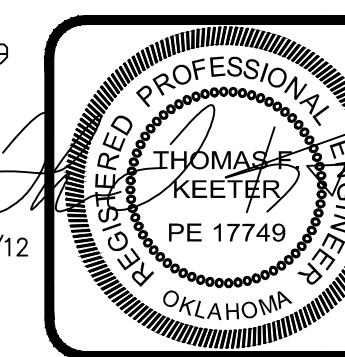


02/15/12



2012 ALTERATIONS TO
MONROE ELEMENTARY SCHOOL
 400 WEST COTTONWOOD
 INDEPENDENT SCHOOL DISTRICT NO. 57
 ENID, OKLAHOMA
 500 SOUTH INDEPENDENCE



DATE: 02/04/2012
REV.:

13 OF 17

LR		PANELBOARD		208Y/120 - 3 PH - 4 W		
NEMA 3R				225A - MLO		
DESCRIPTION	CB	kVA	Ph	kVA	CB	DESCRIPTION
1 ROOF RECEPTS	20/1	0.78	A	3.00	35/3	RTU-1
3	20/1	0.00	B	3.00	--	--
5	20/1	0.00	C	3.00	--	--
7	20/1	0.00	A	3.00	35/3	RTU-6
9	20/1	0.00	B	3.00	--	--
11	20/1	0.00	C	3.00	--	--
13	20/1	0.00	A	3.00	35/3	RTU-5
15	20/1	0.00	B	3.00	--	--
17	20/1	0.00	C	3.00	--	--
19	20/1	0.00	A	3.00	35/3	RTU-4
21	20/1	0.00	B	3.00	--	--
23	20/1	0.00	C	3.00	--	--
25	20/1	0.00	A	3.00	35/3	RTU-3
27	20/1	0.00	B	3.00	--	--
29	20/1	0.00	C	3.00	--	--
31	20/1	0.00	A	3.00	35/3	RTU-2
33	20/1	0.00	B	3.00	--	--
35	20/1	0.00	C	3.00	--	--
37	20/1	0.00	A	3.00	35/3	RTU-1
39	20/1	0.00	B	3.00	--	--
41	20/1	0.00	C	3.00	--	--
CONTINUOUS		0	X	1.25	=	0
NON-CONTINUOUS		63	X	1.00	=	63
RECEPTACLE <10 KVA		0.78	X	1.00	=	0.78
RECEPTACLE >10 KVA		0	X	0.50	=	0
LARGEST MOTOR		9	X	0.25	=	2.25
TOTAL KVA						66
TOTAL AMPS						183

LS		PANELBOARD		208Y/120 - 3 PH - 4 W		
				200A - MLO		
DESCRIPTION	CB	kVA	Ph	kVA	CB	DESCRIPTION
1 REFRIGERATOR	20/1	1.20	A	0.90	20/1	CLRM 112/114 RECEPTS
3 PROOFER	20/1	1.90	B	0.00	20/1	WATER HEATER
5 FLOOR RECEPT	20/1	1.00	C	0.00	20/1	
7 FLOOR RECEPT	20/1	1.00	A	0.00	20/1	
9 FLOOR RECEPT	20/1	1.00	B	0.00	20/1	
11 FLOOR RECEPT	20/1	1.00	C	0.00	20/1	
13 MLK BOX RECEPT	20/1	1.20	A	0.00	20/1	
15 OVEN	50/2	5.00	B	0.00	20/1	
17	--	5.00	C	0.00	20/1	
19 OVEN	50/2	5.00	A	0.00	20/1	
21	--	5.00	B	0.00	20/1	
23 OVEN BLOWERS	20/1	1.20	C	0.00	20/1	
25 HOOD FAN	20/1	1.00	A	0.00	20/1	
27 DISPOSER	30/3	0.00	B	0.00	20/1	
29	--	0.00	C	0.00	20/1	
31	--	0.00	A	0.00	20/1	
33 WATER HEATER	30/1	3.00	B	0.00	20/1	
35 WATER HEATER	30/1	3.00	C	0.00	20/1	
37 HAND DRYER	20/1	1.50	A	0.00	20/1	
39 KITCHEN LIGHTS	20/1	1.80	B	0.00	20/1	
41 KITCHEN LIGHTS	20/1	1.80	C	0.00	20/1	
CONTINUOUS		3.6	X	1.25	=	4.5
KITCHEN EQUIPMENT		31.4	X	0.65	=	20.41
NON-CONTINUOUS		7.5	X	1.00	=	7.5
RECEPTACLE >10 KVA		0	X	0.50	=	0
LARGEST MOTOR		2.7	X	0.25	=	0.675
TOTAL KVA						33
TOTAL AMPS						92

FIRE ALARM SYSTEM GENERAL NOTES

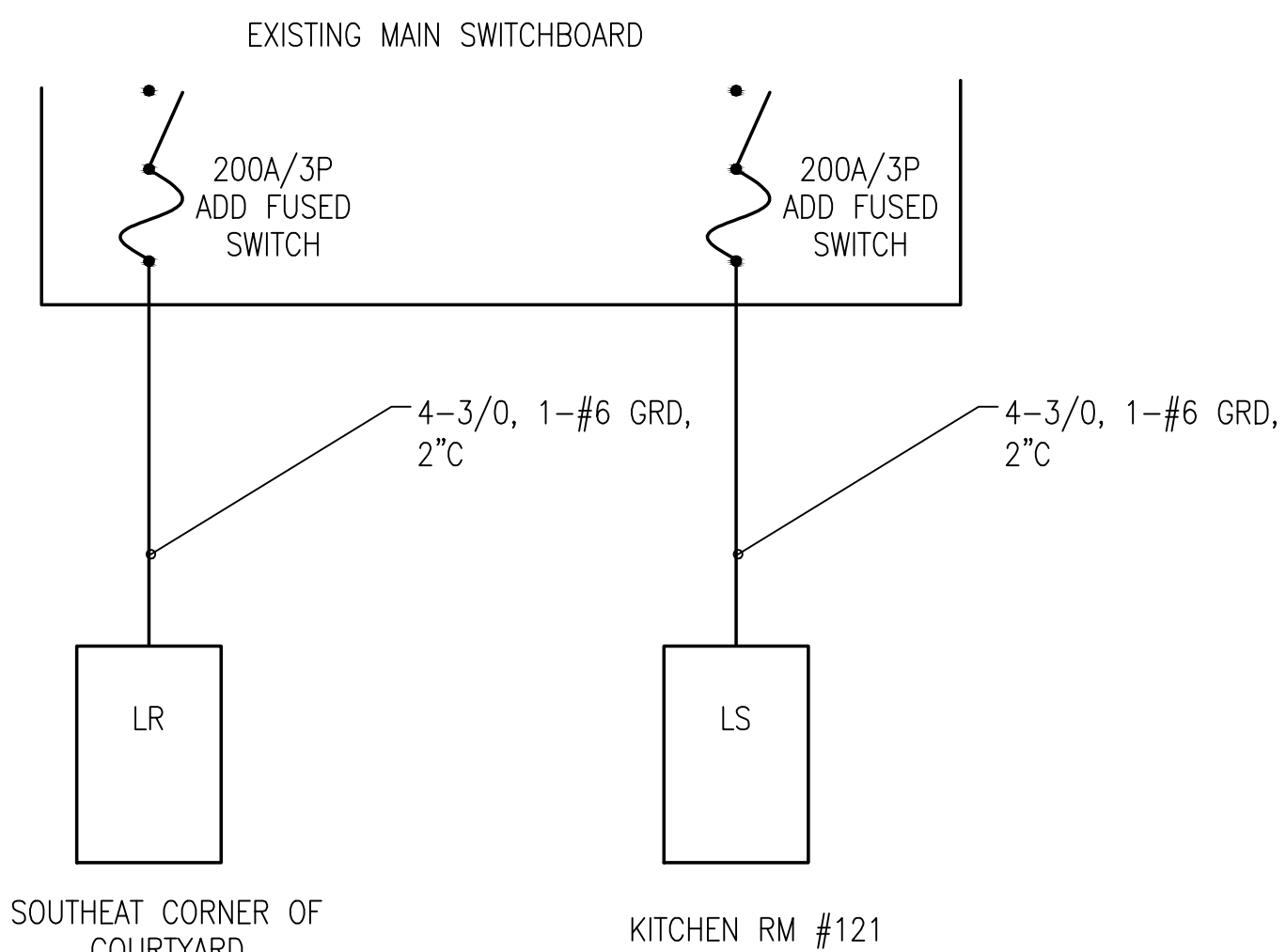
- EXISTING FIRE ALARM SYSTEM IS A FIRE-LITE MS-9600
- PROVIDE NEW A/V NOTIFICATION DEVICES IN ROOMS RECEIVING NEW CEILINGS. NEW DEVICES SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- NEW DEVICES SHALL BE CONNECTED TO AND SERVED FROM THE EXISTING SYSTEM. EXPAND THE EXISTING SYSTEM AS NEEDED TO OPERATE NEW DEVICES.
- PROVIDE PROVIDE CANDELA AND dB RATING FOR DEVICES APPROPRIATE FOR THE COVERAGE OF THE ROOM.
- PROVIDE AS REQUIRED AND IN COMPLIANCE WITH LOCAL AUTHORITY HAVING JURISDICTION.

ELECTRICAL GENERAL NOTES

- PRIOR TO BID AND CONSTRUCTION SURVEY THE SITE TO DETERMINE ALL EXISTING CONDITIONS RELATED TO THE WORK. THIS INCLUDES ALL EXISTING UTILITIES.
- ELECTRICAL CONTRACTOR TO COORDINATE THE MOUNTING HEIGHTS OF ALL RECEPTACLES WITH ARCHITECTURAL DETAILS OR OWNER.
- ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUND WIRE ROUTED IN THE CONDUIT.
- ALL 120V BRANCH CIRCUITS GREATER THAN 100' SHALL BE #10 THHN, MINIMUM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING BREAKER SIZE AND DISCONNECT SIZE FOR EQUIPMENT WITH MECHANICAL CONTRACTOR AND WITH OWNER ON OWNER PROVIDED EQUIPMENT.
- THE DRAWINGS ARE INTENDED TO COVER THE LAYOUT AND DESIGN OF THE WORK AND ARE NOT TO BE SCALED FOR MEASUREMENTS.
- ANY CONNECTION TO OR RELOCATION OF EXISTING UTILITIES REQUIRING DISCONNECTION OF NORMAL UTILITY SERVICES SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER OR HIS REPRESENTATIVE. PREMIUM TIME SHALL BE INCLUDED.
- IN NO CASE SHALL THE UTILITIES BE LEFT DISCONNECTED AT THE END OF A WORKDAY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER.
- PROVIDE ALL EXCAVATION NECESSARY FOR INSTALLATION OF THE WORK INCLUDED. COMPLY WITH ALL APPLICABLE AND GOVERNING SAFETY REGULATIONS INCLUDING OSHA.
- CONTRACTOR SHALL REPAIR ANY EXISTING FACILITIES DAMAGED DUE TO THE OPERATIONS OF THE CONTRACTOR.
 - NATIONAL ELECTRICAL CODE (NEC).
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
 - INTERNATIONAL BUILDING CODE (IBC).
 - AMERICANS WITH DISABILITIES ACT (ADA).
- CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND LICENSES.
- GUARANTEE EACH NEW SYSTEM AND EACH ELEMENT THEREOF AGAINST ANY DEFECT DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF ONE YEAR.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- THE CONTRACTOR SHALL SHOW, ON BLUE-LINE PRINTS, ANY CHANGES FROM THE ORIGINAL DRAWINGS MADE DURING INSTALLATION DELIVER TO THE ARCHITECT WHEN THE WORK IS COMPLETED.
- PROVIDE THREE (3) COPIES OF OPERATING AND SERVICE MANUALS, INCLUDING OPERATING INSTRUCTION, SERVICE INSTRUCTIONS, AND SUBMITTAL LITERATURE TO THE OWNER.
- DEMONSTRATE TO AND INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF ALL SYSTEMS.
- WHERE EQUIPMENT IS FURNISHED BY THE OWNER OR OTHER CONTRACTOR, PROVIDE ROUGH-IN AND MAKE FINAL CONNECTIONS PER SHOP DRAWINGS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- STORE EQUIPMENT AND MATERIAL TO PREVENT DAMAGE. DAMAGED EQUIPMENT SHALL BE REPLACED OR RESTORED TO A CONDITION ACCEPTABLE TO THE OWNER.
- TEST ALL DEVICES, PERFORM EQUIPMENT START-UP, AND MAKE ANY ADJUSTMENTS REQUIRED TO MAKE THE EQUIPMENT FULLY OPERATIONS PER THE MANUFACTURER'S INSTRUCTIONS.
- PROVIDE FIRESTOPPING FOR PIPES, DUCTWORK, ETC. PASSING THROUGH FIRE OR SMOKE PARTITIONS.
- COORDINATE WITH OTHER TRADES WHEN LOCATING EQUIPMENT, LIGHTS, PIPING, DUCTWORK, ETC.
- PROVIDE PULL STRING IN ALL EMPTY CONDUITS.
- ALL THREE PHASE CIRCUITS AND CIRCUITS LARGER THEN 30A SHALL BE RUN IN SEPARATE CONDUITS. OTHER CIRCUITS MAY BE COMBINED IN CONDUITS SUCH COMBINED CIRCUITS SHALL BE DERATED PER NEC.
- CONNECT EXIT/EMERGENCY LIGHTS AHEAD OF SWITCH TO LOCAL LIGHTING CIRCUIT. OBTAIN APPROVAL FROM FIRE MARSHALL FOR EMERGENCY LIGHT LOCATIONS.
- THE "ELECTRICAL" DOCUMENTS ARE NOT STAND ALONE DOCUMENTS BUT ARE A PORTION OF A LARGER SET OF CONSTRUCTION DOCUMENTS. REFER TO ALL DOCUMENTS FOR WORK.
- CLASSROOM LIGHTING CONTROL: PROVIDE TWO SWITCHES IN EACH ROOM, ONE TO SWITCH ROW OF LIGHTS PARALLEL TO WALL WITH SMARTBOARD, OTHER SWITCH TO CONTROL ALL OTHER LIGHTS, ALSO PROVIDE CEILING MOUNT OCCUPANCY SENSOR TO CONTROL ALL LIGHTS IN ROOM.
- WHERE NEW CIRCUITS ARE REQUIRED FROM EXISTING PANELS, REUSE EXISTING SPARES WHERE AVAILABLE. HOWEVER ALLOW FOR PROVIDING NEW BRANCH BREAKERS FOR ALL CIRCUITS NEEDED.
- PROJECT REQUIRES SELECT DEMOLITION THROUGHOUT BUILDING. ALL ELECTRICAL NOT IN DEMOLISHED CEILINGS OR WALLS SHALL REMAIN OPERATIONAL AND BE RECONNECTED AS NEEDED SUCH THAT DEVICES ARE OPERATIONAL.
- COORDINATE AND SCHEDULE WITH OWNER AND DEMOLISH EXISTING INTERCOM SYSTEM INCLUDING, SPEAKERS, CALLBOXES, MAIN CONTROL, AND ASSOCIATED WIRING THROUGHOUT.
- REFER TO ARCHITECTURAL PLANS FOR EXISTING WALLS WHICH GET FURRED OUT. ON SAID WALLS, EXTEND EXISTING DEVICE BOXES TO BE FLUSH WITH NEW WALL AND PROVIDE NEW DEVICE AND NEW COVERPLATE.
- WORK THROUGHOUT SPACE MAY BE PHASED BASED ON SCHEDULING WITH OWNER.

ELECTRICAL LEGEND

- DOWNLIGHT
- FLUORESCENT FIXTURE
- FLUORESCENT FIXTURE UPPER CASE LETTER INDICATES FIXTURE TYPE
- SITE LIGHTING, HEADS PER PLAN
- TRACK LIGHTING
- EXIT FIXTURE, TYPE X CEILING OR WALL MOUNTED. PROVIDE DIRECTIONAL ARROW WHERE APPLICABLE.
- EMERGENCY FIXTURE +12" BELOW CEILING
- EXIT/EMERGENCY COMBINATION FIXTURE
- CEILING FAN
- EM TYPICAL FIXTURE WITH EMERGENCY BALAST
- NL TYPICAL FIXTURE AS NIGHTLIGHT
- \$ TOGGLE SWITCH +48" AFF U.O.N.
- \$3 SWITCH, 3-WAY +48" AFF U.O.N.
- \$TM TIMER SWITCH, +48" AFF U.O.N.
- \$K SWITCH, KEYED +48" AFF U.O.N.
- \$D SWITCH, DIMMER +48" AFF U.O.N.
- ⊙ SWITCH, CEILING MOUNT OCCUPANCY SENSOR
- \$M SWITCH, MANUAL MOTOR STARTER
- ⊖ RECEPTACLE, SIMPLEX CONVENIENCE OUTLET, +16" U.O.N.,
- ⊕ RECEPTACLE, DUPLEX CONVENIENCE OUTLET, +16" U.O.N.,
- ⊙ RECEPTACLE, SPECIAL, COORDINATE WITH EQUIPMENT
- ⊕ RECEPTACLE, DOUBLE DUPLEX OUTLET
- ⊕w WELDING RECEPTACLE, 48" U.O.N.
- ⊙c RECEPTACLE, DUPLEX CONVENIENCE OUTLET ABOVE/IN CEILING FOR PROJECTOR, CONFIRM LOCATION WITH OWNER.
- ⊕ RECEPTACLE, FLOORBOX, FLUSH WITH BRASS COVER DEVICES AS INDICATED
- ⊖ NON-FUSED DISCONNECT
- ⊕ FUSED DISCONNECT
- ⊕ COMBINATION STARTER/DISCONNECT
- ⊕ XFMR TRANSFORMER
- ⊖ PANELBOARD
- HOMERUN, CONTINUOUS RUN TO PANEL OR EQUIPMENT
- ⊙ ELECTRIC MOTOR
- ⊕ ELECTRO-MAGNET DOOR HOLD OPEN, CONNECT TO FIRE ALARM POWER FROM FIRE ALARM SYSTEM
- ⊕ SB SMART BOARD, PROVIDE ONE DOUBLE GANG BOX AT 60" AFF WITH 1 1/2" C TO ABOVE CEILING CENTERED ON BOARD, AND PROVIDE ONE QUAD RECEPTACLE AT 12" AFF DIRECTLY BELOW
- ⊕ TS TEACHERS STATION, PROVIDE TWO DOUBLE GANG BOXES AT 12" AFF EACH WITH 1 1/2" C TO ABOVE CEILING, AND PROVIDE ONE QUAD RECEPTACLE AT 12" AFF
- ⊕ SS STUDENT STATION, PROVIDE DOUBLE GANG BOX WITH 1" C TO ABOVE ABOVE CEILING, AND PROVIDE ONE QUAD RECEPTACLE, MOUNT BOTH ABOVE TOP OF CASEWORK OR AT 16" IF NO CASEWORK
- ⊕ HD HAND DRYER, COORDINATE LOCATION, PROVIDE 120V DEDICATED CIRCUIT FROM AREA PANEL.
- ⊕ CEILING MOUNTED FIRE ALARM HORN/STROBE
- ⊕ DATA OUTLET, PROVIDE DOUBLE GANG BOX AND 1" CONDUIT TO ABOVE CEILING
- AC ABOVE COUNTER, COORDINATE ROUGH-IN WITH MILLWORK.
- WP WEATHERPROOF
- GFI GROUND FAULT INTERRUPTOR
- HD HAND DRYER
- RTU ROOF TOP UNIT
- OHD OVERHEAD DOOR
- WH WATER HEATER
- UH UNIT HEATER



1 FEEDER DETAIL
1/8" = 1'-0"