DOCUMENTS AND STAMP AND SIGN FSSS AND COC DOCUMENTS.



NOTE:
FLEXIBLE SPRINKLER HOSE CAN BE USED IN LIEU OF SCH 40 PIPE.
MAXIMUM ALLOWABLE FLEXIBLE CONNECTION SHALL NOT EXCEED 6 FT
UNLESS SUPPORTED BY APPROVED HANGERS. FLEXIBLE SPRINKLER
HOSE SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

ARM OVER WITH

CONCEALED SPRINKLER DETAIL

NTS



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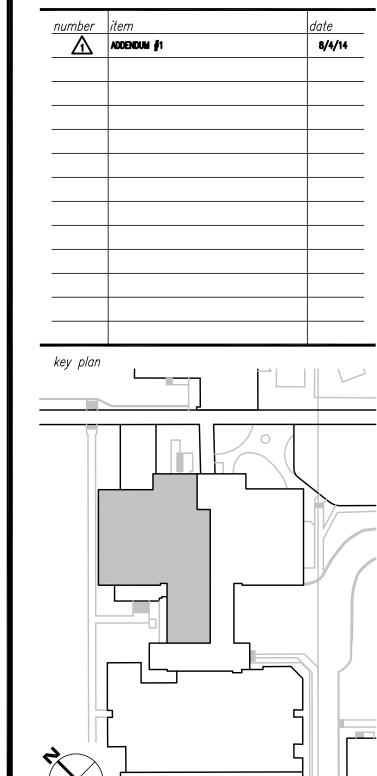
USC School of Medicine
Building 4 Animal Care Renovations
State Project # H27-Z152

A/E project number

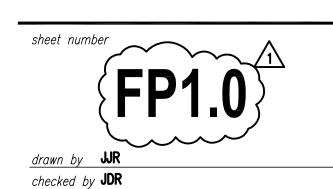
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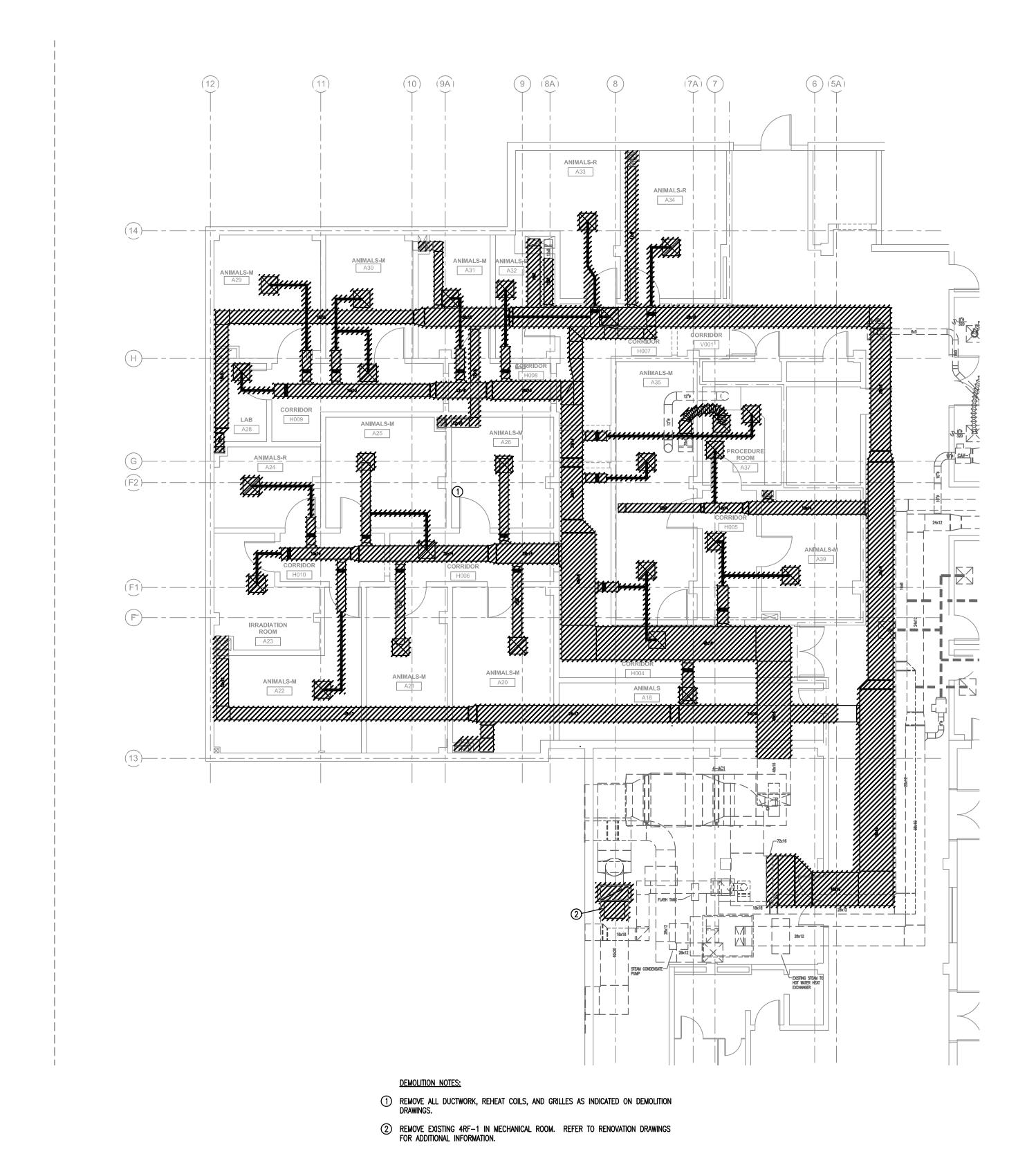
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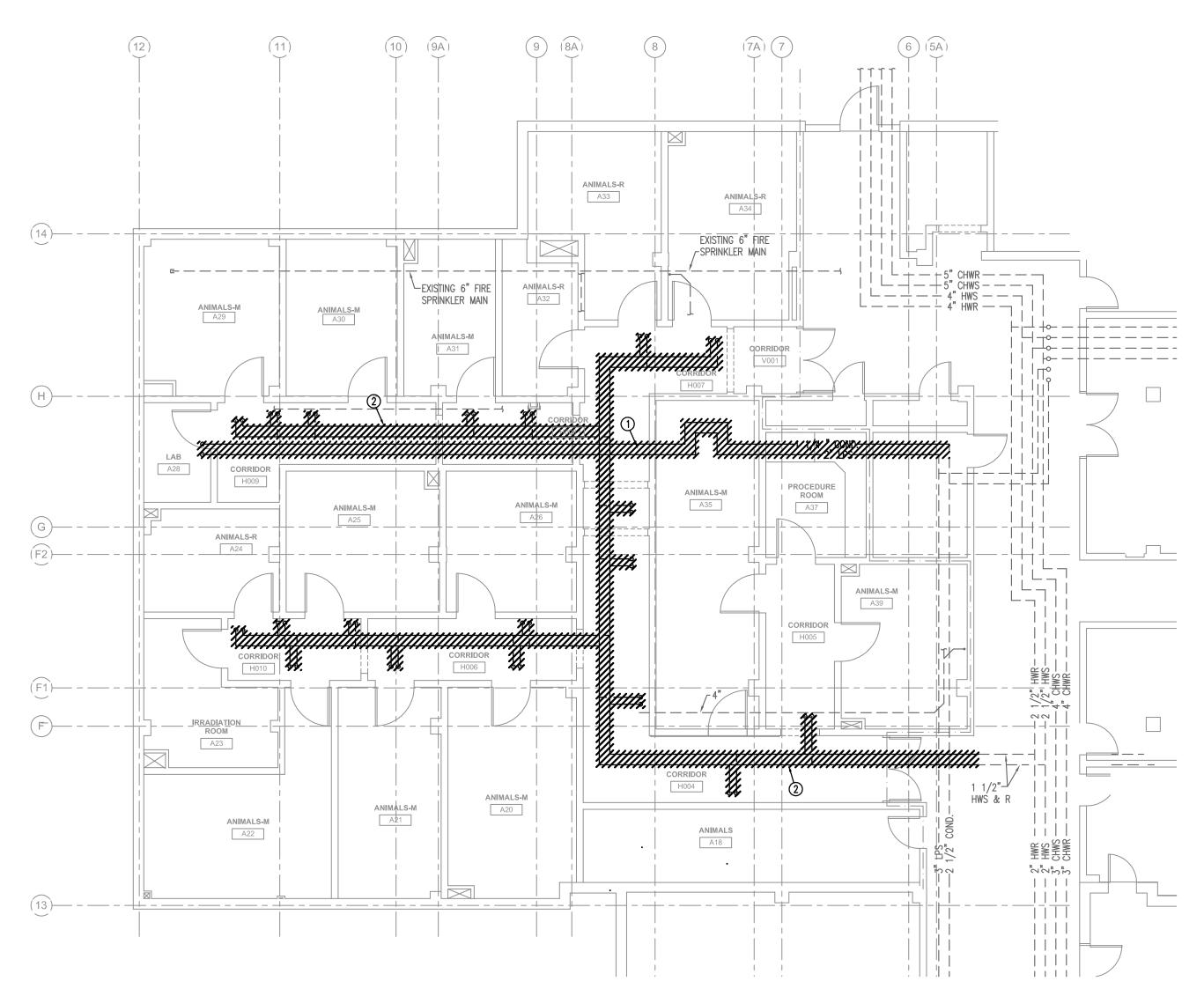
sheet title
FIRE PROTECTION
PARTIAL BASEMENT PLAN





PARTIAL BASEMENT FLOOR PLAN — HVAC DUCTWORK DEMOLITION

1/8"=1'-0"

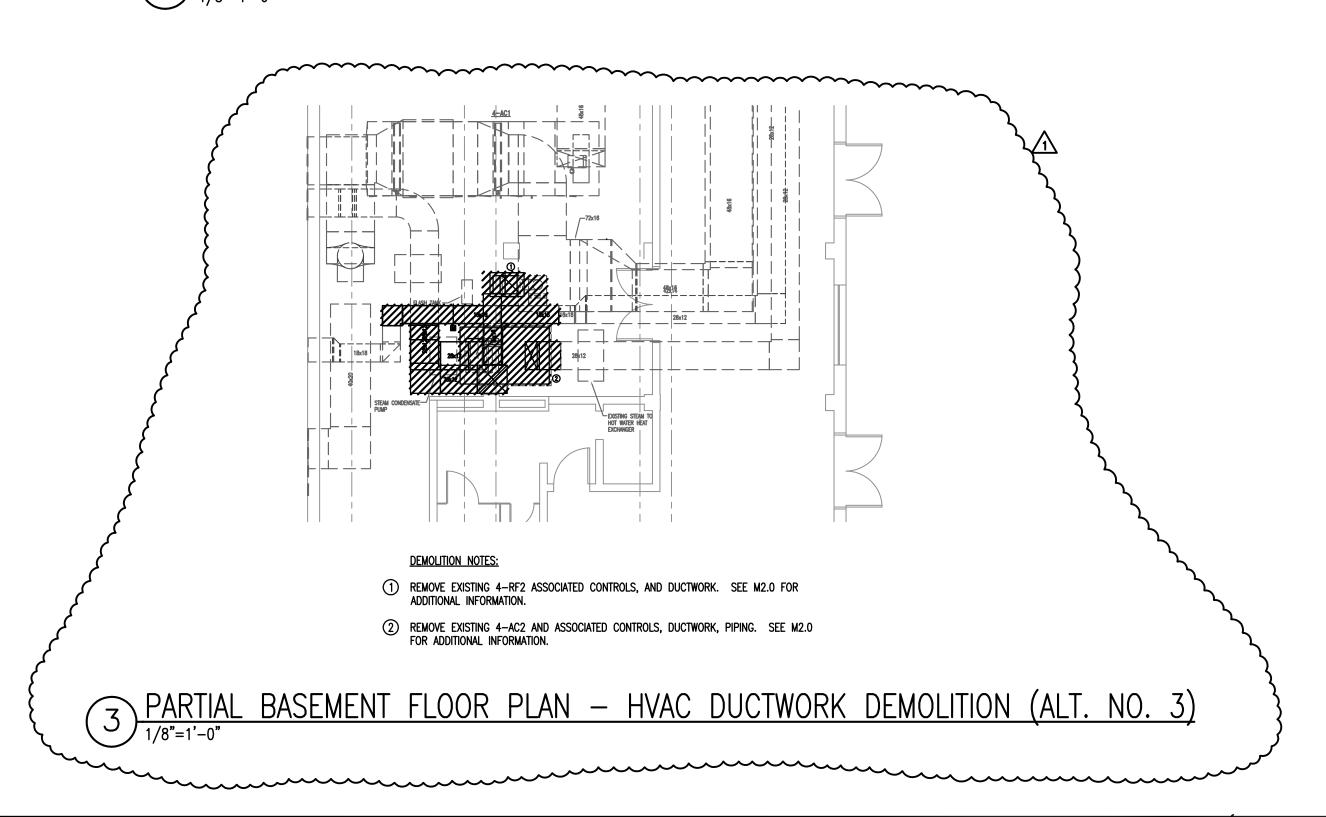


PIPING DEMOLITION NOTES:

1 REMOVE EXISTING STEAM AND STEAM CONDENSATE LINES BACK TO MAINS.

2 REMOVE EXISTING HOT WATER SUPPLY AND RETURN WATER PIPNG AS INDICATED. SEE RENOVATION DRAWINGS FOR CONTINUATION.

2 PARTIAL BASEMENT FLOOR PLAN — HVAC PIPING DEMOLITION 1/8"=1'-0"



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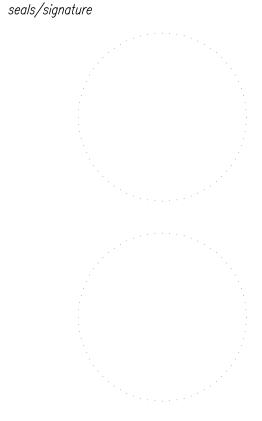
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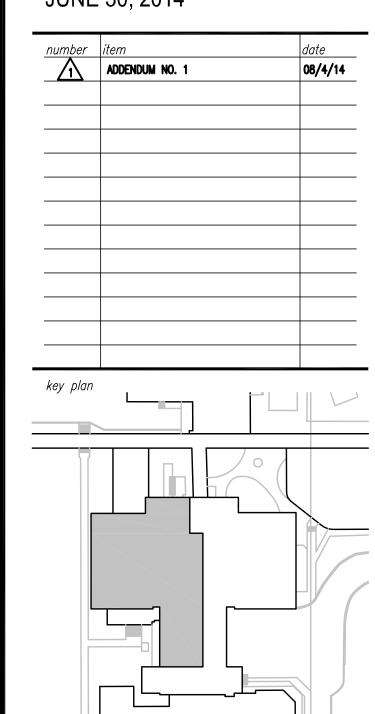
A/E project number
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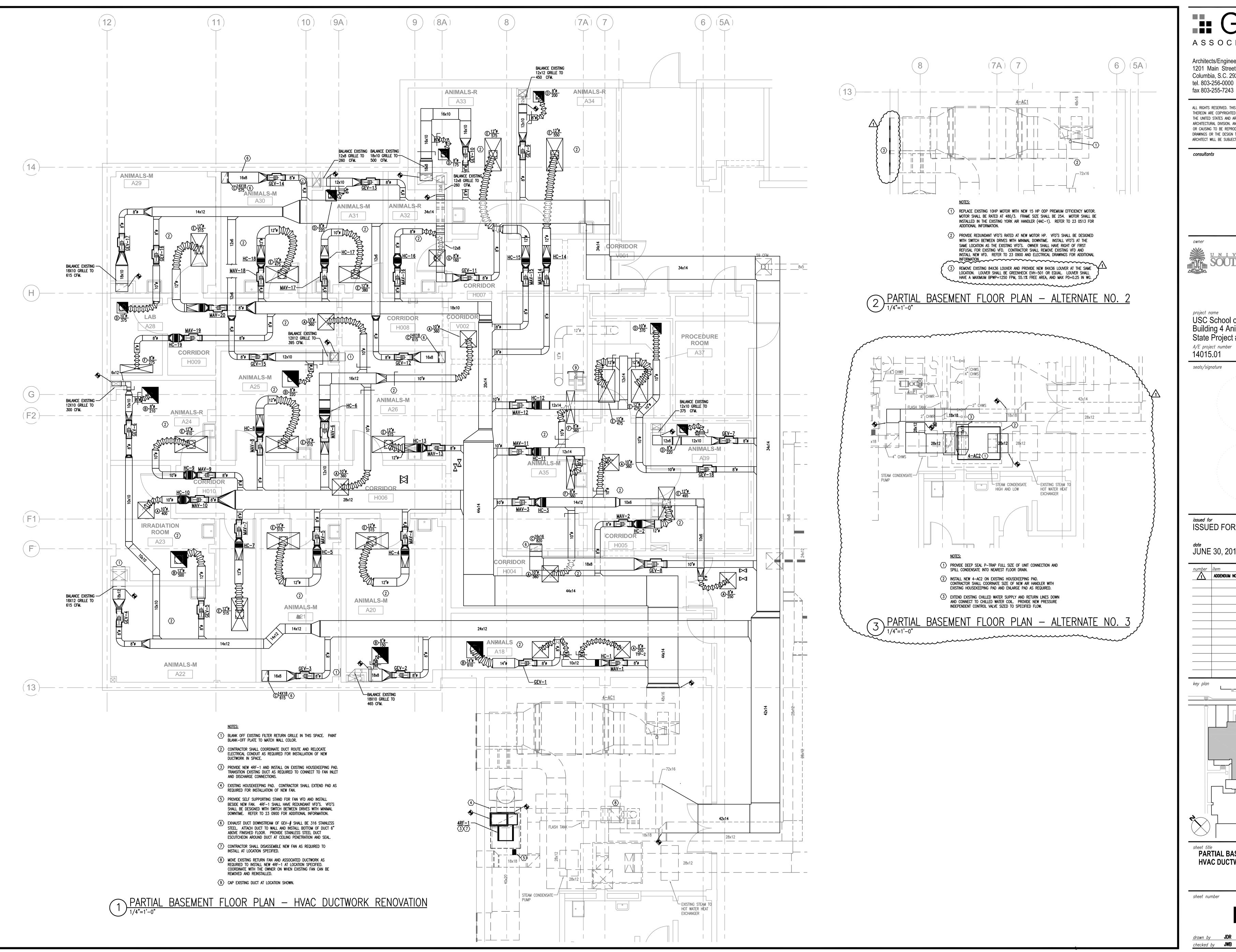


PARTIAL BASEMENT PLAN - HVAC DEMOLITION

sheet number

M1.

drawn by JDR checked by JWB



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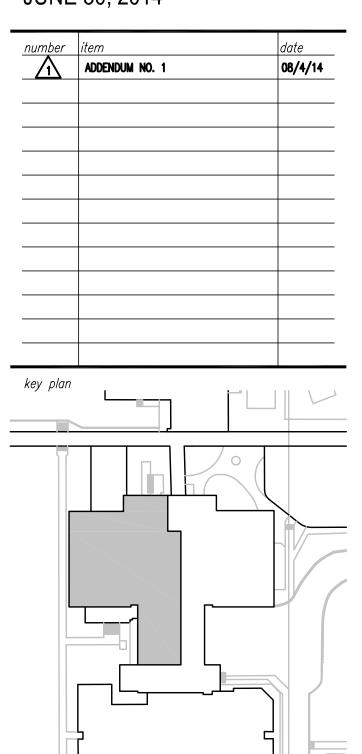


USC School of Medicine Building 4 Animal Care Renovations State Project # H27-Z152 A/E project number

14015.01 seals/signature

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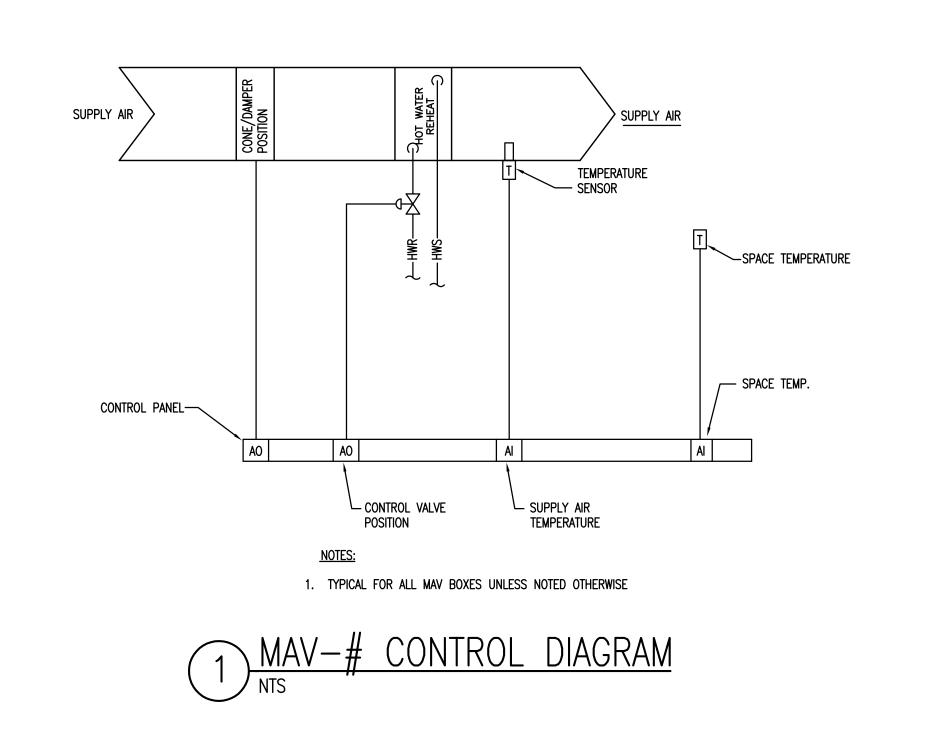
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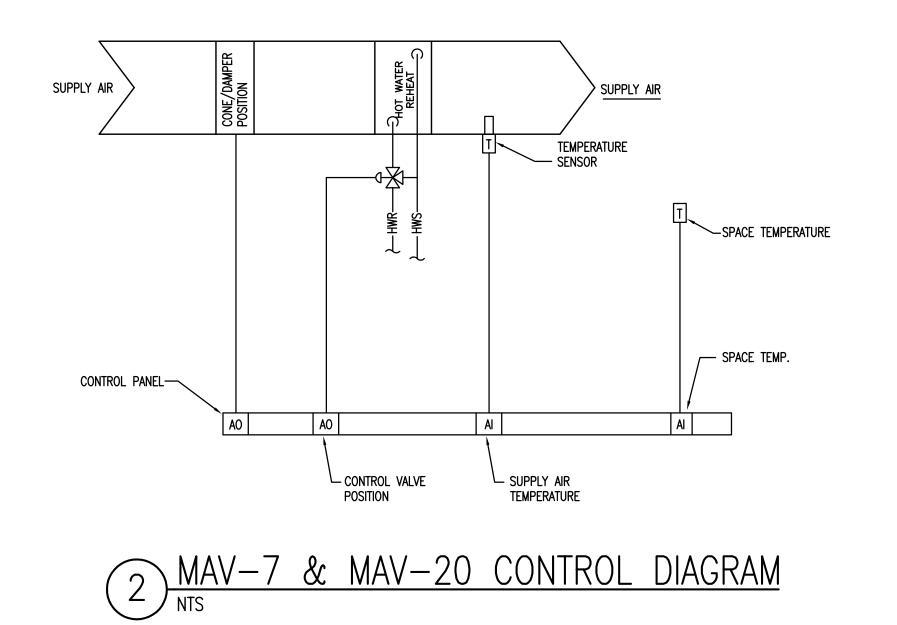


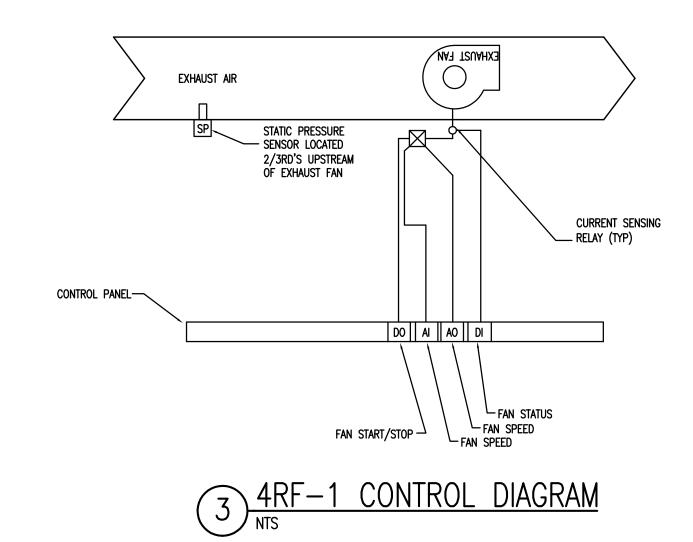
PARTIAL BASEMENT PLAN -**HVAC DUCTWORK RENOVATION**

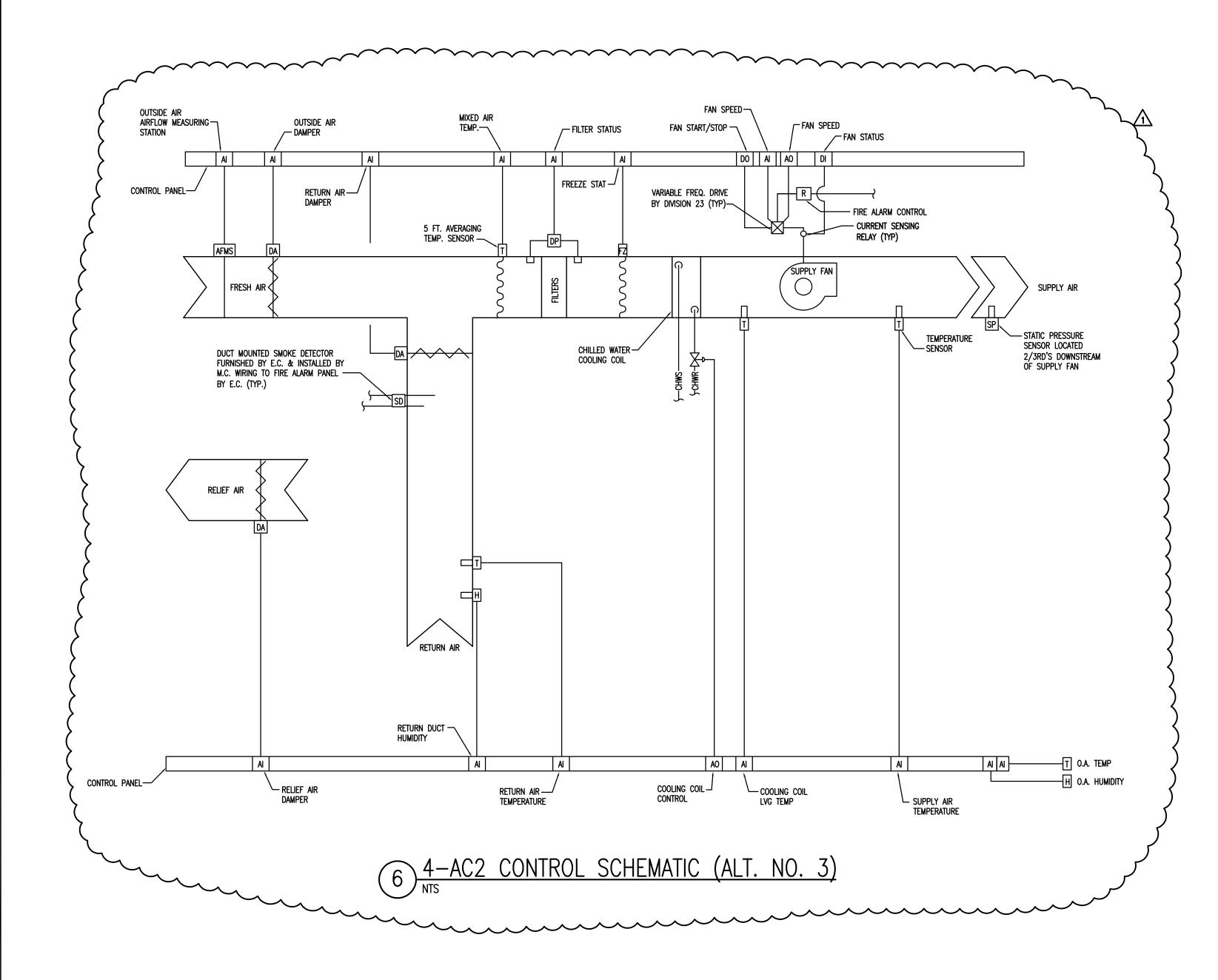
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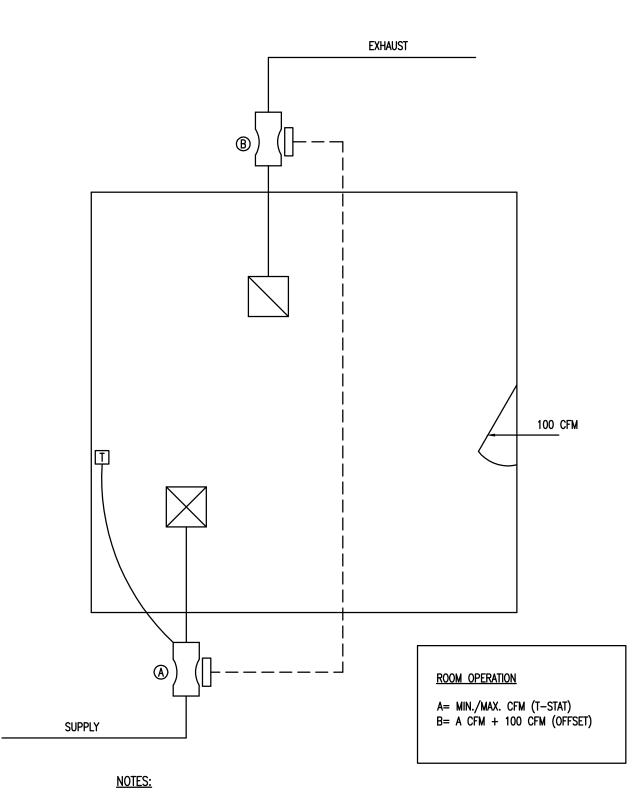
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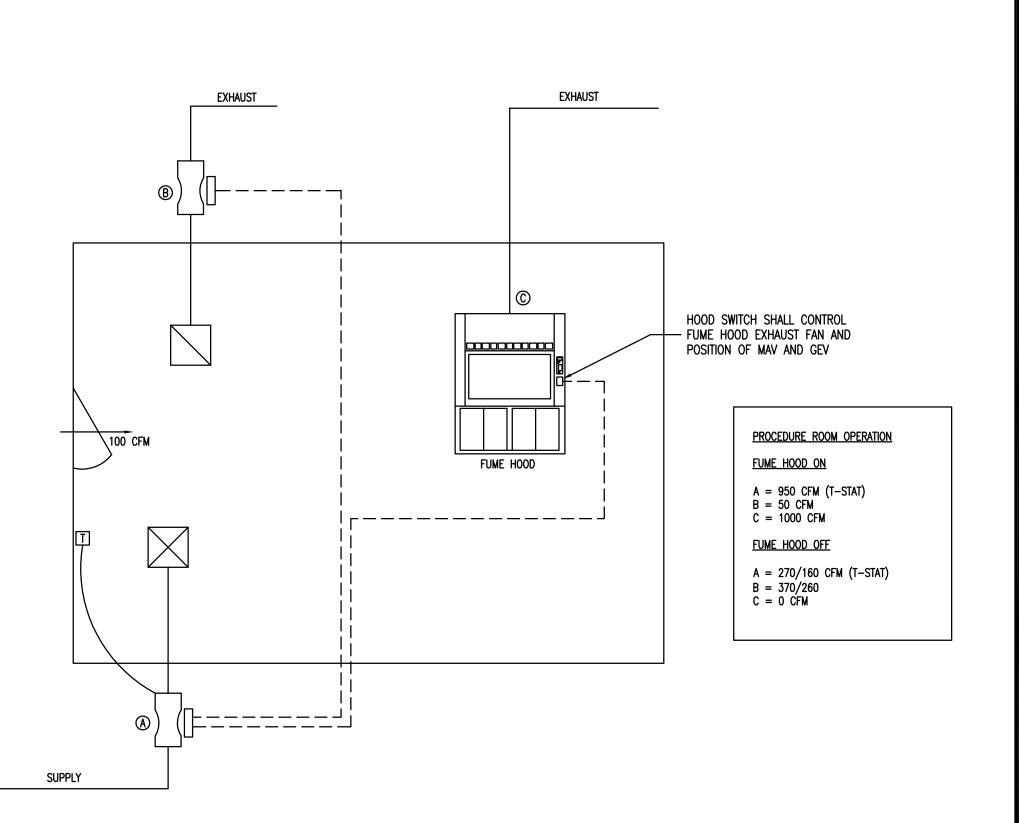




1. TYPICAL FOR THE FOLLOWING SPACES:A—18, A20, A21, A23, A24, A25, A26, A28, A29, A30, A31, A32, A33, A34, A35, A39.

2. REFER TO MAV SCHEDULE FOR MIN/MAX CFM VALUES.

4 ROOM CONTROL SCHEMATIC



5 PROCEDURE ROOM A37 CONTROL SCHEMATIC

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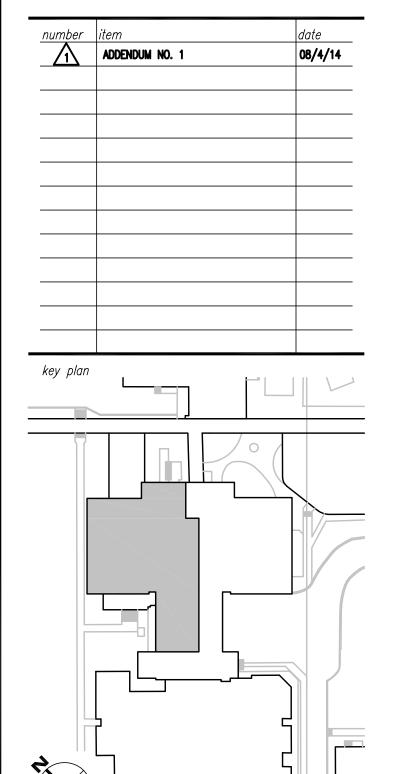
USC School of Medicine
Building 4 Animal Care Renovations
State Project # H27-Z152

A/E project number
14015.01

seals/signature

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^{date} JUNE 30, 2014

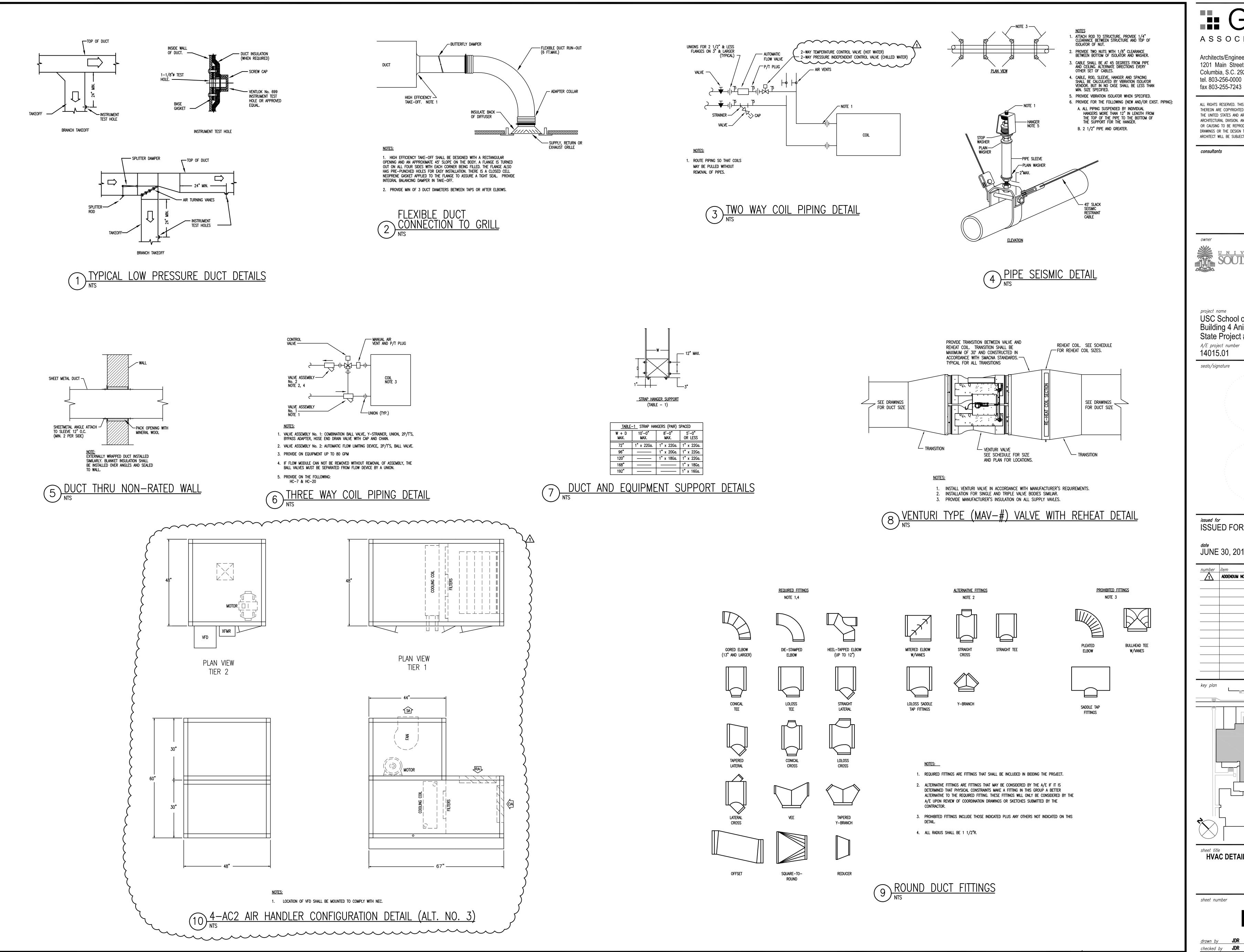


sheet title
HVAC CONTROL SCHEMATICS

sheet number

M5.1

drawn by JDR checked by JDR



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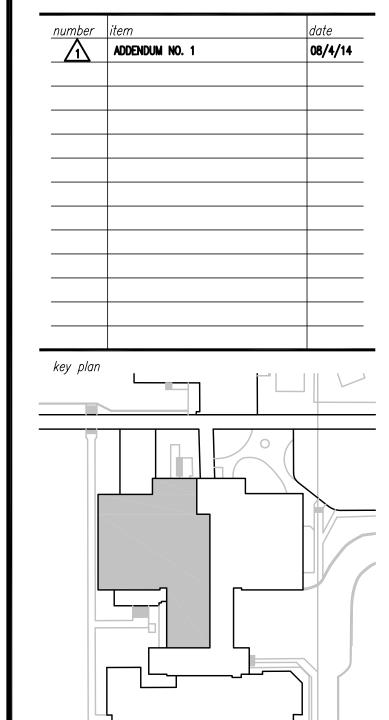


USC School of Medicine Building 4 Animal Care Renovations State Project # H27-Z152

A/E project number 14015.01

ISSUED FOR CONSTRUCTION

date JUNE 30, 2014



HVAC DETAILS

sheet number

M6.1

drawn by JDR checked by JDR

ABV Above AFF Above Finished Floor N/A Not Applicable BHP Brake Horsepower NIC Not in Contract CFM Cubic Feet Per Minute NTS Not To Scale CHWS Chilled Water Supply OA Outside Air CHWR Chilled Water Return OBD Opposed Blade Damper DD Duct Smoke Detector OD Outside Diameter DB Dry Bulb Temperature PD Pressure Drop EAT Entering Air Temperature RA Return Air ELEC Electric or Electrical RH Relative Humidity EWB Entering Air Wet Bulb SA Supply Air EWT Entering Water Temperature SEER Seasonal Energy Efficiency Ratio FL Floor SHT Sheet Scale Specifications HWR Hot Water Return SPL Supply HP Horsepower T T Thermostat LAT Leaving Mater Temperature TEMP Temperature LUT Leaving Mater Temperature TEMP Temperature LUWB Leaving Air Wet Bulb TSTAIT Thermostat LUWB Leaving Air Wet Bulb TSTAIT Thermostat LUWB Leaving Air Temperature TPMP Typical MAV—# Make—up Air Valve — # VFD Variable Frequency Drive MAX Moximum MBH Thousand BTU/Hr (thousands) MPD Water Pressure Drop (in. w.g)

MECHANICAL DEMOLITION NOTES

- DRAWINGS SHOW GENERAL INTENT OF DEMOLITION. QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE TYPE OF SYSTEM INSTALLED AND DOES NOT NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.
- 2. DEMOLITION OF EQUIPMENT, SYSTEMS, AND COMPONENTS SHALL INCLUDE ALL SUPPORTS, PADS, HANGERS, INSULATION, CONTROLS, STARTERS, ACCESSORIES,
- AND APPURTENANCES NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM.

 3. WHEN PARTIAL DEMOLITION OF A SYSTEM IS INDICATED, THE PART OF THE SYSTEM SHOWN TO REMOVED SHALL BE REMOVED TO THE ACTIVE MAIN OR BRANCH IF NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. THE ACTIVE MAIN OR BRANCH SHALL BE REPAIRED TO MATCH NEW INSTALLATION AS MUCH AS PRACTICAL. IF SYSTEM IS INSULATED, INSULATION SHALL BE PATCHED AND
- FINISHED REPAIR (IE: VAPOR BARRIER, COATING, ETC.)

 4. REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEM WHENEVER PRACTICAL. IF NOT, SYSTEM (IE: PIPE, CONDUIT, ETC.) SHALL BE REMOVED TO 1 INCH BELOW SURFACE.

MECHANICAL GENERAL NOTES

DO NOT SCALE DRAWINGS; SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING, DIFFUSERS, ETC.
 EXTEND ALL DRAIN LINES TO EXTERIOR AND SPILL ON GRADE. ROUTE TO AVOID INTERFERENCE WITH PASSAGEWAYS. CONDENSATE DRAINS SHALL BE TRAPPED. SLOPE DRAIN LINES 1/8" PER FOOT.

ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS EXCEPT WHERE PROHIBITED BY FIRE CODES.
 ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.

ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
 ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THRU EXTERIOR WALLS AND ROOFS SHALL BE FLASHED AND COUNTERFLASHED.
 PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, EXHAUST FANS, AND ALL OTHER EQUIPMENT AND APPURTENANCES.

8. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED.

9. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

			HVAC LEGEND		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
T	TEMPERATURE SENSOR OR THERMOSTAT		CEILING SUPPLY DIFFUSER, RETURN GRILLE W/ FLEX DUCT CONN. FOR RETURN OR EXHAUST AIR; SEE "DIFFUSER & GRILLE SCHEDULE"	18x12 12x12	TRANSITION, FLAT ON BOTTOM (FOB) FLAT ON TOP (FOT, IF APPLICABLE)
(\$)	WALL SWITCH		EXISTING DUCT WORK TO REMAIN		TURNING VANES
H	WALL HUMIDISTAT	*//////	EXISTING DUCT WORK TO BE REMOVED	- 600	DUCT SMOKE DETECTORS
•	CONNECT TO EXISTING	+ 🔀	DUCT TURNING DOWN	CR	CONCEALED REGULATOR
18x12	RECTANGULAR DUCT SIZE, FIRST FIGURE IS SIDE SHOWN		DUCT TURNING UP		MANUAL VOLUME DAMPER
18"ø	ROUND DUCT SIZE	—— ——	UNION	<u>6"ø</u>	A – DIFFUSER TAG 6"Ø – NECK SIZE 100 – CFM
- R -	CHANGE OF ELEVATION, RISER (R), DROP (0)		STRAINER		GATE VALVE
	ACOUSTICAL LINING INSULATION		STRAINER WITH BLOW OFF		CONTROL VALVE, TWO WAY
	FLEXIBLE DUCT		ECCENTRIC REDUCER FLAT ON TOP		END CAP
CHWS	CHILLED WATER SUPPLY	-+0+	TEE OUTLET UP	-+	ELBOW TURNED DOWN
CHWR	CHILLED WATER RETURN		TEE OUTLET DOWN	-+0	ELBOW TURNED UP
	CONCENTRIC REDUCER				ECCENTRIC REDUCER FLAT ON BOTTOM

	AI	R DIS	STRIBU	JTION	SCHEDI	JLE					
TAG	DESCRIPTION	NECK	MODULE SIZE	MOUNT	CONSTR.	MFGR	MODEL	NOTES			
Α	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES ASPD	2,3,4			
B CEILING RETURN/EXHAUST AS SHOWN 24x24 LAY-IN ALUMINUM PRICE SERIES APDDR 3											
C SIDEWALL GRILLE RETURN/EXHAUST AS SHOWN AS SHOWN SURFACE ALUMINUM PRICE SERIES 730D											
D CEILING RETURN/EXHAUST AS SHOWN 16X16 SURFACE ALUMINUM PRICE SERIES APDDR 3											
Ε	RADIAL FLOW DIFFUSER	AS SHOWN	24X48	LAY-IN	ALUMINUM	PRICE	SERIES RFD	2,3,4			
F	RADIAL FLOW DIFFUSER	AS SHOWN	12X48	LAY-IN	ALUMINUM	PRICE	SERIES RFD	2,3,4			
G	RADIAL FLOW DIFFUSER	AS SHOWN	24X24	LAY-IN	ALUMINUM	PRICE	SERIES RFD	2,3,4			
	IRNISH WITH OPPOSED BLADE DAMPER -WAY DEFLECTION UNLESS NOTED OTHERWISE			WHITE FINIS BACKPAN INSU	• •						

							FAN SCHE	DULE			
TAG	TYPE	CAPACITY	MIN.	E.S.P.	М	OTOR	ELECTRICAL	EMERGENCY	MANUFACTURER	MODEL NO.	NOTES
IAG	IIFE	CFM	CFM	(IN. WG.)	HP	RPM	(VOLTS/PHASE)	POWER	MANUFACTURER	MODEL NO.	MOIES
4RF-1	CENTRIFUGAL	9155	6105	3.5	10.0	1725	460/3/60	YES	COOK	210CPS	2,5,6,8
	L ACKDRAFT DAMPER (DRAFT DAMPER SWITCH	6. BELT GUAR 7. FILTER		I TO 23 0548) JENCY DRIVES WIT	TH DISCONN	i Iects (refe	R TO 23 0900)				

TAG NO.	MINIMUM	COIL SIZE	PIPE RUNOUT		REHEA ⁻	COIL		MAX. FINS/FT	MAX. WPD	MAX. APD	NOTI
IAG NU.	BOX CFM	(WXL)	SIZE (INCHES)	GPM	MBH	EWT (°F)	LWT (°F)	MAA. FINS/FI	FT W.C.	IN W.C.	NUII
HC-1	305	10X12	3/4"	1.0	10.4	180	160	80	5.0	0.1	1
HC-2	260	12X9	3/4"	0.8	8.0	180	160	80	5.0	0.1	1
HC-3	970	14X12	3/4"	3.0	30.0	180	160	110	5.0	0.25	1
HC-4	330	12X12	3/4"	0.9	9.0	180	160	80	5.0	0.1	1
HC-5	270	12X9	3/4"	0.7	7.0	180	160	80	5.0	0.1	1
HC-6	1080	16X12	3/4"	2.8	28.1	180	160	110	5.0	0.25	1
HC-7	340	12X12	3/4"	0.9	9.0	180	160	80	5.0	0.1	1
HC-8	270	12X9	3/4"	0.7	7.0	180	160	80	5.0	0.1	1
HC-9	180	12X9	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-10	210	12X9	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-11	420	12X12	3/4"	1.0	10.9	180	160	80	5.0	0.1	1
HC-12	950	12x15	3/4"	3.1	30.9	180	160	80	5.0	0.25	1
HC-13	230	12X9	3/4"	0.6	6.0	180	160	80	5.0	0.1	1
HC-14	280	12X9	3/4"	0.7	7.0	180	160	80	5.0	0.1	1
HC-15	260	12X9	3/4"	0.7	7.0	180	160	80	5.0	0.1	1
HC-16	160	12X6	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-17	180	12X9	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-18	210	12X9	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-19	100	12X6	3/4"	0.5	5.0	180	160	80	5.0	0.1	1
HC-20	260	12X9	3/4"	0.7	7.0	180	160	80	5.0	0.1	1

			GF	ENERAL E	XHAUST VA	LVE SCH	EDULE		
TAG NO.	AREA SERVED	MAXIMUM BOX CFM	MINIMUM Box CFM	MIN. INLET S.P. (W.C.)	PRIMARY NC @ 1.5" SP DISCH/RAD.	INLET SIZE (INCHES)	MANUFACTURER	MODEL NO.	NOTE
GEV-1	A18	610	405	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-2	A20	615	430	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-3	A21	615	370	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-4	A22	615	440	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-5	A23	500	310	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-6	A24	510	280	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-7	A39	595	360	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-8	A35	820	520	1.25		10	PHOENIX CONTROLS	HEVAF10M-ALNHZ	1,2,3,4
GEV-9	A34	650	380	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-10	A33	675	360	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-11	A32	260	260	1.25		8	PHOENIX CONTROLS	HEVAF08M—ALNHZ	1,2,3,4
GEV-12	A26	615	330	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-13	A31	480	280	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-14	A30	575	310	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-15	A25	615	370	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-16	A28	375	200	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-17	A29	615	360	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4
GEV-18	A37	370	50	1.25		8	PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,2,3,4

1. ELECTRIC ACTUATOR	4. SEE LAB CONTROL DIAGRAMS FOR MORE INFORMATION
2. FLANGED CONNECTION	
3. CONTROL POWER TRANSFORMER	

	_				_			-		
TAG NO.	MAXIMUM BOX CFM	MINIMUM Box CFM	MIN. INLET S.P. (W.C.)	REHEAT COIL TAG	INLET SIZE (INCHES)	ELECTRICAL (VOLTS/PHASE)	tracking Valve	MANUFACTURER	MODEL NO.	NOTE
MAV-1	510	305	1.25	HC-1	8	120/1	GEV-1	PHOENIX CONTROLS	HSVAF08M—ALAHZ	1,2,3,4
MAV-2	495	260	1.25	HC-2	8	120/1	GEV-7	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-3	970	970	1.25	HC-3	10	120/1		PHOENIX CONTROLS	BSVAF10M-ACFH0	1,2,3,4
MAV-4	515	330	1.25	HC-4	8	120/1	GEV-2	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-5	515	270	1.25	HC-5	8	120/1	GEV-3	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-6	1080	1080	1.25	HC-6	12	120/1		PHOENIX CONTROLS	BSVAF12M-ACFH0	1,2,3,4
MAV-7	515	340	1.25	HC-7	8	120/1	GEV-4	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-8	515	270	1.25	HC-8	8	120/1	GEV-15	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-9	410	180	1.25	HC-9	8	120/1	GEV-6	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-10	400	210	1.25	HC-10	8	120/1	GEV-5	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-11	720	420	1.25	HC-11	10	120/1	GEV-8	PHOENIX CONTROLS	HSVAF10M-ALAHZ	1,2,3,4
MAV-12	950	160	1.25	HC-12	10	120/1	GEV-18	PHOENIX CONTROLS	HSVAF10M-ALAHZ	1,2,3,4
MAV-13	515	230	1.25	HC-13	8	120/1	GEV-12	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-14	550	280	1.25	HC-14	8	120/1	GEV-9	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-15	575	260	1.25	HC-15	8	120/1	GEV-10	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-16	160	160	1.25	HC-16	8	120/1	GEV-11	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-17	380	180	1.25	HC-17	8	120/1	GEV-13	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-18	475	210	1.25	HC-18	8	120/1	GEV-14	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-19	275	100	1.25	HC-19	8	120/1	GEV-16	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4
MAV-20	515	260	1.25	HC-20	8	120/1	GEV-17	PHOENIX CONTROLS	HSVAF08M-ALAHZ	1,2,3,4

1. PROVIDE DUCT TRANSITION UPSTREAM AND DOWNSTREAM OF REHEAT COIL

1. LOW SPEED ELECTRIC ACTUATOR	4. FLANGED CONNECTION
2. CONTROL POWER TRANSFORMER	
3. REHEAT COIL MOUNTED IN DUCT	

					COIL	SCHI	EDULE	¦ – .	ALTEI	RNATE	E NO.	3						
TAG	LOCATION	LOCATION	CAPACITY	MAX. AIR VELOCITY	AIR PRESS DROP	TOTAL	CAPACITY SENS.		FNTF	AIR TEMF		VING	ENTERING	WATE LEAVING		PRESS DROP	MAXIMUM NO. OF	NOTES
	Loormon	200/11011	CFM	(FPM)	(IN. WG.)	MBH	MBH	KW	DB °F	WB °F	DB °F	WB 'F	TEMP. *F	TEMP. *F	GPM	(FT. WATER)	FINS/IN.	110120
CC-1	4-AC2	MECH RM.	2400	480	0.58	170.6	87.8		86.7	74.6	52.6	52.3	44	56	28.3	7.2	10	
1. COIL IN REI	HEAT POSITION																	

AIR HANDLER UNIT SCHEDULE – ALTERNATE NO. 3																
TAG	CAPACITY CFM	MINIMUM O.A.	FAN	FAN	SUPPLY FAN SP (IN. W.G.)		MOTOR		ELECTRICAL VOLTS/PHASE	AIR VOLUME	COOLING COIL	Prefilters Type	REHEAT COIL	ACCESSORIES	MANUFACTURER	REMARKS
4-AC2	2400	1600	CFM 2400	TYPE FC	TOTAL 4.89	EXT 3.75	BHP 3.04	HP 5.0	460/3	CONTROL VFD	EQ. NO.	MERV 7	EQ. NO.		JCI SOLUTION INDOOR AHU	1
									•							
1. SINGLE POINT CONNECTION																

ASSOCIATES IN

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USC School of Medicine
Building 4 Animal Care Renovations
State Project # H27-Z152

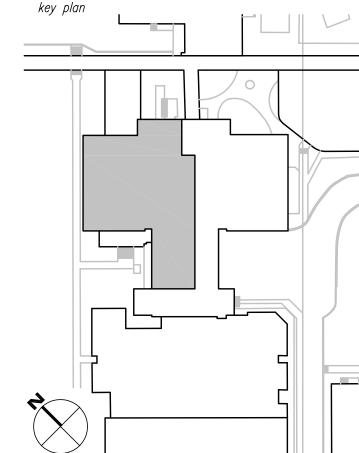
A/E project number
14015.01

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issued for ISSUED FOR CONSTRUCTION

^{date} JUNE 30, 2014

number	item	date
<u>/1\</u>	ADDENDUM NO. 1	08/4/
key plan		
noj pian		
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hvac legends, abbreviations, Notes, and schedules

sheet number

M7.1

drawn by JDR checked by JDR