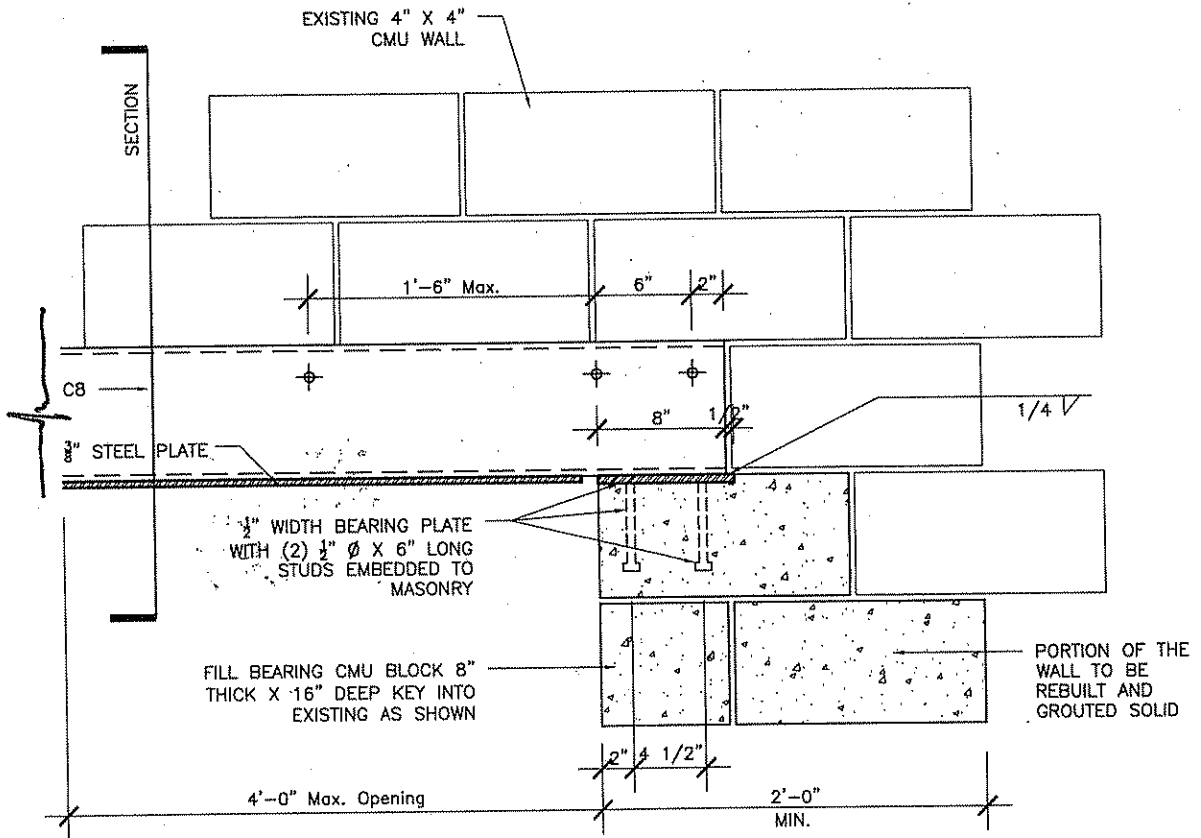


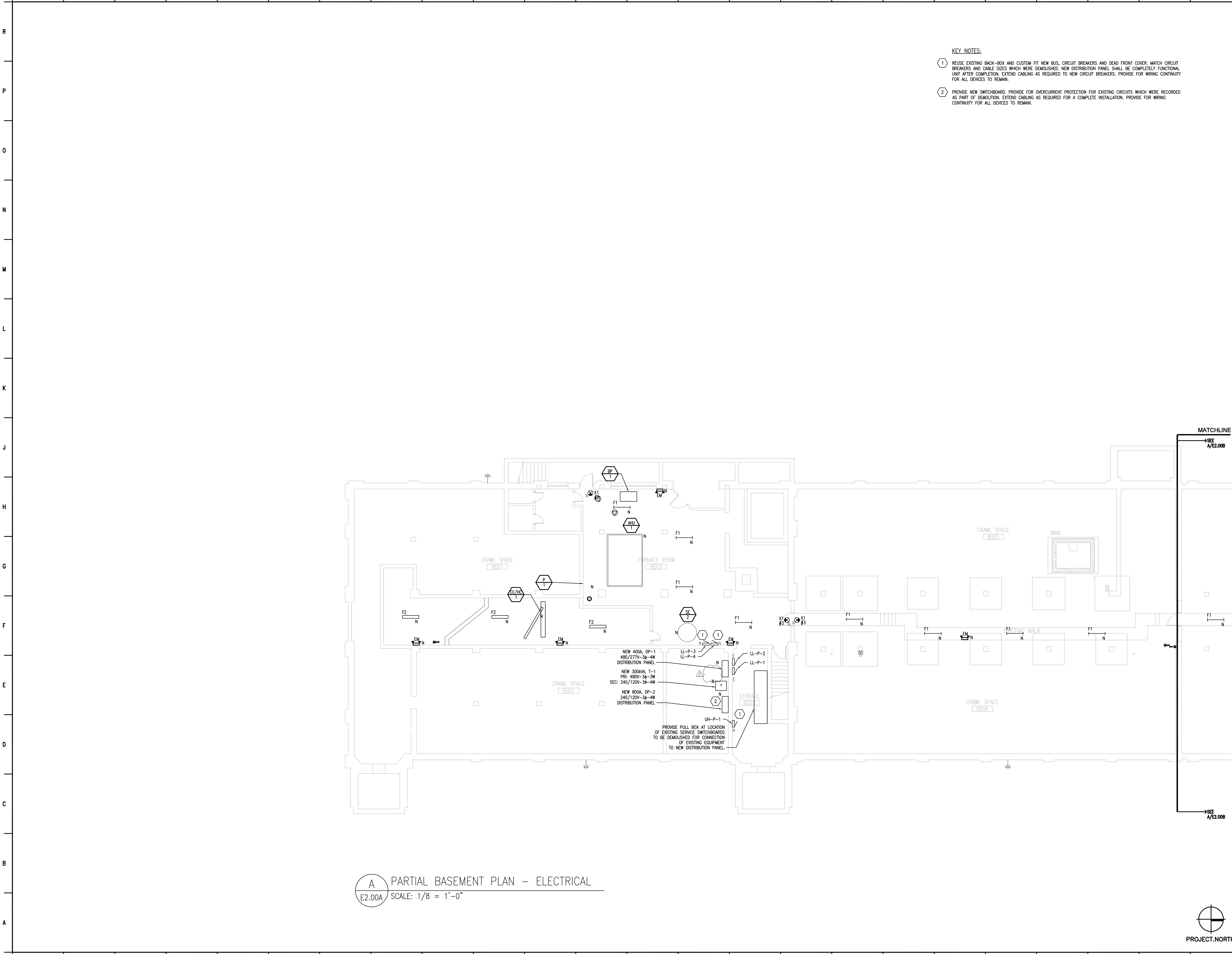
**SECTION**



**ELEVATION**

FGM- Z:\jobs\2010\10-1139a\ACAD\AutoCad\AutoCad Files - Current\Addendum - ASK1.dwg  
 PLOTTED: 4/28/2008 7:47:53 AM  
 (© 2008 FGM Architects Inc.)

<b>PROJECT</b> AIR FORCE ACADEMY PHASE III		<b>TITLE</b> LINTEL DETAIL @ DOOR #223-A	
<b>FGM ARCHITECTS</b> OAK BROOK O'FALLON CHICAGO 1211 West 22nd Street, Suite 705 Oak Brook, IL 60523-2019 www.fgmarchitects.com		<b>DRAWN</b> JFA	<b>DATE</b> 11.16.11
Professional Design Firm - IL # 184-000350		<b>APPROVED</b>	<b>JOB NO</b> 05803
			<b>SHEET NO</b> ASK-04 (© 2008 FGM Architects Inc.)



- KEY NOTES:**
- ① REUSE EXISTING BACK-BOX AND CUSTOM FIT NEW BUS, CIRCUIT BREAKERS AND DEAD FRONT COVER. MATCH CIRCUIT BREAKERS AND CABLE SIZES WHICH WERE DEMOLISHED. NEW DISTRIBUTION PANEL SHALL BE COMPLETELY FUNCTIONAL UNIT AFTER COMPLETION. EXTEND CABLING AS REQUIRED TO NEW CIRCUIT BREAKERS. PROVIDE FOR WIRING CONTINUITY FOR ALL DEVICES TO REMAIN.
  - ② PROVIDE NEW SWITCHBOARD. PROVIDE FOR OVERCURRENT PROTECTION FOR EXISTING CIRCUITS WHICH WERE RECORDED AS PART OF DEMOLITION. EXTEND CABLING AS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE FOR WIRING CONTINUITY FOR ALL DEVICES TO REMAIN.

**A PARTIAL BASEMENT PLAN - ELECTRICAL**  
 E2.00A SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1211 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-2019  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

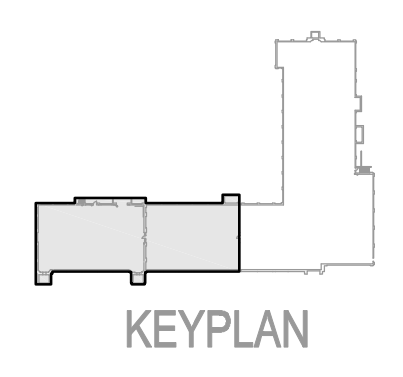
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**

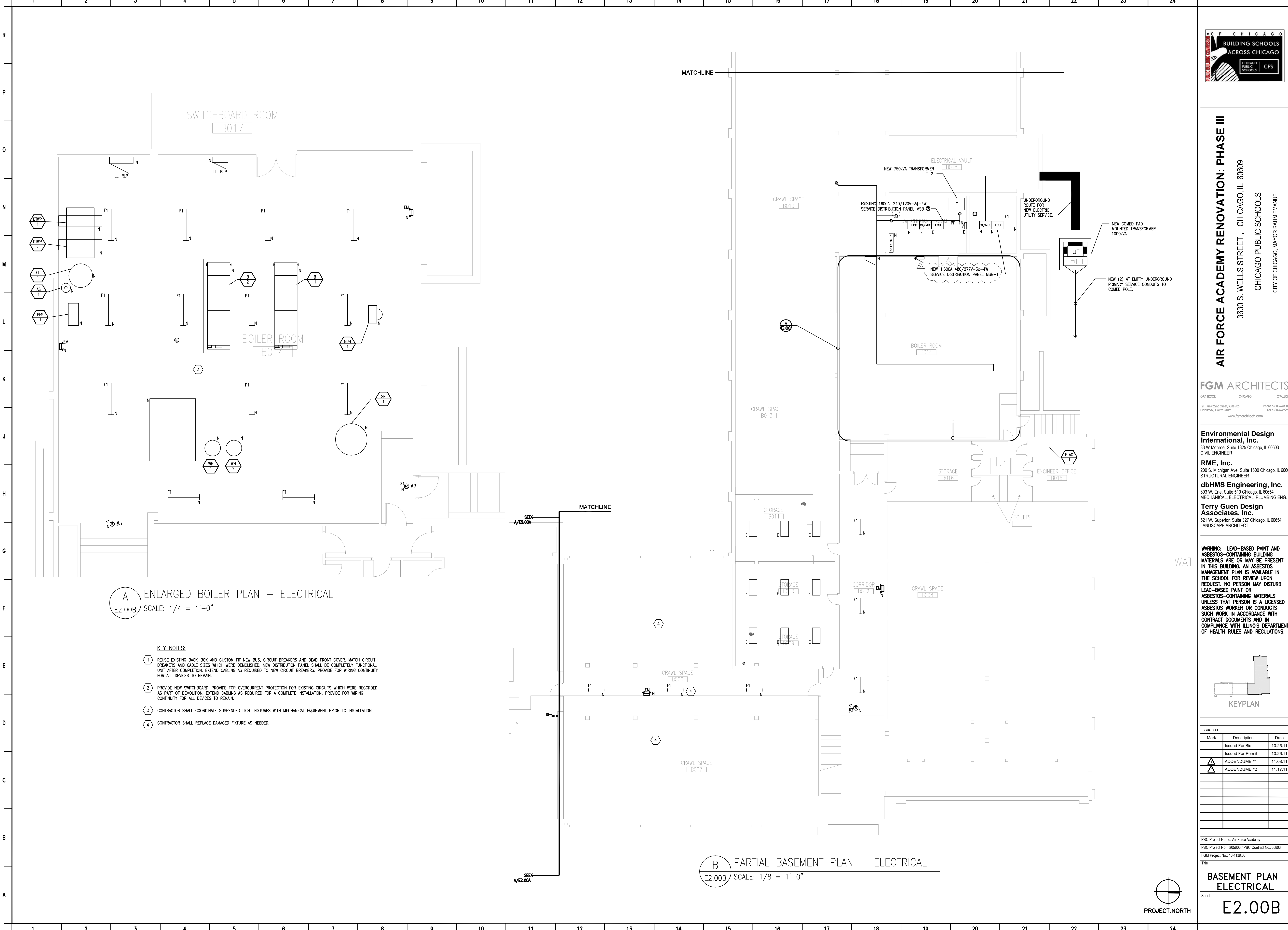


Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139-06

**BASEMENT PLAN ELECTRICAL**  
 Sheet  
**E2.00A**





**A ENLARGED BOILER PLAN - ELECTRICAL**  
 E2.00B SCALE: 1/4" = 1'-0"

- KEY NOTES:**
- 1 REUSE EXISTING BACK-BOX AND CUSTOM FIT NEW BUS, CIRCUIT BREAKERS AND DEAD FRONT COVER. MATCH CIRCUIT BREAKERS AND CABLE SIZES WHICH WERE DEMOLISHED. NEW DISTRIBUTION PANEL SHALL BE COMPLETELY FUNCTIONAL UNIT AFTER COMPLETION. EXTEND CABLING AS REQUIRED TO NEW CIRCUIT BREAKERS. PROVIDE FOR WIRING CONTINUITY FOR ALL DEVICES TO REMAIN.
  - 2 PROVIDE NEW SWITCHBOARD. PROVIDE FOR OVERCURRENT PROTECTION FOR EXISTING CIRCUITS WHICH WERE RECORDED AS PART OF DEMOLITION. EXTEND CABLING AS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE FOR WIRING CONTINUITY FOR ALL DEVICES TO REMAIN.
  - 3 CONTRACTOR SHALL COORDINATE SUSPENDED LIGHT FIXTURES WITH MECHANICAL EQUIPMENT PRIOR TO INSTALLATION.
  - 4 CONTRACTOR SHALL REPLACE DAMAGED FIXTURE AS NEEDED.

**B PARTIAL BASEMENT PLAN - ELECTRICAL**  
 E2.00B SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO, ILLINOIS  
 1311 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-3017  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

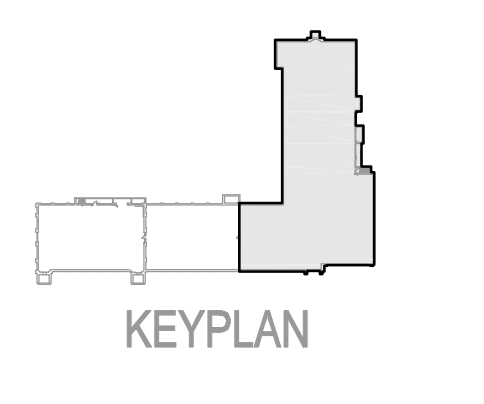
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave., Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139-06

**BASEMENT PLAN ELECTRICAL**  
 Sheet  
**E2.00B**





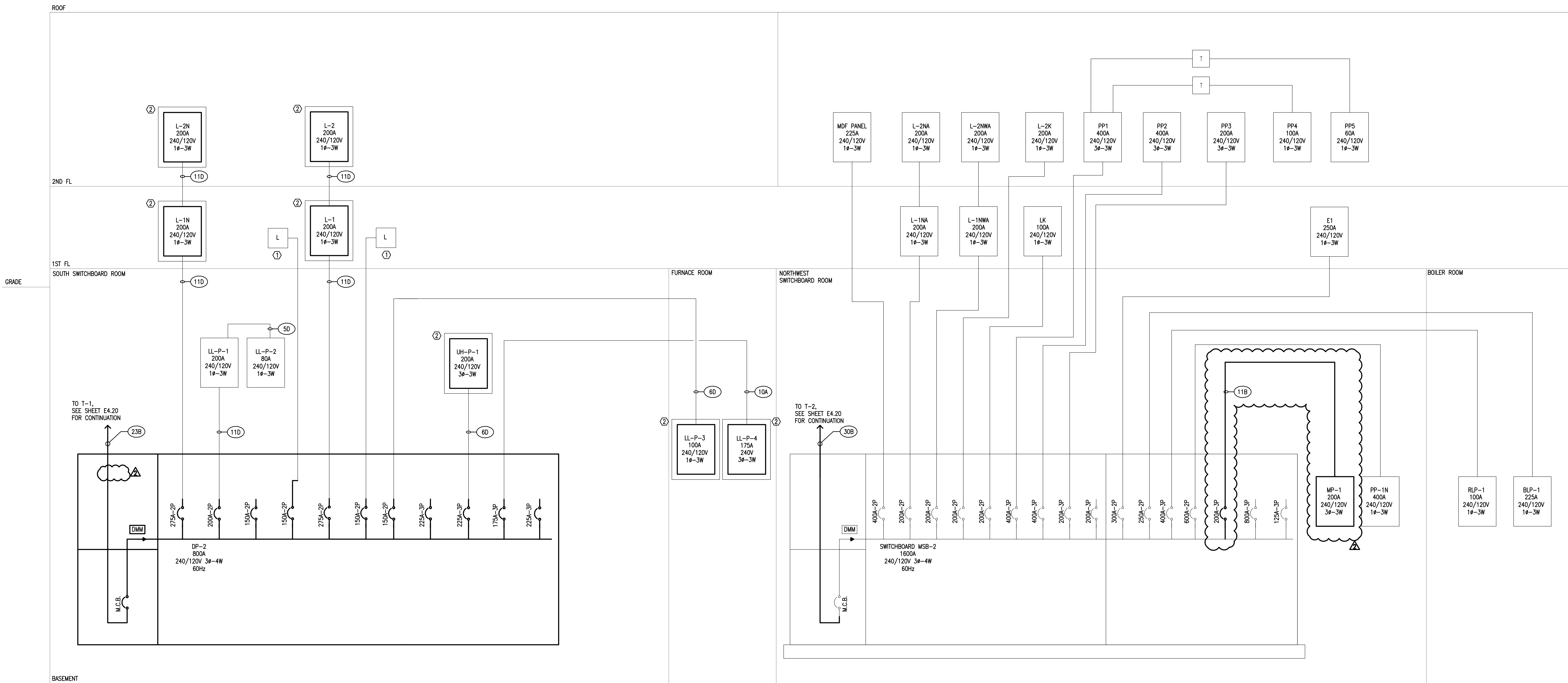
**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**

Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
Δ	ADDENDUM #1	11.08.11
Δ	ADDENDUM #2	11.17.11

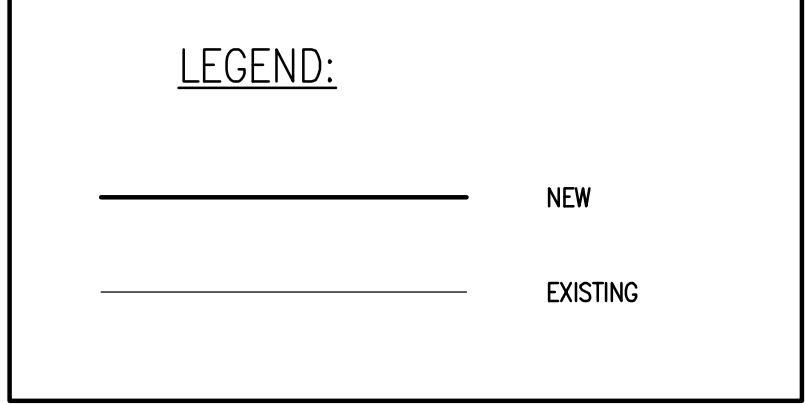
PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

**ELECTRICAL RISER DIAGRAM 240V**

Sheet  
**E4.10**



**1 electrical riser diagram - 240/120V**  
 E4.10 SCALE: NONE



- KEY NOTES:**
- ① REMOVE EXISTING BUS TAP FEEDING BRANCH CIRCUIT TO REMAIN. LABEL CABLES FOR CONNECTION TO NEW DISTRIBUTION PANEL.
  - ② REUSE EXISTING BRANCH PANEL BACK BOX AND INSTALL NEW BUS AND CIRCUIT BREAKER WITH NEW DEAD FRONT COVER AND DOOR IN EXISTING BACK BOX. PROVIDE FOR WIRING CONTINUITY FOR ALL DEVICES TO REMAIN. NEW CIRCUIT BREAKERS SHALL MATCH DEMOLISHED FUSE SIZES. E.C. TO REPAIR/REPLACE EXISTING NON-DEAD FRONT ELECTRICAL DISTRIBUTION PANELS. EXTEND CABLING AS REQUIRED.



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHMI EMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1211 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-3019  
 Phone: (630) 574-8300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

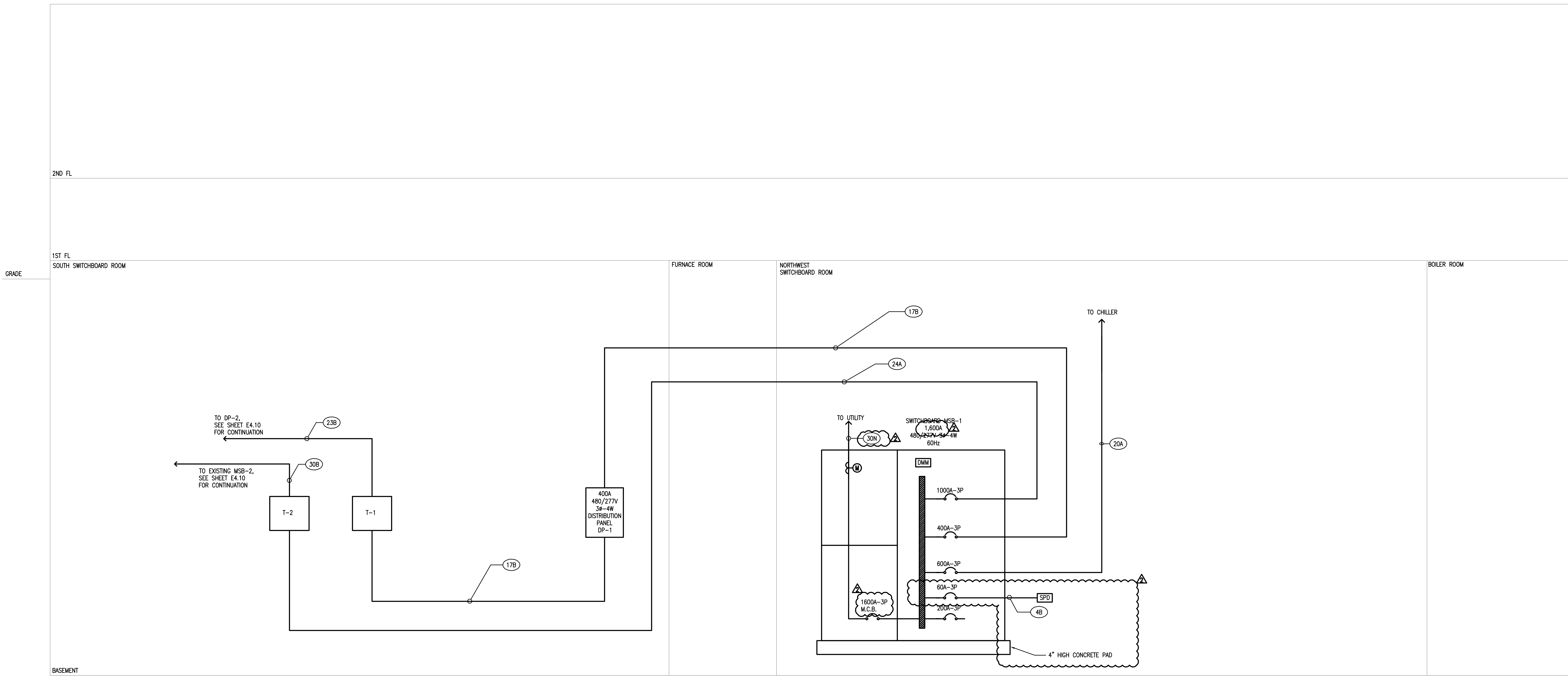
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

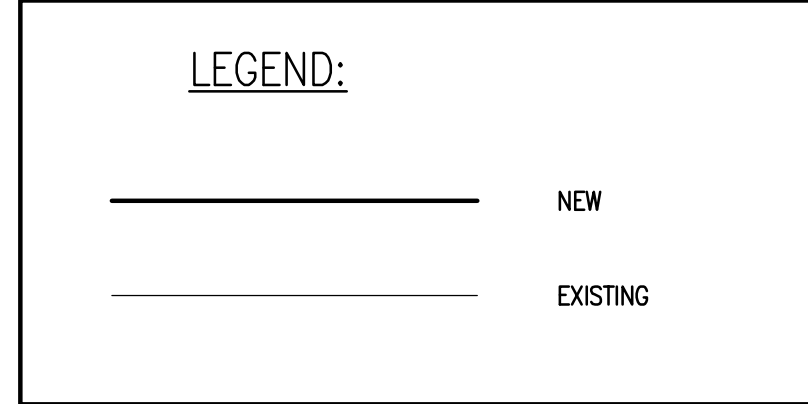
**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



**1 electrical riser diagram - 480/277V**  
 E4.20 SCALE: NONE

**TRANSFORMER SCHEDULE**

TRANSFORMER	KVA	PRIMARY VOLTAGE	SECONDARY VOLTAGE	K-RATING	GROUNDING
T-1	300KVA	480V	120/240V CENTER TAP	K-4	1#1/0, 3/4" C.
T-2	750KVA	480V	120/240V CENTER TAP	K-4	1#3/0, 1" C.



Issuance

Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

**ELECTRICAL RISER DIAGRAM 480V**

Sheet  
**E4.20**





AIR FORCE ACADEMY RENOVATION: PHASE III
3630 S. WELLS STREET, CHICAGO, IL 60609
CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM ELMANN

FGM ARCHITECTS
1211 West 29th Street, Suite 705
Chicago, IL 60608-3939
Phone: (312) 542-8330
Fax: (312) 542-9792
www.fgmarchitects.com

Environmental Design International, Inc.
33 W. Monroe, Suite 1825 Chicago, IL 60603
CIVIL ENGINEER
RME, Inc.
200 S. Michigan Ave., Suite 1500 Chicago, IL 60604
STRUCTURAL ENGINEER
dbHMS Engineering, Inc.
303 W. Erie, Suite 510 Chicago, IL 60654
MECHANICAL, ELECTRICAL, PLUMBING, ENG.
Terry Guen Design Associates, Inc.
521 W. Superior, Suite 327 Chicago, IL 60654
LANDSCAPE ARCHITECT

WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONTRACTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.

Issuance table with columns: Mark, Description, Date. Includes entries for Issued For Bid, Issued For Permit, and Addendum #1 and #2.

Electrical Schedules
Sheet E5.00

MECHANICAL EQUIPMENT DIVISIONS 13 & 15 SCHEDULE No 1
STEP 1 CONFIRM FINAL LOCATION OF EQUIP WITH THE MECH DRWS & OEM'S SHOPS
STEP 2 REVIEW ARCH, MECH, PLUMB, FIRE PROTECT CONTRACTS - SHOP DRAWINGS
STEP 3 CONFIRM LOAD REQUIREMENTS WITH MECH'S OEM PRIOR TO INSTALLING CONDUIT
STEP 4 CONFIRM IN THE FIELD PNL-TO-SWB RATINGS WITH MECH'S OEM PRIOR TO INSTALLING CONDUITS. SEE PWR DRWS FOR PNL-TO-SWB RATINGS

Main equipment schedule table with columns: STEPS, EQUIPMENT, EQUIPMENT UNIT NAME, EQUIPMENT POWER CHARACTERISTICS, FEED, FEED FROM, OCPD, SW-CB FRAME/FUSE-CB TRIP/INT, MOTOR-LISTED EQUIP - CONTROLLER-STARTER TYPES & LOCATIONS, LOCAL DISCONNECT SWITCH, MOTOR-LISTED EQUIP CONN & DEM REQUIREMENTS, REMARKS.

10 120V & 277V BRANCH CIRCUIT SCHED.
TABLE G: BRANCH CIRCUITS 30 WITH GC "NEUTRAL" AND WITH GRD EGC
TABLE H: BRANCH CIRCUITS 30 WITH GC "NEUTRAL" AND WITH GRD EGC

THREE PHASE (Ø) AND SINGLE PHASE (Ø) POWER FEEDERS - BRANCH CIRCUITS - SERVICE ENTRANCE SCHEDULE UP TO 3,000A
TABLE A: FEEDER-BRANCH CIRCUITS 3Ø 3W NO GC "NEUTRAL" AND WITH "GROUND" EGC
TABLE B: FEEDER-BRANCH CIRCUITS 3Ø 4W WITH GC "NEUTRAL" & "GROUND" EGC
TABLE C: FEEDER-BRANCH CIRCUITS 1Ø 2W NO GC "NEUTRAL" AND WITH GRD EGC
TABLE D: FEEDER-BRANCH CIRCUITS 1Ø 3W WITH GC "NEUTRAL" AND WITH GRD EGC
TABLE E: FEEDER-BRANCH CIRCUITS 3Ø 4W WITH 200% GC "NEUTRAL" AND WITH GRD EGC
TABLE F: FEEDER-BRANCH CIRCUITS 1Ø 3W WITH 200% GC "NEUTRAL" & WITH "GRD" EGC
TABLE G: SERVICE ENTRANCE 3Ø 3W NO GC "NEUTRAL"
TABLE H: SERVICE ENTRANCE 3Ø 4W WITH GC "NEUTRAL"
TABLE I: SERVICE ENT 1Ø 3W WITH GC "NEUTRAL"



HOUSE PANELBOARD SCHEDULE DP-1

LOCATION: MAIN ELECTRICAL ROOM  
 SERVICE: 480/277V-3PH-4W 480 V NEUTRAL BUS: STANDARD, COPPER  
 MAIN LUGS ONLY: 400A GROUND BUS: STANDARD, COPPER  
 MAIN BUS RATING AND TYPE: 400A COPPER MOUNTING: SURFACE  
 INTERRUPT RATING: 42,000 AIC ENCLOSURE: NEMA 1

DESCRIPTION	CCT. NO.	CIRCUIT BREAKER	CIRCUIT LOAD	CONNECTED LOAD (VA)			CIRCUIT LOAD	CIRCUIT BREAKER	CCT. NO.	DESCRIPTION	
				A	B	C					
M DP-2 (VIA 480-240/120 XFMR)	1	400A-3P	77560	77560			20A-1P	2		SPARE	
M -	3	-	77560		77560		20A-1P	4		SPARE	
M -	5	-	77560			77560	20A-1P	6		SPARE	
M PFS-1	7	15A-2P	505	505			20A-1P	8		SPARE	
M -	9	-	505		505		20A-1P	10		SPARE	
M BP-1	11	15A-3P	2103			2103	20A-1P	12		SPARE	
M -	13	-	2103	2103			20A-1P	14		SPARE	
M -	15	-	2103		2103		15A-3P	16		SPARE	
SPARE	17	15A-3P				0	-	18		SPARE	
SPARE	19	-		0			-	20		SPARE	
SPARE	21	-		0			15A-3P	22		SPARE	
SPARE	23	15A-3P				0	-	24		SPARE	
SPARE	25	-		0			-	26		SPARE	
SPARE	27	-		0			15A-3P	28		SPARE	
SPARE	29	15A-3P				0	-	30		SPARE	
SPARE	31	-		0			-	32		SPARE	
SPARE	33	-		0			15A-3P	34		SPARE	
SPARE	35	15A-3P				0	-	36		SPARE	
SPARE	37	-		0			-	38		SPARE	
SPARE	39	-		0			20A-2P	40		SPARE	
SPARE	41	20A-1P				0	-	42		SPARE	
				80168	80168	79663					

TOTAL VA PER PHASE

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
L LIGHTING 0.00 KVA	1.00	0.00 KVA
R RECEPTACLES 0.00 KVA	0.50	0.00 KVA
M MOTOR / EQUIP. 240.00 KVA	0.80	192.00 KVA
H ELECTRIC HEAT 0.00 KVA	1.00	0.00 KVA
<b>TOTAL CONNECTED LOAD: 240.00 KVA</b>		<b>TOTAL DEMAND LOAD: 192.0 KVA</b>
		<b>TOTAL DEMAND CURRENT: 230.95 AMPS</b>

HOUSE PANELBOARD SCHEDULE DP-2

LOCATION: MAIN ELECTRICAL ROOM  
 SERVICE: 120/240V-3PH-4W 240 V NEUTRAL BUS: STANDARD, COPPER  
 MAIN CIRCUIT BREAKER: 800A GROUND BUS: STANDARD, COPPER  
 MAIN BUS RATING AND TYPE: 800A COPPER MOUNTING: SURFACE  
 INTERRUPT RATING: 42,000 AIC ENCLOSURE: NEMA 1

DESCRIPTION	CCT. NO.	CIRCUIT BREAKER	CIRCUIT LOAD	CONNECTED LOAD (VA)			CIRCUIT LOAD	CIRCUIT BREAKER	CCT. NO.	DESCRIPTION	
				A	B	C					
M L-1N	1	275A-2P	16500	16500			225A-3P	2		SPARE	
M -	3	-	16500		16500		-	4		-	
M LL-P-1	5	200A-2P	12000			12000	-	6		-	
M -	7	-	12000	27570			15570	8	M	UH-P-1	
SPARE	9	150A-2P			15570		15570	10	M	-	
M -	11	-			15570		15570	12	M	-	
M LOAD TAP #1	13	150A-2P	9000	21110			12110	14	M	LL-P-4	
M -	15	-	9000		21110		12110	16	M	-	
M -	17	275A-2P	16500		16500		15570	18	M	-	
M -	19	-	16500	18500			2000	20		EXISTING CIRCUIT	
M LOAD TAP #2	21	150A-2P	9000		11000		2000	22		-	
M -	23	-	9000			11000	2000	24		-	
M LL-P-3	25	150A-2P	9000	11000			2000	26		EXISTING CIRCUIT	
M -	27	-	9000		11000		2000	28		-	
M EXISTING CIRCUIT	29	60A-3P	2000			4000	2000	30		-	
M -	31	-	2000	4000			2000	32		EXISTING CIRCUIT	
M -	33	-	2000		4000		2000	34		-	
M EXISTING CIRCUIT	35	60A-3P	2000			4000	2000	36		-	
M -	37	-	2000	2000			60A-3P	38		SPARE	
M -	39	-	2000		2000		-	40		-	
SPARE	41	20A-1P				0	-	42		-	
				100680	81180	74180					

TOTAL VA PER PHASE

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
L LIGHTING 0.00 KVA	1.00	0.00 KVA
R RECEPTACLES 0.00 KVA	0.50	0.00 KVA
M MOTOR / EQUIP. 239.04 KVA	1.00	239.04 KVA
H ELECTRIC HEAT 0.00 KVA	1.00	0.00 KVA
<b>TOTAL CONNECTED LOAD: 239.04 KVA</b>		<b>TOTAL DEMAND LOAD: 239.0 KVA</b>
		<b>TOTAL DEMAND CURRENT: 575.06 AMPS</b>

NEW SWITCHBOARD SCHEDULE MSB-1

LOCATION: MAIN ELECTRICAL ROOM  
 SERVICE: 480/277V 3-PHASE 4-WIRE 480 V  
 MAIN BUS RATING: 1200A COPPER  
 INTERRUPT RATING: 65,000 RMS AIC (VERIFY WITH COMED)  
 FED FROM: PAD MOUNTED UTILITY TRANSFORMER  
 NEUTRAL BUS: 100% RATED FULL COPPER WITH BUS DISCONNECT LINK  
 GROUND BUS: 100% RATED FULL COPPER  
 MOUNTING: FLOOR (FRONT AND REAR ACCESSIBLE)  
 ENCLOSURE: NEMA 1, SERVICE ENTRANCE-RATED  
 OTHER: PROVIDE 4" HIGH CONCRETE PAD

FEEDER/BREAKER NO.	DESCRIPTION	LOAD (KVA)		CIRCUIT BREAKER						NOTES
		TOTAL CONNECTED	TOTAL DEMAND	FRAME SIZE	TRIP SETTING	BRKR. TYPE	BRKR. RATING	POLES		
UNMETERED SECTION										
1	DP-1	240.0	192.0	400A	400A	TM	80%	3		1, 4
2	CHILLER	310.0	248.0	800A	600A	TM	80%	3		1, 4
3	MSB-2 VIA T-2	501.6	401.0	1200A	1000A	TM	80%	3		1, 4
3	SURGE PROTECTION DEVICE	-	-	400A	60A	TM	80%	3		1, 4
4	SPARE	-	-	400A	200A	TM	80%	3		1, 4
METERED SECTION (HOUSE)										
5	METERED SECTION MAIN BREAKER			1200A	1200A	TM	100%	3		1, 4
TOTAL KVA =		1,051.6	841.0							
TOTAL AMPS =		1264.9	1011.6							

- NOTES:
- 65K AIC BREAKER RATING AT 480VOLTS.
  - PROVIDE ONE 4" EMPTY SPARE CONDUIT.
  - BREAKER EQUIPPED WITH GROUND FAULT PROTECTION.
  - REFER TO ELECTRICAL ONE-LINE RISER DIAGRAM FOR FEEDER SIZE.

SWITCHBOARD SCHEDULE MSB-2

LOCATION: MAIN ELECTRICAL ROOM  
 SERVICE: 120/240V 3-PHASE 4-WIRE 240 V  
 MAIN BUS RATING: 1600A COPPER  
 INTERRUPT RATING: 65,000 RMS AIC (VERIFY WITH COMED)  
 FED FROM: NEW MSB-1  
 NEUTRAL BUS: 100% RATED FULL COPPER WITH BUS DISCONNECT LINK  
 GROUND BUS: 100% RATED FULL COPPER  
 MOUNTING: FLOOR (FRONT AND REAR ACCESSIBLE)  
 ENCLOSURE: NEMA 1, SERVICE ENTRANCE-RATED

FEEDER/BREAKER NO.	DESCRIPTION	LOAD (KVA)		CIRCUIT BREAKER						NOTES
		TOTAL CONNECTED	TOTAL DEMAND	FRAME SIZE	TRIP SETTING	BRKR. TYPE	BRKR. RATING	POLES		
1	MAIN BREAKER			1600A	1600A	TM	100%	3		1, 4
1	MDF PANEL	48.0	48.0	400A	400A	TM	80%	2		1, 4
2	L-1NA	24.0	24.0	400A	200A	TM	80%	2		1, 4
3	L-1NWA	24.0	24.0	400A	200A	TM	80%	2		1, 4
4	L-2K	24.0	24.0	400A	200A	TM	80%	2		1, 4
5	LK	24.0	24.0	400A	200A	TM	80%	2		1, 4
6	PP-1	83.0	83.0	400A	400A	TM	80%	3		1, 4
7	PP-2	83.0	83.0	400A	400A	TM	80%	3		1, 4
8	PP-3	41.5	41.5	400A	200A	TM	80%	3		1, 4
9	SPARE	-	-	400A	200A	TM	80%	3		1, 4
10	E1	36.0	36.0	400A	300A	TM	80%	2		1, 4
11	BLP-1	30.0	30.0	400A	250A	TM	80%	2		1, 4
12	RLP-1	48.0	48.0	400A	400A	TM	80%	2		1, 4
13	PP-1N	36.0	36.0	800A	600A	TM	80%	2		1, 4
14	SPARE	-	-	400A	400A	TM	80%	3		1, 4
15	SPARE	-	-	800A	800A	TM	80%	2		1, 4
16	SPARE	-	-	400A	125A	TM	80%	2		1, 4
TOTAL KVA =		501.6	501.6							
TOTAL AMPS =		1206.6	1206.6							

- NOTES:
- 65K AIC BREAKER RATING AT 240 VOLTS.
  - PROVIDE ONE 4" EMPTY SPARE CONDUIT.
  - BREAKER EQUIPPED WITH GROUND FAULT PROTECTION.
  - REFER TO ELECTRICAL ONE-LINE RISER DIAGRAM FOR FEEDER SIZE.



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM IMAHMANI

**FGM ARCHITECTS**  
 CHICAGO, ILLINOIS  
 1211 West 23rd Street, Suite 705  
 CHICAGO, IL 60608  
 Phone: (312) 574-6300  
 Fax: (312) 574-9792  
 www.fgmarchitects.com

**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**

Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
Δ	ADDENDUM #1	11.08.11
Δ	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

**ELECTRICAL SCHEDULES**

Sheet  
**E5.01**



EXISTING PANEL PP-3

LOCATION: FAN RM 225  
SERVICE: 240V-3Ø-3W  
MAIN LUGS ONLY: 400A  
MAIN BUS RATING AND TYPE: 400A  
INTERRUPT RATING: 42000 AIC

240 V

NEUTRAL BUS: STANDARD, COPPER  
GROUND BUS: STANDARD, COPPER  
MOUNTING: SURFACE  
ENCLOSURE: NEMA 1

DESCRIPTION	CCT. NO.	CIRCUIT BREAKER	CIRCUIT LOAD	CONNECTED LOAD (VA)			CIRCUIT LOAD	CIRCUIT BREAKER	CCT. NO.	DESCRIPTION
				A	B	C				
M EXISTING RTU-1	1	100A-3P	10000	18594			8594	100A-3P	2	M NEW ELEVATOR
M EXISTING RTU-1	3	100A-3P	10000		18594		8594	100A-3P	4	M NEW ELEVATOR
M EXISTING RTU-1	5	100A-3P	10000			18594	8594	100A-3P	6	M NEW ELEVATOR
M EXISTING RTU-2	7	100A-3P	10000	10000				20A-2P	8	M SPARE
M EXISTING RTU-2	9	100A-3P	10000		11333		1333	25A-3P	10	M UH-1
M EXISTING RTU-2	11	100A-3P	10000			11333	1333	25A-3P	12	M UH-1
M EXISTING RTU-3	13	100A-3P	10000	11333			1333	25A-3P	14	M UH-1
M EXISTING RTU-3	15	100A-3P	10000		11333		1333	25A-3P	16	M UH-2
M EXISTING RTU-3	17	100A-3P	10000			11333	1333	25A-3P	18	M UH-2
M ACC-1	19	35A-2P	1535	2868			1333	25A-3P	20	M UH-2
M ACC-1	21	35A-2P	1535		2368		833	15A-3P	22	M MAU-1
M AC-1	23	15A-2P	540			1373	833	15A-3P	24	M MAU-1
M AC-1	25	15A-2P	540		1373		833	15A-3P	26	M MAU-1
M SF-2	27	70A-3P	5813		7916		2103	25A-3P	28	M SF-3
M -	29	70A-3P	5813			7916	2103	25A-3P	30	M -
M -	31	70A-3P	5813	7916			2103	25A-3P	32	M -
M RF-2	33	35A-3P	3043		3043				34	SPACE
M -	35	35A-3P	3043			3043			36	SPACE
M -	37	35A-3P	3043	3043					38	SPACE
SPACE	39				0				40	SPACE
SPACE	41					0			42	SPACE
				55127	54587	53592				

TOTAL VA PER PHASE

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
L LIGHTING	0.00 KVA	1.00 0.00 KVA
R RECEPTACLES	0.00 KVA	0.50 0.00 KVA
M MOTOR / EQUIP.	163.31 KVA	1.00 163.31 KVA
H ELECTRIC HEAT	0.00 KVA	1.00 0.00 KVA
<b>TOTAL CONNECTED LOAD:</b>	<b>163.31 KVA</b>	<b>TOTAL DEMAND LOAD: 163.3 KVA</b>
		<b>TOTAL DEMAND CURRENT: 392.86 AMPS</b>

**LIGHT FIXTURE SCHEDULE**

FIXTURE NO.	DESCRIPTION	LAMP TYPE	LAMP	BALLAST	VOLTAGE	MOUNTING	MANUFACTURER
F1	4' INDUSTRIAL FIXTURE WITH 10% UPLIGHT	FL	(2) 32W T8	ELEC	UNV	SUSPENDED	METALUX EVM232 DAY-BRITE LITHONIA
F2	1'X4' SURFACE MOUNTED WRAPAROUND	FL	(2) 32W T8	ELEC	UNV	CEILING	METALUX VT2 DAY-BRITE LITHONIA
F3	WALL MOUNTED HIGH ABUSE FIXTURE	CF	(2) 13W T1		UNV	WALL	KENALL S511L-P-MW-13-2
F4	1'X4' SURFACE MOUNTED DIRECT PARABOLIC, REFER TO PLAN FOR FIXTURE RUN LENGTHS	FL	(1) 32W T8	ELEC	UNV	RECESSED	WILLIAMS S13 DAYBRITE 2P3 METALUX FWX
F5	SQUARE DOWNLIGHT WITH LENSE	CF	(2) 18W TRT	ELEC	UNV	RECESSED	HALO H2EFICAT KIRLIN FRS-10108
F6	EXTERIOR WALL MOUNTED FLOOD LIGHT WITH SWIVEL BRACKET	MH	(1) 150W MH	ELEC	UNV	WALL	LUMARK MH-WR65
EM	EMERGENCY WALL PACK LIGHT FIXTURE WITH METALLIC ENCLOSURE, SEALED LEAD-CADMIUM 90 MINUTE BATTERY AND INTEGRAL TEST SWITCH. CITY OF CHICAGO APPROVED.	INC	(2) 24W INC	EM	UNV	WALL	HIGH LITE NBS-C-V-SX-VERS SURE-LITE
X1	CHICAGO APPROVED EDGE GLOW SINGLE FACED EXIT SIGN. PROVIDE WITH EMERGENCY BATTERY	LED	3.3W LED	EM	UNV	RECESSED/CEILING	ALKCO EDGE-GLO
X2	CHICAGO APPROVED EDGE GLOW DOUBLE FACED EXIT SIGN. PROVIDE WITH EMERGENCY BATTERY	LED	5W LED	EM	UNV	RECESSED/CEILING	ALKCO EDGE-GLO

**FIXTURE SCHEDULE NOTES:**

- ELECTRICAL CONTRACTOR SHALL PROVIDE SUBMITTAL ON FULL LIGHTING FIXTURE PURCHASE FOR ARCHITECT'S APPROVAL PRIOR TO ORDER. SUBMIT THREE (3) SETS OF CATALOG CUTS TO ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING LIGHTING FIXTURES.
- UNLESS NOTED OTHERWISE, ALL BALLASTS SHALL BE PROGRAMMABLE RAPID START, ELECTRONIC ENERGY SAVING TYPE. FIXTURES SHALL BE ORDERED WITH THE APPROPRIATE BALLASTS THAT HAVE UL AND CBM LABELS. BALLASTS SHALL CONFORM TO LOCAL CODE REQUIREMENTS FOR PERFORMANCE, SWITCHING, AND WIRING (I.E. TANDEM).
- ALL LIGHTING FIXTURES SHALL INCLUDE, BULBS/LAMPS.
- FIXTURES SHALL HAVE APPROPRIATE UL LABEL, DAMP, OR WET AS REQUIRED BY LOCAL CODES.
- WALLS DIRECTLY ILLUMINATED SHALL BE INSTALLED AND FINISHED IN A MANNER TO ELIMINATE SHADOWS OR BLEMISHES (I.E. HANG DRY WALL VERTICALLY).
- THE ARCHITECT AND ENGINEER SHALL APPROVE FIXTURE SUBSTITUTIONS PRIOR TO BID. CONTRACTOR SHALL SUPPLY A SAMPLE AND/OR PHOTOMETRIC DATA IF REQUESTED. IF SUBSTITUTION IS REJECTED, CONTRACTOR SHALL PROVIDE SPECIFIED PRODUCT.
- FIXTURES SHALL INCLUDE ACCESSORIES FOR INSTALLATION ACCORDING TO LOCAL AND NATIONAL CODES.
- PRIOR TO ORDERING LIGHTING EQUIPMENT, THE CONTRACTOR SHALL VERIFY LOCATIONS AND RECESS DEPTHS.
- LAMPS SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE ATTACHED FIXTURE SCHEDULE.
- VERIFY EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.
- UNLESS NOTED OTHERWISE, PROVIDE 3500 KELVIN LAMPS FOR ALL FLUORESCENT FIXTURES FROM: OSRAM SYLVANIA OR PHILIPS.
- CONTRACTOR SHALL VERIFY CEILING TRIM COMPATIBILITY PRIOR TO ORDERING FIXTURES.
- CEILING THICKNESS IN EXCESS OF 3/4" SHALL BE IDENTIFIED IN WRITING BY CONTRACTOR/ARCHITECT.
- FIXTURES LOCATED IN AN INSULATED CEILING AREA, SHALL HAVE AN IC HOUSING (ELECTRICAL CONTRACTOR TO COORDINATE).
- PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR LIGHTING FIXTURES LOCATED IN A FIRE-RATED CEILING.
- PROVIDE EXIT SIGN FACES (SINGLE OR DOUBLE) AND ARROW IS DIRECTED ON FLOOR PLANS AND EXIT SIGN SCHEDULE.**

F7	GYMNASIUM HIGH-BAY FIXTURE COMPLETE WITH LAMP PROTECTIVE WIRE GUARD AND SAFETY GLASS ASSEMBLY.	METAL HALIDE	175W	ELEC	UNV	PENDANT	COOPER LIGHTING MPGB-GR-21-W-175-MT-F1-LL-GLC/GR
----	--	--------------	------	------	-----	---------	--



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
3630 S. WELLS STREET, CHICAGO, IL 60609  
CHICAGO PUBLIC SCHOOLS  
CITY OF CHICAGO, MAYOR RAHM IMAHUEL

**FGM ARCHITECTS**  
CHICAGO  
1311 West 23rd Street, Suite 705  
Chicago, IL 60603-2017  
Phone: (312) 574-8300  
Fax: (312) 574-9792  
www.fgmarchitects.com

**Environmental Design International, Inc.**  
33 W. Monroe, Suite 1825 Chicago, IL 60603  
CIVIL ENGINEER

**RME, Inc.**  
200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
303 W. Erie, Suite 510 Chicago, IL 60654  
MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
521 W. Superior, Suite 327 Chicago, IL 60654  
LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**

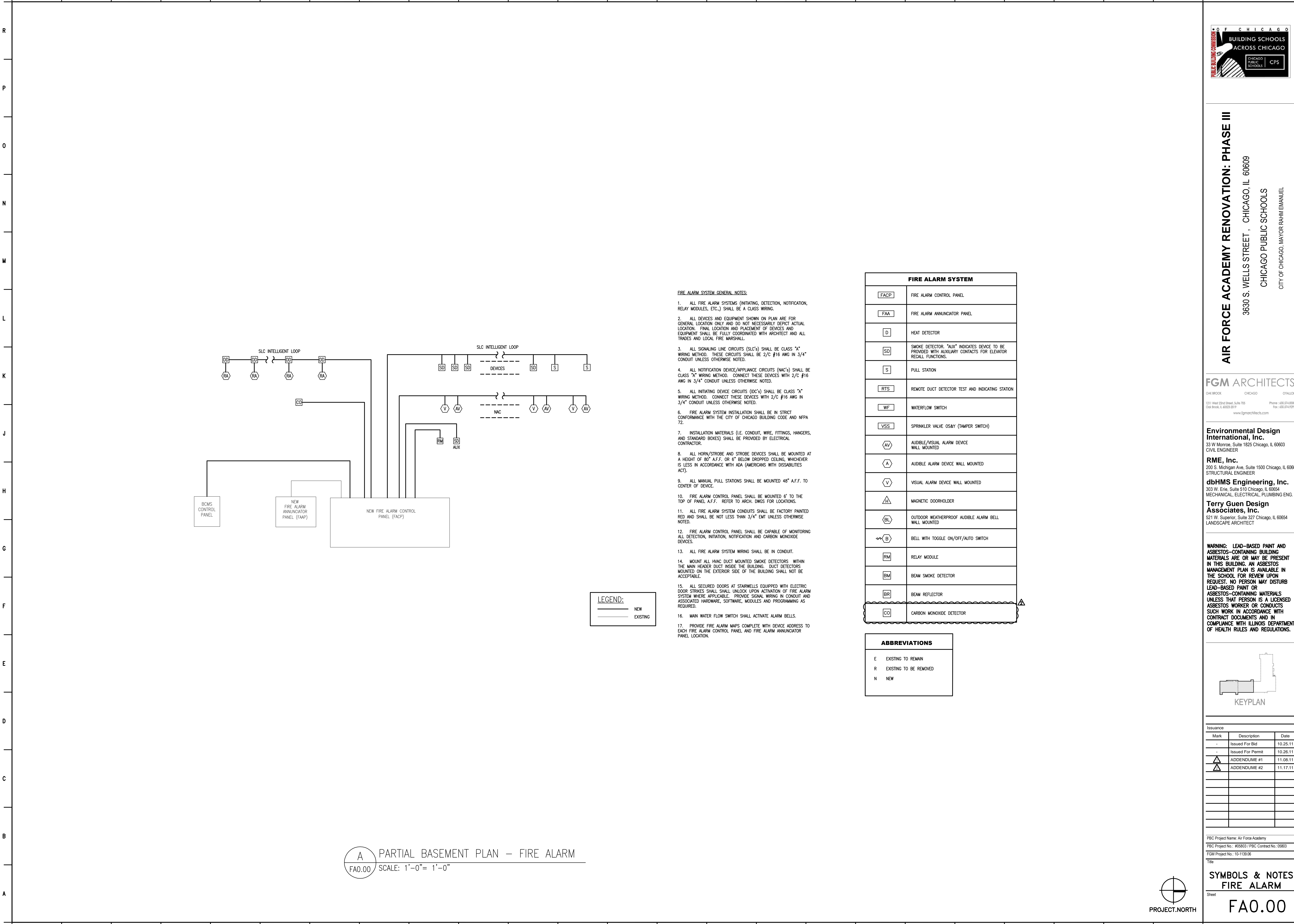
Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
Δ	ADDENDUM #1	11.08.11
Δ	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
PBC Project No.: #05803 / PBC Contract No.: 05803  
FGM Project No.: 10-1139.06

**ELECTRICAL SCHEDULES**

Sheet  
**E5.02**





A PARTIAL BASEMENT PLAN - FIRE ALARM  
 FA0.00 SCALE: 1'-0" = 1'-0"

**FIRE ALARM SYSTEM GENERAL NOTES:**

- ALL FIRE ALARM SYSTEMS (INITIATING, DETECTION, NOTIFICATION, RELAY MODULES, ETC.) SHALL BE A CLASS WIRING.
- ALL DEVICES AND EQUIPMENT SHOWN ON PLAN ARE FOR GENERAL LOCATION ONLY AND DO NOT NECESSARILY DEPICT ACTUAL LOCATION. FINAL LOCATION AND PLACEMENT OF DEVICES AND EQUIPMENT SHALL BE FULLY COORDINATED WITH ARCHITECT AND ALL TRADES AND LOCAL FIRE MARSHALL.
- ALL SIGNALING LINE CIRCUITS (SLC's) SHALL BE CLASS "A" WIRING METHOD. THESE CIRCUITS SHALL BE 2/C #16 AWG IN 3/4" CONDUIT UNLESS OTHERWISE NOTED.
- ALL NOTIFICATION DEVICE/APPLIANCE CIRCUITS (NAC's) SHALL BE CLASS "A" WIRING METHOD. THESE CIRCUITS SHALL BE 2/C #16 AWG IN 3/4" CONDUIT UNLESS OTHERWISE NOTED.
- ALL INITIATING DEVICE CIRCUITS (IDC's) SHALL BE CLASS "A" WIRING METHOD. THESE CIRCUITS SHALL BE 2/C #16 AWG IN 3/4" CONDUIT UNLESS OTHERWISE NOTED.
- FIRE ALARM SYSTEM INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE CITY OF CHICAGO BUILDING CODE AND NFPA 72.
- INSTALLATION MATERIALS (I.E. CONDUIT, WIRE, FITTINGS, HANGERS, AND STANDARD BOXES) SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.
- ALL HORN/SROBE AND STROBE DEVICES SHALL BE MOUNTED AT A HEIGHT OF 80" A.F.F. OR 6" BELOW DROPPED CEILING, WHICHEVER IS LESS IN ACCORDANCE WITH ADA (AMERICANS WITH DISABILITIES ACT).
- ALL MANUAL PULL STATIONS SHALL BE MOUNTED 48" A.F.F. TO CENTER OF DEVICE.
- FIRE ALARM CONTROL PANEL SHALL BE MOUNTED 6" TO THE TOP OF PANEL A.F.F. REFER TO ARCH. DWGS FOR LOCATIONS.
- ALL FIRE ALARM SYSTEM CONDUITS SHALL BE FACTORY PAINTED RED AND SHALL BE NOT LESS THAN 3/4" EMT UNLESS OTHERWISE NOTED.
- FIRE ALARM CONTROL PANEL SHALL BE CAPABLE OF MONITORING ALL DETECTION, INITIATION, NOTIFICATION AND CARBON MONOXIDE DEVICES.
- ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT.
- MOUNT ALL HVAC DUCT MOUNTED SMOKE DETECTORS WITHIN THE MAIN HEADER DUCT INSIDE THE BUILDING. DUCT DETECTORS MOUNTED ON THE EXTERIOR SIDE OF THE BUILDING SHALL NOT BE ACCEPTABLE.
- ALL SECURED DOORS AT STAIRWELLS EQUIPPED WITH ELECTRIC DOOR STRIKES SHALL UNLOCK UPON ACTIVATION OF FIRE ALARM SYSTEM WHERE APPLICABLE. PROVIDE SIGNAL WIRING IN CONDUIT AND ASSOCIATED HARDWARE, SOFTWARE, MODULES AND PROGRAMMING AS REQUIRED.
- MAIN WATER FLOW SWITCH SHALL ACTIVATE ALARM BELLS.
- PROVIDE FIRE ALARM MAPS COMPLETE WITH DEVICE ADDRESS TO EACH FIRE ALARM CONTROL PANEL AND FIRE ALARM ANNUNCIATOR PANEL LOCATION.

**LEGEND:**

—	NEW
- - -	EXISTING

FIRE ALARM SYSTEM	
[FACP]	FIRE ALARM CONTROL PANEL
[FAA]	FIRE ALARM ANNUNCIATOR PANEL
[D]	HEAT DETECTOR
[SD]	SMOKE DETECTOR. "AUX" INDICATES DEVICE TO BE PROVIDED WITH AUXILIARY CONTACTS FOR ELEVATOR RECALL FUNCTIONS.
[S]	PULL STATION
[RTS]	REMOTE DUCT DETECTOR TEST AND INDICATING STATION
[WF]	WATERFLOW SWITCH
[VSS]	SPRINKLER VALVE OS&Y (TAMPER SWITCH)
[AV]	AUDIBLE/VISUAL ALARM DEVICE WALL MOUNTED
[A]	AUDIBLE ALARM DEVICE WALL MOUNTED
[V]	VISUAL ALARM DEVICE WALL MOUNTED
[M]	MAGNETIC DOORHOLDER
[BL]	OUTDOOR WEATHERPROOF AUDIBLE ALARM BELL WALL MOUNTED
[B]	BELL WITH TOGGLE ON/OFF/AUTO SWITCH
[RM]	RELAY MODULE
[BM]	BEAM SMOKE DETECTOR
[BR]	BEAM REFLECTOR
[CO]	CARBON MONOXIDE DETECTOR

**ABBREVIATIONS**

E	EXISTING TO REMAIN
R	EXISTING TO BE REMOVED
N	NEW



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHMI EMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1311 West 23rd Street, Suite 705  
 Chicago, IL 60608  
 Phone: (312) 574-6300  
 Fax: (312) 574-9792  
 www.fgmarchitects.com

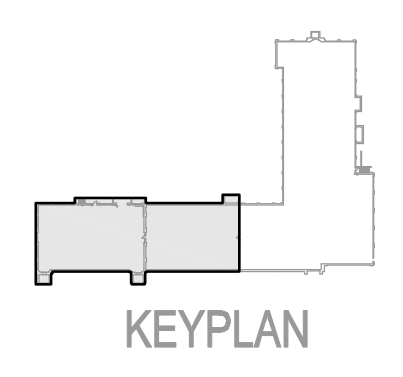
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave., Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



**Issuance**

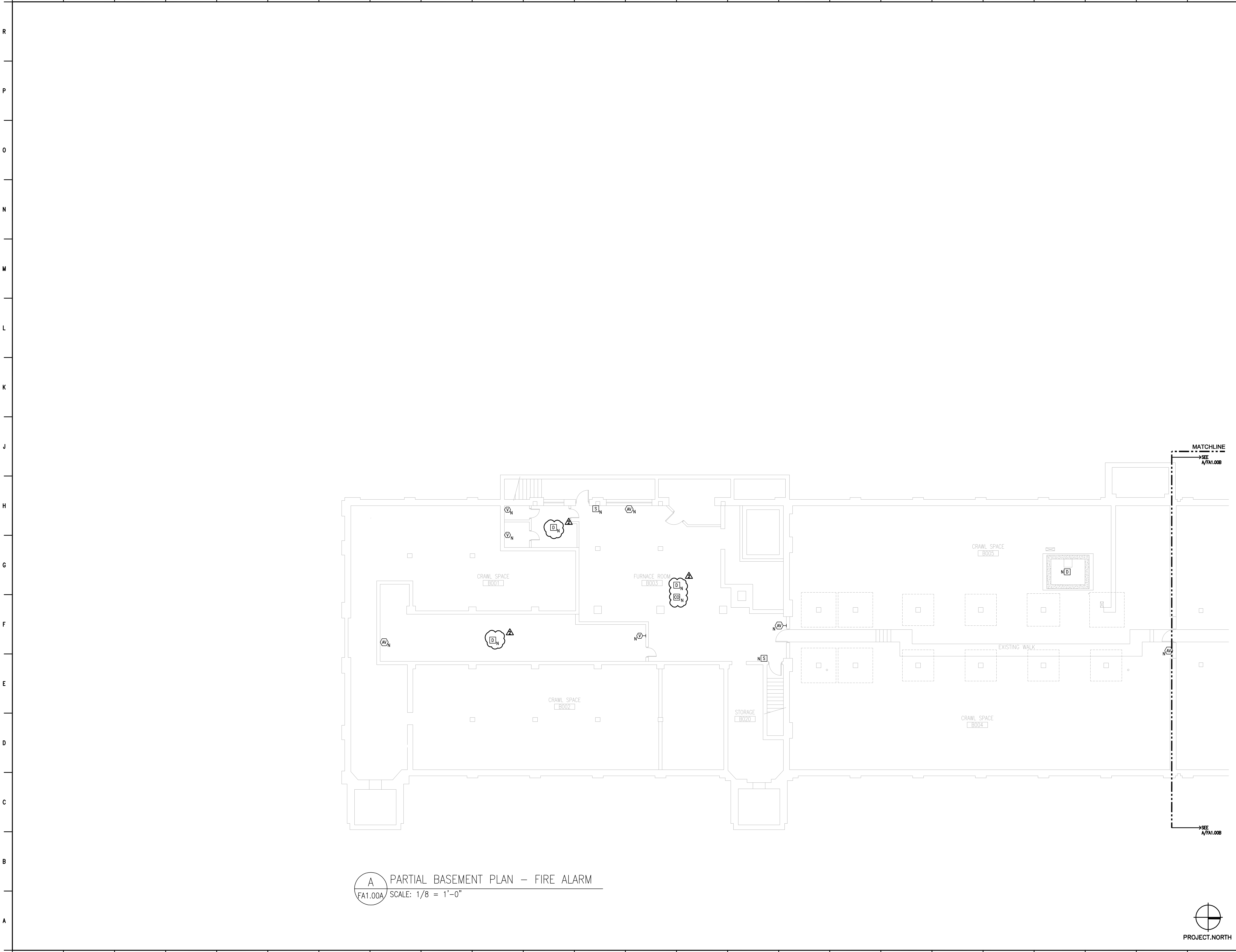
Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
Δ	ADDENDUM #1	11.08.11
Δ	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

**SYMBOLS & NOTES**  
**FIRE ALARM**  
 Sheet  
**FA0.00**







A PARTIAL BASEMENT PLAN – FIRE ALARM  
 FA1.00A SCALE: 1/8" = 1'-0"

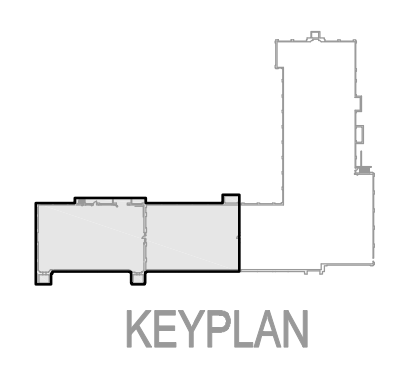


**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1211 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-2017  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

- Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER
- RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER
- dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.
- Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



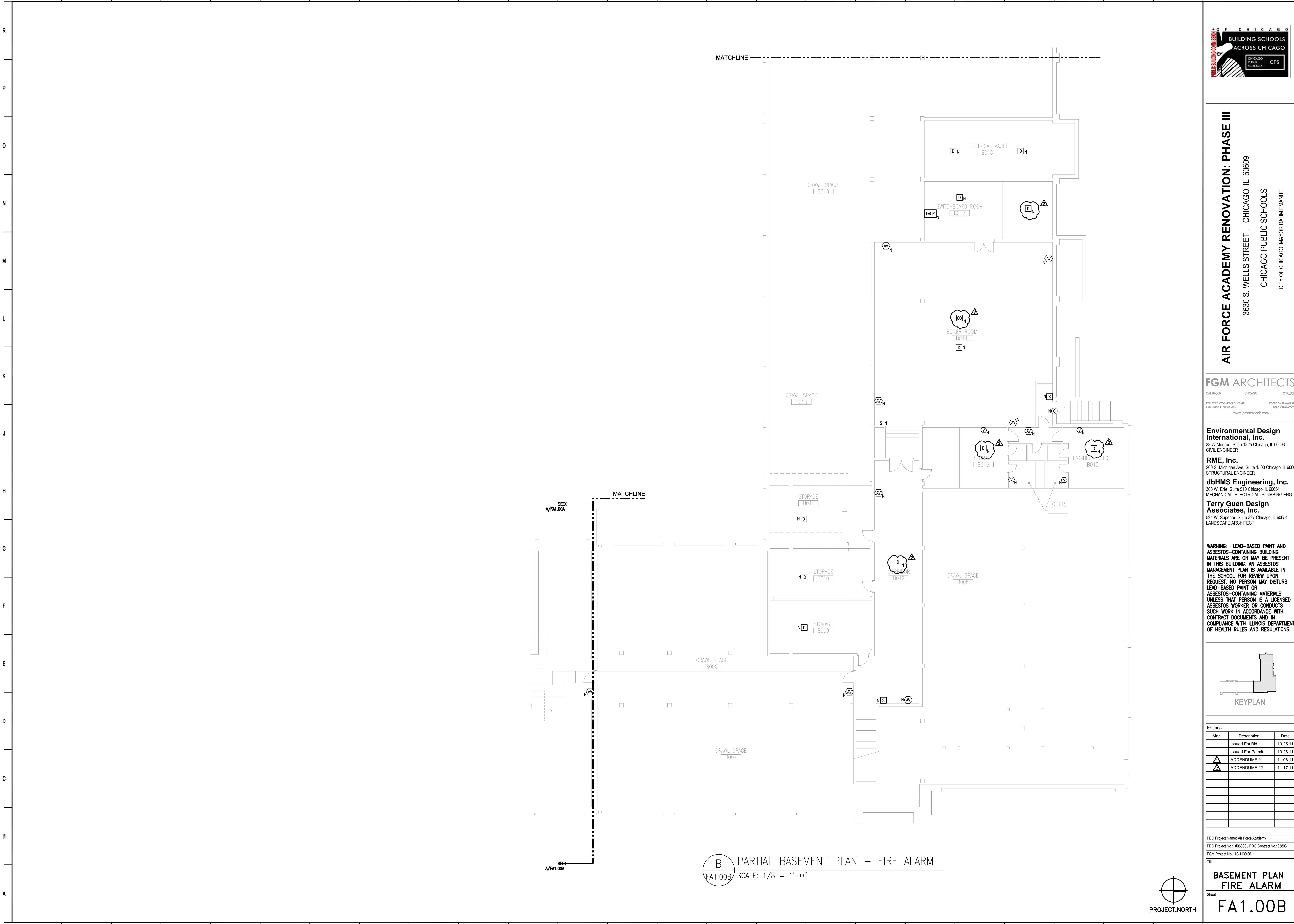
Issuance		
Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139-06

Title  
**BASEMENT PLAN  
 FIRE ALARM**  
 Sheet  
**FA1.00A**







**B** PARTIAL BASEMENT PLAN – FIRE ALARM  
 FA1.00B SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1311 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-3019  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

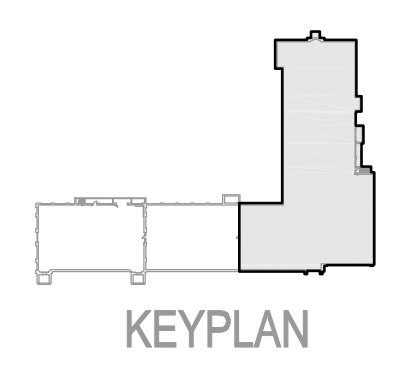
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



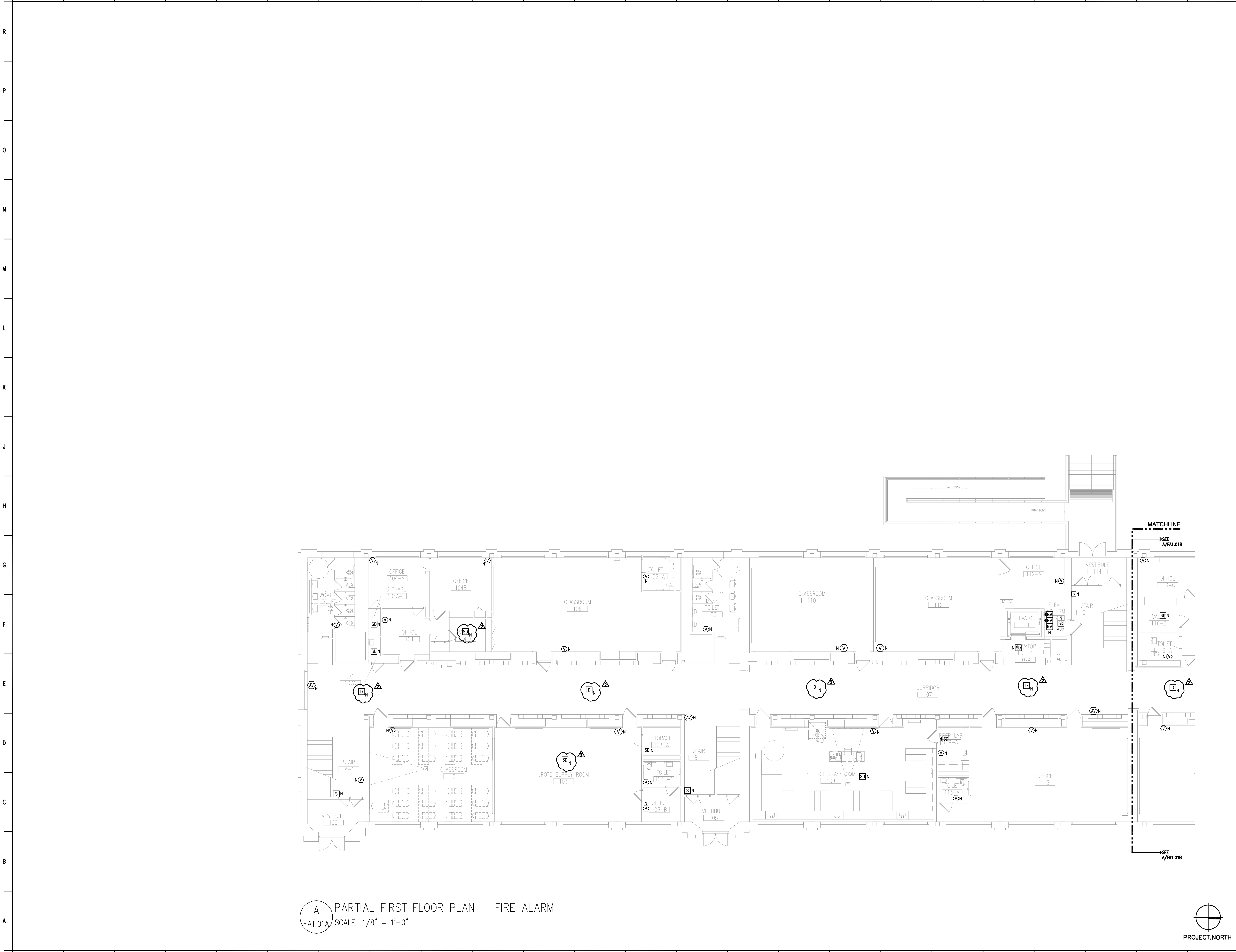
Issuance		
Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

**BASEMENT PLAN  
 FIRE ALARM**  
 Sheet  
**FA1.00B**







A PARTIAL FIRST FLOOR PLAN - FIRE ALARM  
 FA1.01A SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1211 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-3019  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

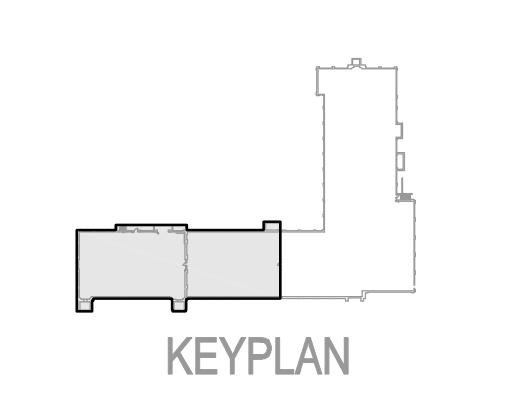
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**

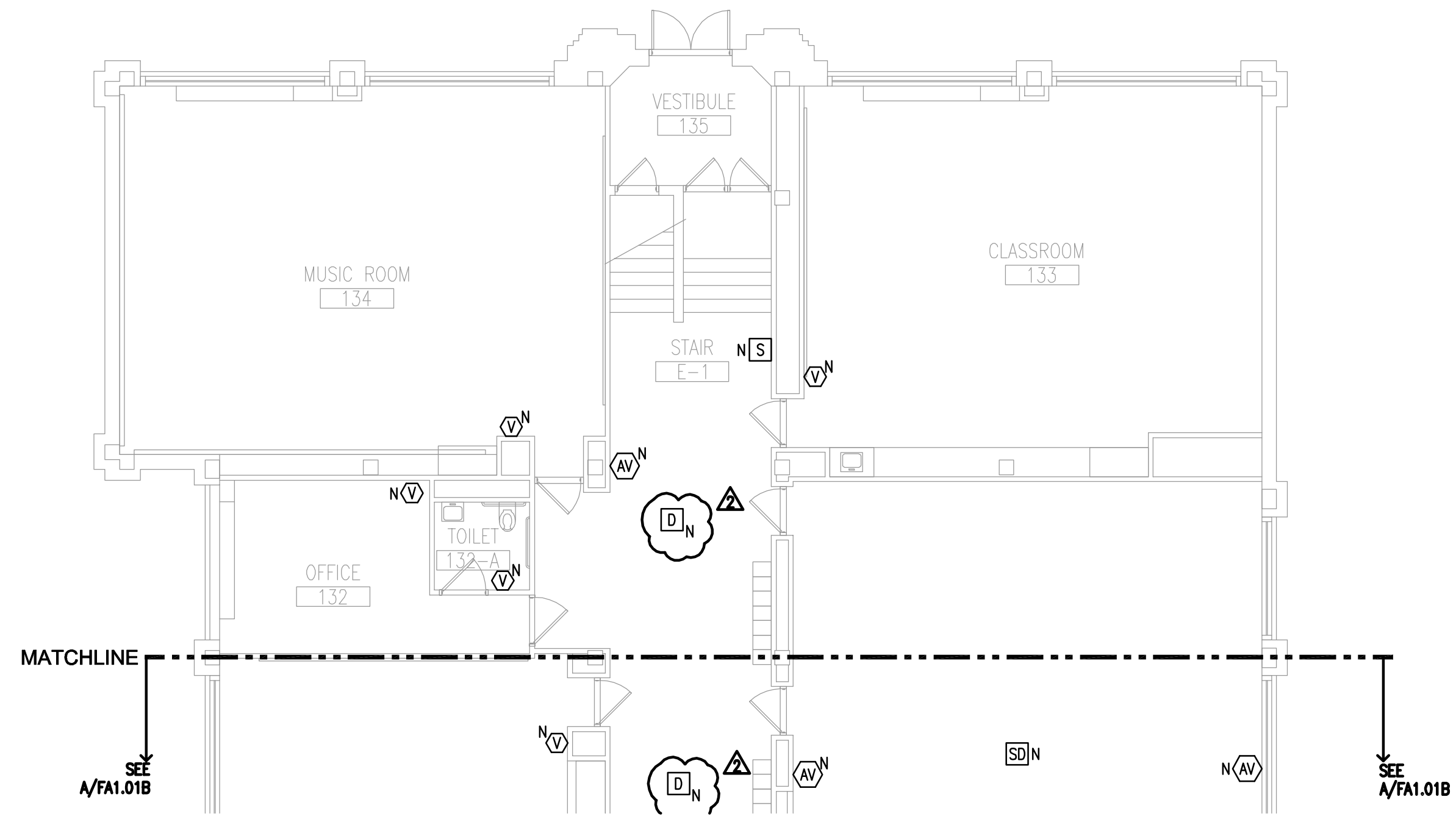


Issuance	Mark	Description	Date
-	-	Issued For Bid	10.25.11
-	-	Issued For Permit	10.26.11
-	-	ADDENDUM #1	11.08.11
-	-	ADDENDUM #2	11.17.11

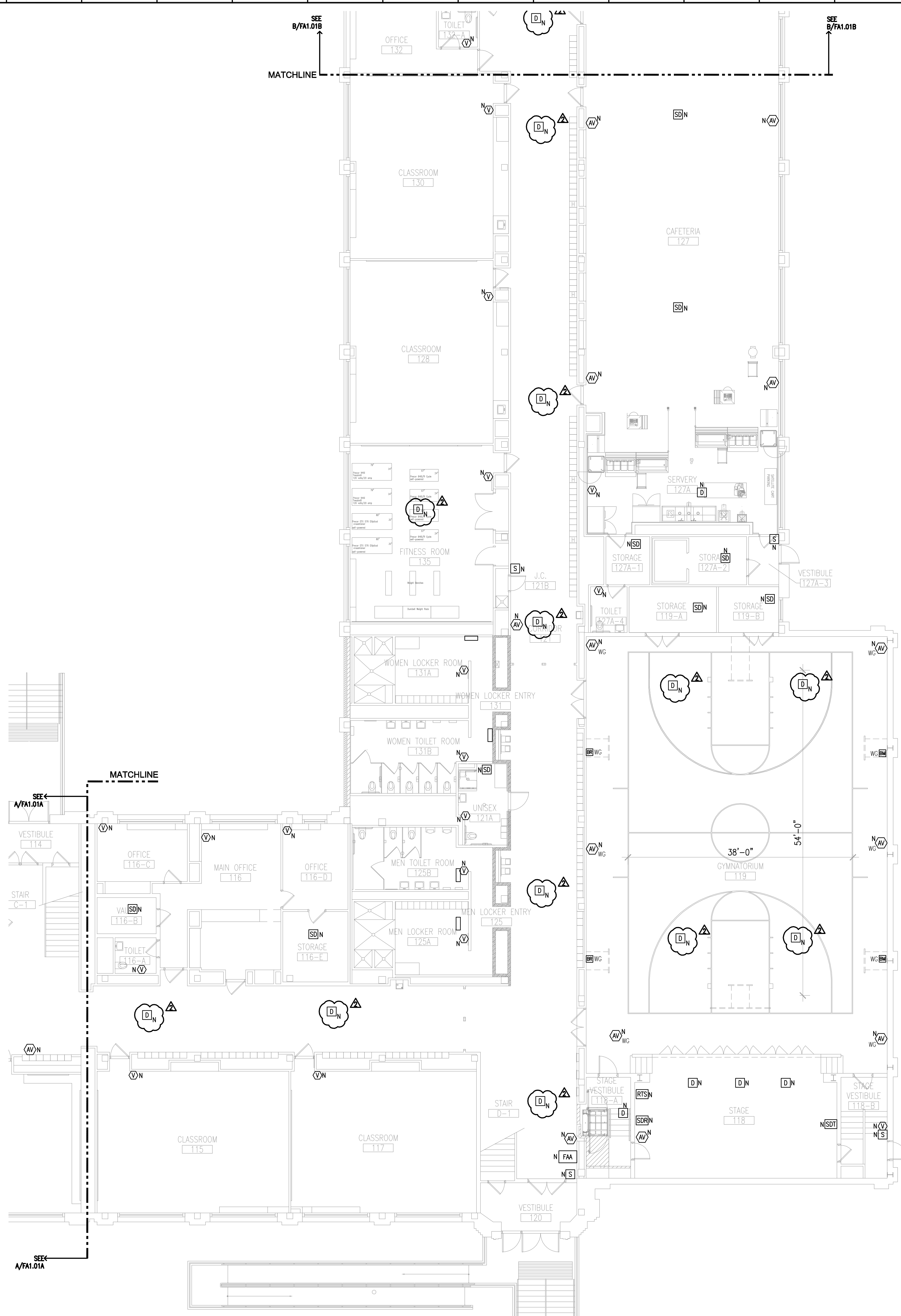
PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

Title **FIRST FLOOR ENLARGED PLANS FIRE ALARM**  
 Sheet **FA1.01A**





**B** PARTIAL FIRST FLOOR PLAN - FIRE ALARM  
FA1.01B SCALE: 1/8" = 1'-0"



**A** PARTIAL FIRST FLOOR PLAN - FIRE ALARM  
FA1.01B SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
3630 S. WELLS STREET, CHICAGO, IL 60609  
CHICAGO PUBLIC SCHOOLS  
CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
CHICAGO  
1311 West 23rd Street, Suite 705  
Chicago, IL 60608  
Phone: (312) 574-8300  
Fax: (312) 574-9792  
www.fgmarchitects.com

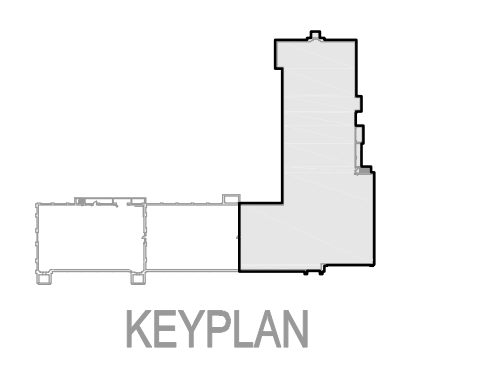
**Environmental Design International, Inc.**  
33 W. Monroe, Suite 1825 Chicago, IL 60603  
CIVIL ENGINEER

**RME, Inc.**  
200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
303 W. Erie, Suite 510 Chicago, IL 60654  
MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
521 W. Superior, Suite 327 Chicago, IL 60654  
LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

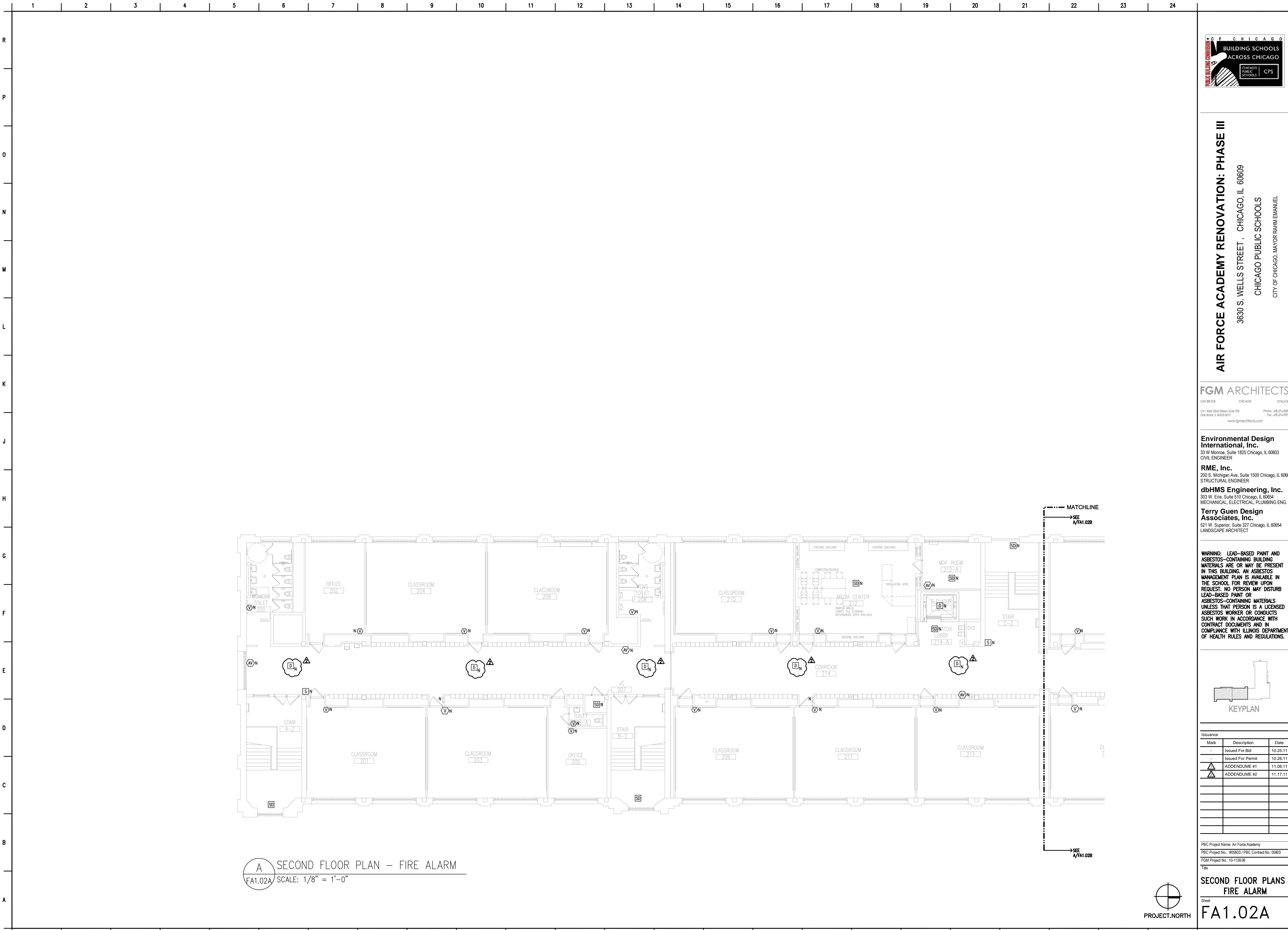
PBC Project Name: Air Force Academy  
PBC Project No.: #05803 / PBC Contract No.: 05803  
FGM Project No.: 10-1139.06

**FIRST FLOOR ENLARGED PLANS FIRE ALARM**

Sheet  
**FA1.01B**







**A** SECOND FLOOR PLAN – FIRE ALARM  
 FA1.02A SCALE: 1/8" = 1'-0"



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
 3630 S. WELLS STREET, CHICAGO, IL 60609  
 CHICAGO PUBLIC SCHOOLS  
 CITY OF CHICAGO, MAYOR RAHM EMMANUEL

**FGM ARCHITECTS**  
 CHICAGO  
 1211 West 23rd Street, Suite 705  
 Oak Brook, IL 60521-2019  
 Phone: (630) 574-6300  
 Fax: (630) 574-9792  
 www.fgmarchitects.com

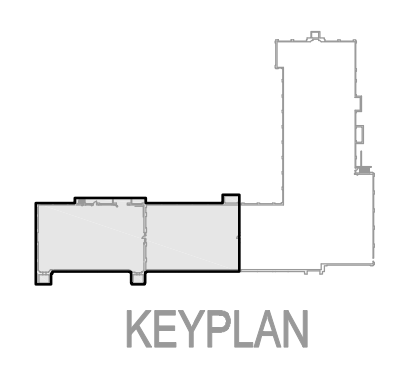
**Environmental Design International, Inc.**  
 33 W. Monroe, Suite 1825 Chicago, IL 60603  
 CIVIL ENGINEER

**RME, Inc.**  
 200 S. Michigan Ave, Suite 1500 Chicago, IL 60604  
 STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
 303 W. Erie, Suite 510 Chicago, IL 60654  
 MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
 521 W. Superior, Suite 327 Chicago, IL 60654  
 LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUM #1	11.08.11
▲	ADDENDUM #2	11.17.11

PBC Project Name: Air Force Academy  
 PBC Project No.: #05803 / PBC Contract No.: 05803  
 FGM Project No.: 10-1139.06

Title  
**SECOND FLOOR PLANS  
 FIRE ALARM**  
 Sheet  
**FA1.02A**

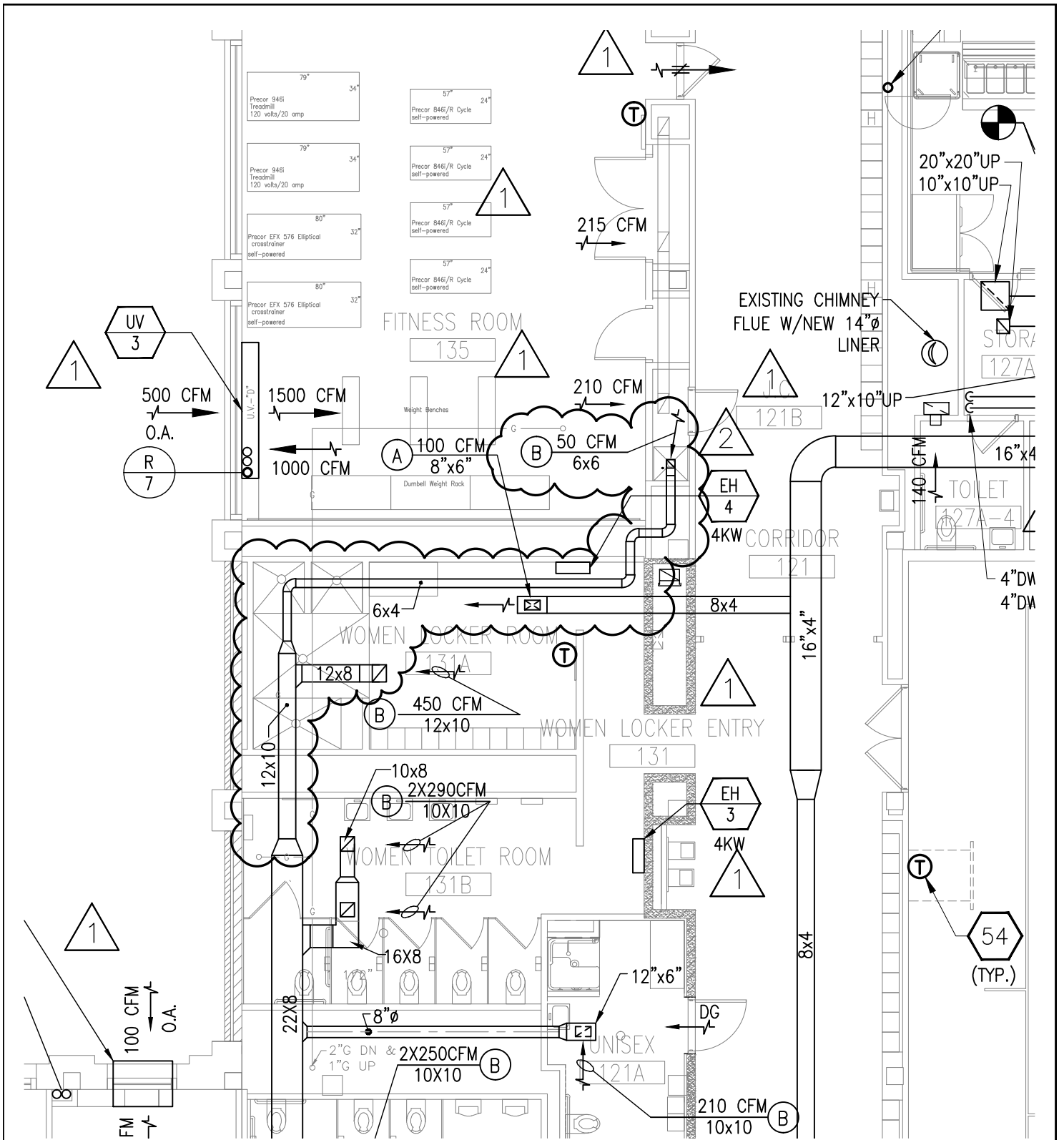







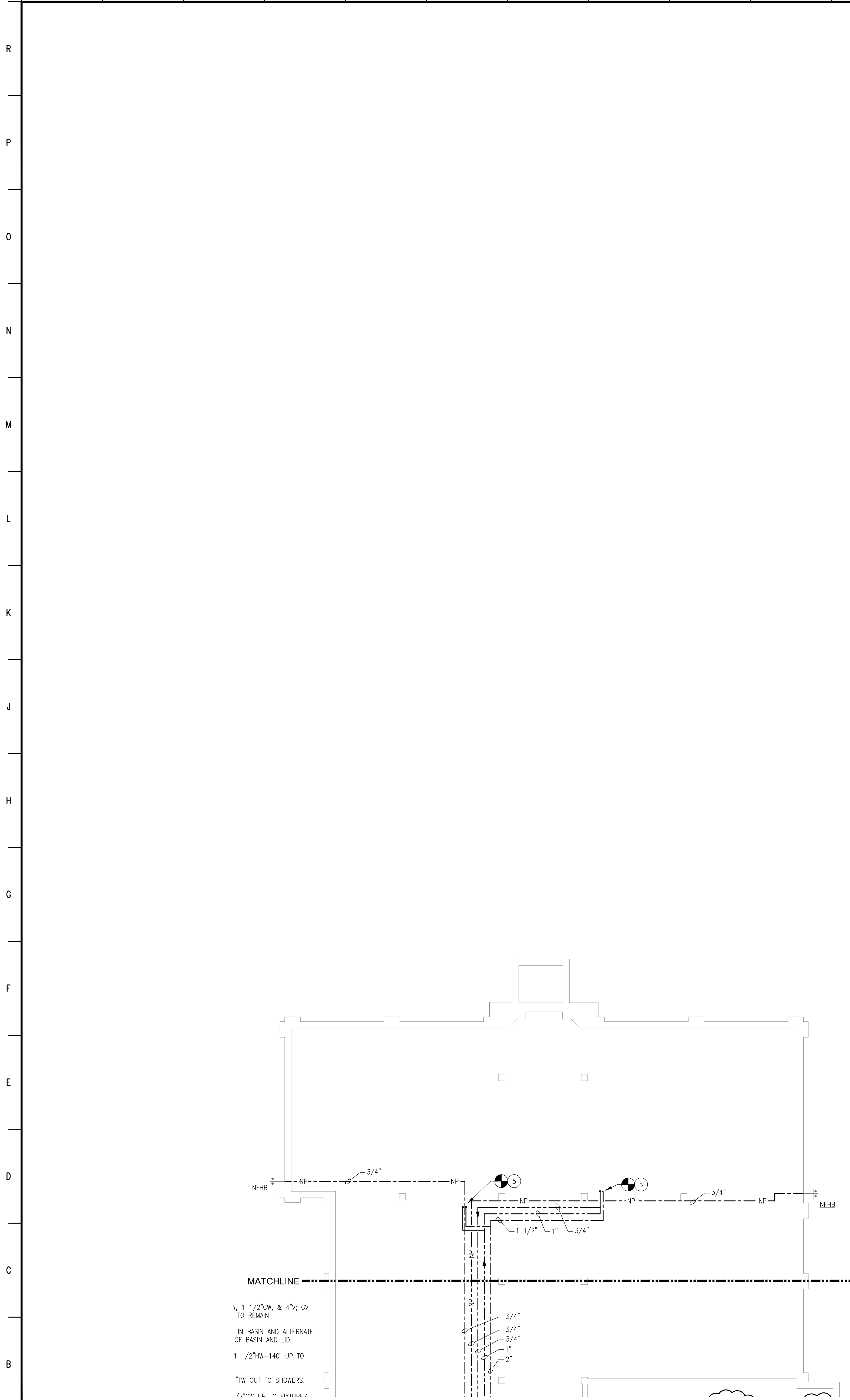




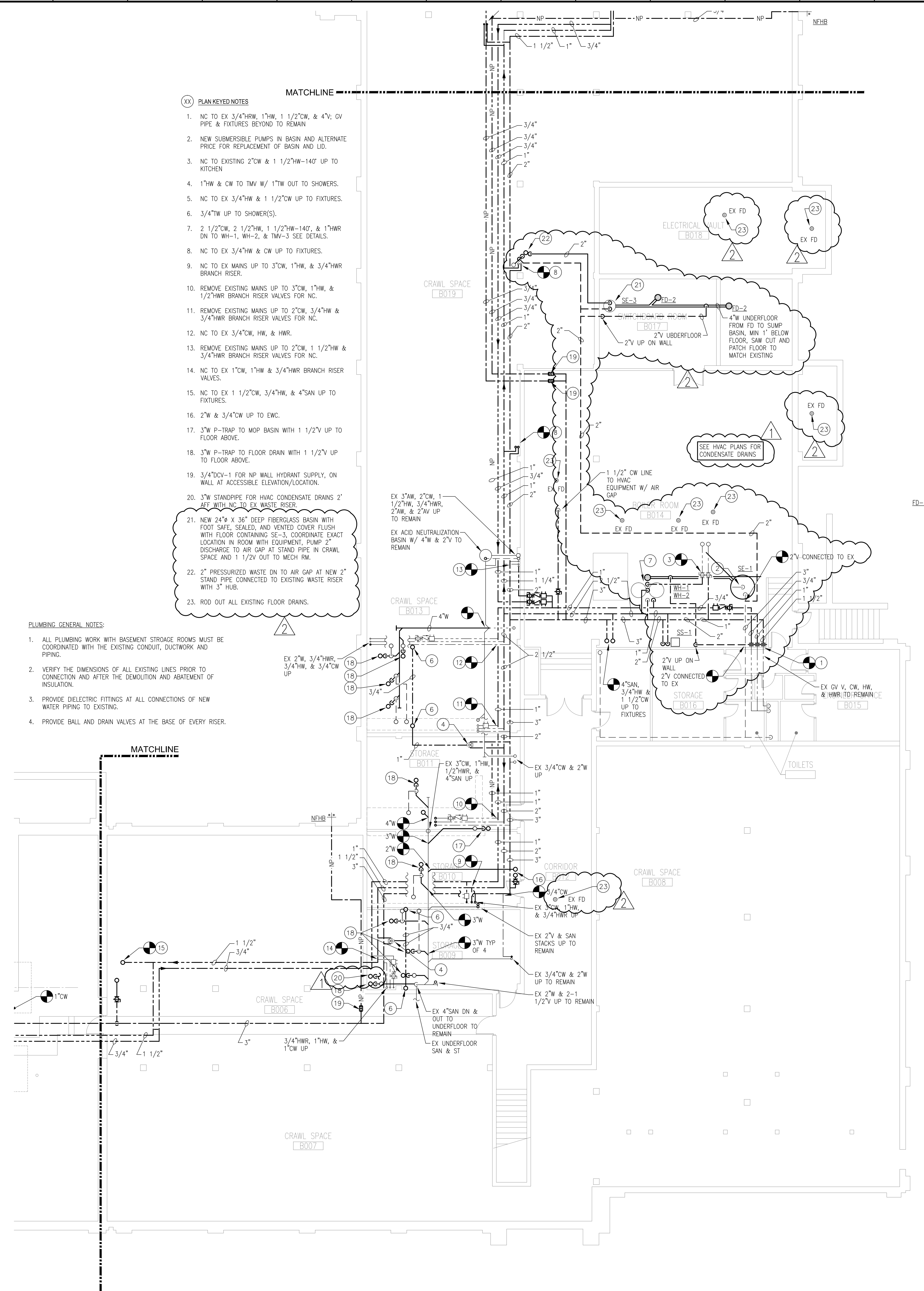


1. REVISED TEF-1 TO SERVE JC. ROOM #121B

PROJECT <b>AIR FORCE ACADEMY - PHASE III</b>	SCALE <b>1/8"=1'-0"</b>	ADDENDUME #2
TITLE <b>FIRST FLOOR MECHANICAL PLAN</b>	DATE <b>11.17.2011</b>	
SKETCH NUMBER: <b>MSK-09</b>	DWG REF <b>M2.01B</b>	
	RFI REF	



2 BASEMENT PLUMBING PLAN AREA B WEST - NEW WORK  
SCALE: 1/8" = 1'-0"



1 BASEMENT PLUMBING PLAN AREA B EAST - NEW WORK  
SCALE: 1/8" = 1'-0"

- PLAN KEYED NOTES**
1. NC TO EX 3/4"HW, 1"HW, 1 1/2"CW, & 4"V; GV PIPE & FIXTURES BEYOND TO REMAIN
  2. NEW SUBMERSIBLE PUMPS IN BASIN AND ALTERNATE PRICE FOR REPLACEMENT OF BASIN AND LID.
  3. NC TO EXISTING 2"CW & 1 1/2"HW-140' UP TO KITCHEN
  4. 1"HW & CW TO TMV W/ 1"TW OUT TO SHOWERS.
  5. NC TO EX 3/4"HW & 1 1/2"CW UP TO FIXTURES.
  6. 3/4"TW UP TO SHOWER(S).
  7. 2 1/2"CW, 2 1/2"HW, 1 1/2"HW-140', & 1"HW DN TO WH-1, WH-2, & TMV-3 SEE DETAILS.
  8. NC TO EX 3/4"HW & CW UP TO FIXTURES.
  9. NC TO EX MAINS UP TO 3"CW, 1"HW, & 3/4"HW BRANCH RISER.
  10. REMOVE EXISTING MAINS UP TO 3"CW, 1"HW, & 1/2"HW BRANCH RISER VALVES FOR NC.
  11. REMOVE EXISTING MAINS UP TO 2"CW, 3/4"HW & 3/4"HW BRANCH RISER VALVES FOR NC.
  12. NC TO EX 3/4"CW, HW, & HWR.
  13. REMOVE EXISTING MAINS UP TO 2"CW, 1 1/2"HW & 3/4"HW BRANCH RISER VALVES FOR NC.
  14. NC TO EX 1"CW, 1"HW & 3/4"HW BRANCH RISER VALVES.
  15. NC TO EX 1 1/2"CW, 3/4"HW, & 4"SAN UP TO FIXTURES.
  16. 2"W & 3/4"CW UP TO EWC.
  17. 3"W P-TRAP TO MOP BASIN WITH 1 1/2"V UP TO FLOOR ABOVE.
  18. 3"W P-TRAP TO FLOOR DRAIN WITH 1 1/2"V UP TO FLOOR ABOVE.
  19. 3/4"DCV-1 FOR NP WALL HYDRANT SUPPLY, ON WALL AT ACCESSIBLE ELEVATION/LOCATION.
  20. 3"W STANDPIPE FOR HVAC CONDENSATE DRAINS 2' AFF WITH NC TO EX WASTE RISER.
  21. NEW 24" X 36" DEEP FIBERGLASS BASIN WITH FOOT SAFE, SEALED, AND VENTED COVER FLUSH WITH FLOOR CONTAINING SE-3, COORDINATE EXACT LOCATION IN ROOM WITH EQUIPMENT, PUMP, 2" DISCHARGE TO AIR GAP AT STAND PIPE IN CRAWL SPACE AND 1 1/2"V OUT TO MECH RM.
  22. 2" PRESSURIZED WASTE DN TO AIR GAP AT NEW 2" STAND PIPE CONNECTED TO EXISTING WASTE RISER WITH 3" HUB.
  23. ROD OUT ALL EXISTING FLOOR DRAINS.

- PLUMBING GENERAL NOTES:**
1. ALL PLUMBING WORK WITH BASEMENT STORAGE ROOMS MUST BE COORDINATED WITH THE EXISTING CONDUIT, DUCTWORK AND PIPING.
  2. VERIFY THE DIMENSIONS OF ALL EXISTING LINES PRIOR TO CONNECTION AND AFTER THE DEMOLITION AND ABATEMENT OF INSULATION.
  3. PROVIDE DIELECTRIC FITTINGS AT ALL CONNECTIONS OF NEW WATER PIPING TO EXISTING.
  4. PROVIDE BALL AND DRAIN VALVES AT THE BASE OF EVERY RISER.



**AIR FORCE ACADEMY RENOVATION: PHASE III**  
3630 S. WELLS STREET, CHICAGO, IL 60609  
CHICAGO PUBLIC SCHOOLS  
CITY OF CHICAGO, MAYOR RAHM EMANUEL

**FGM ARCHITECTS**  
CHICAGO, ILLINOIS  
1211 West 22nd Street, Suite 705  
Chicago, IL 60616  
Phone: (312) 464-8300  
Fax: (312) 464-8302  
www.fgmarchitects.com

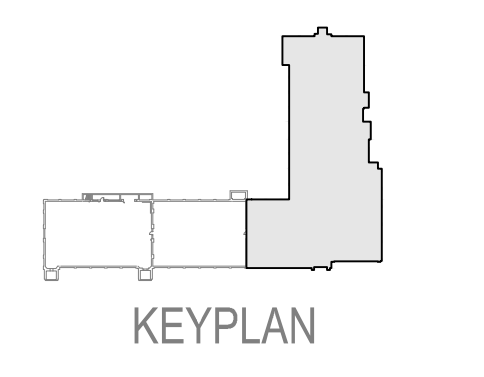
**Environmental Design International, Inc.**  
33 W. Monroe, Suite 1825 Chicago, IL 60603  
CIVIL ENGINEER

**RME, Inc.**  
200 S. Michigan Ave., Suite 1500 Chicago, IL 60604  
STRUCTURAL ENGINEER

**dbHMS Engineering, Inc.**  
303 W. Erie, Suite 510 Chicago, IL 60654  
MECHANICAL, ELECTRICAL, PLUMBING ENG.

**Terry Guen Design Associates, Inc.**  
521 W. Superior, Suite 327 Chicago, IL 60654  
LANDSCAPE ARCHITECT

**WARNING: LEAD-BASED PAINT AND ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB LEAD-BASED PAINT OR ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS.**



Mark	Description	Date
-	Issued For Bid	10.25.11
-	Issued For Permit	10.26.11
▲	ADDENDUME #1	11.08.11
▲	ADDENDUME #2	11.17.11

PBC Project Name: Air Force Academy  
PBC Project No.: #05803 / PBC Contract No.: 05803  
FGM Project No.: 10-1139-06

**BASEMENT PLAN PLUMBING**

Sheet  
**P2.01B**





SH-2	1.5	T&S BRASS	B-1029	SYMMONS	FSB	2, 3
------	-----	-----------	--------	---------	-----	------

NOTES:  
 1. SOLID CAST BRASS BODY, SLOW-CLOSING ADJUSTABLE METERED VALVE, VANDAL RESISTANT, WITH CHROME TRIM, AND INSTITUTIONAL SHOWER HEAD.  
 2. ADA COMPLIANT, SOLID CAST BRASS BODY, SLOW-CLOSING ADJUSTABLE METERED VALVE, VANDAL RESISTANT, WITH CHROME TRIM, AND SHOWER WAND ON HOSE WITH ADJUSTABLE SLIDE BAR.  
 3. DRAIN IS FD-1 IN FIELD BUILT TILE BASE.



**LAVATORY (LAV) SCHEDULE**

TAG	TYPE	GPM	MANUFACTURE	MODEL	FAUCET TYPE	FAUCET MANUFACTURE	FAUCET MODEL	NOTES
LAV-1	18-1/4"x20-1/2" WALL HUNG VITREOUS CHINA	.5	AMERICAN STANDARD	0355.012-02 0	HARD WIRED SENSOR	SLOAN	ETF-600-LT	1
LAV-2	18-1/4"x20-1/2" WALL HUNG VITREOUS CHINA	.5	AMERICAN STANDARD	0355.012-02 0	HARD WIRED SENSOR	SLOAN	ETF-600-LT	1, 2

NOTES:  
 1. PROVIDE ASSE 1070 TMV-1.  
 2. INSTALLED AT ADA HEIGHT.



**SERVICE SINK (SS) SCHEDULE**

TAG	TYPE	GPM	MANUFACTURE	MODEL	FAUCET TYPE	FAUCET MANUFACTURE	FAUCET MODEL	NOTES
SS-1	24 X 20 1/2 ENAMELED CAST IRON	--	AMERICAN STANDARD	7695.000	WALL MTD MANUAL	CHICAGO FAUCET	911-ISCP	1

NOTES:  
 1. FAUCET TO BE POLISHED CHROME PLATED SOLID BRASS CONSTRUCTION, ELEVATED, EXPOSED VACUUM BREAKER. 8" RIGID BODY VALVE CENTERS.



SE	ROOM	TYPE	HP	SIZE	PHASE	WELL	WELL	WELL	WELL	WELL
SE-1	BOILER RM	DUPLEX SUBMERSIBLE	30	25	1	1750	240/3/60	WEIL	2426	1
SE-2	FURNACE RM	DUPLEX VERTICAL COVER MOUNTED	30	27	1	1750	240/3/60	WEIL	1303	2
SE-3	SWITCHBOARD RM B017	SIMPLEX SUBMERSIBLE	50	18	1/2	1750	120/1/30	WEIL	1411	3


NOTES:  
 1. PUMPS TO BE REMOVED AND REPLACED. PROVIDE ALTERNATE PRICE FOR LID AND BASIN REPLACEMENT, 42" DIA X 60" DEEP BASIN.  
 2. PUMP HEAD, SHAFT, & MOTOR TO BE REPLACED. PROVIDE ALTERNATE PRICE FOR LID AND BASIN REPLACEMENT, 48" DIA X 72" DEEP BASIN.  
 3. PUMP INSTALLED WITH SINGLE FLOAT IN 24" X 36" DEEP FIBERGLASS BASIN FLUSH WITH FLOOR.



TAG	LOCATION
WH-1	BOILER RM
WH-2	BOILER RM

NOTES:  
 1. DISCONNECT SWITCHES AND  
 2. STATE, RHEEM, BOSCH, LO  
 PLUMBING DRAIN.  
 3. EQUIP WITH TEMPERATURE  
 4. EQUIP WITH EXPANSION TA  
 5. PROVIDE HEAT TRAPS/NIPF

**ADDED SERVICE SINK SCHEDULE  
 MADE ADDITIONS TO LAVATORY AND SHOWER  
 SCHEDULES  
 ADDED SE-3 TO SCHEDULE**

PROJECT <b>AIR FORCE ACADEMY - PHASE III</b>	SCALE <b>NTS</b>	
TITLE <b>PLUMBING SCHEDULES</b>	DATE <b>11.16.2011</b>	
SKETCH NUMBER: <b>PSK-08</b>	DWG REF <b>P5.00</b>	
	RFI REF	