

FIRE ALARM SYSTEM

GENERAL

- 1.1 RELATED DOCUMENTS
- A. THE REQUIREMENTS OF THE MEP SPECIFICATIONS, AND THE DOCUMENTS UNDER BIDDING REQUIREMENTS AND CONDITIONS OF THE CONTRACT ALSO APPLY TO THIS WORK.

THIS SPECIFICATION INTENDS TO DESCRIBE "CENTRAL STATION" SYSTEM, TO BE ZONED, MODULAR, SOFTWARE PROGRAMMABLE MICROPROCESSOR BASED, AND UNDERWRITERS LABORATORIES LISTED FOR POWER LIMITED INSTALLATION, UTILIZING CONVENTIONAL GROUP ZONED INITIATING DEVICES, IN FULL COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS. THE FEATURES AND CAPABILITIES DESCRIBED IN THIS SPECIFICATION ARE TO BE PROVIDED FOR THIS PROJECT AND SHALL BE FURNISHED BE THE SUCCESSFUL CONTRACTOR.

1. THE SYSTEM SHALL BE INSTALLED, TESTED, AND DELIVERED TO THE OWNER IN FULLY OPERATION CONDITION. THE SYSTEM SHALL INCLUDE ALL REQUIRED HARDWARE, SOFTWARE, AND INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE WRITING TO ACCOMPLISH THE REQUIREMENTS OF THIS SPECIFICATION AND THE CONTRACT DRAWINGS, WHETHER OR NOT SPECIFICALLY ITEMIZED HEREIN.

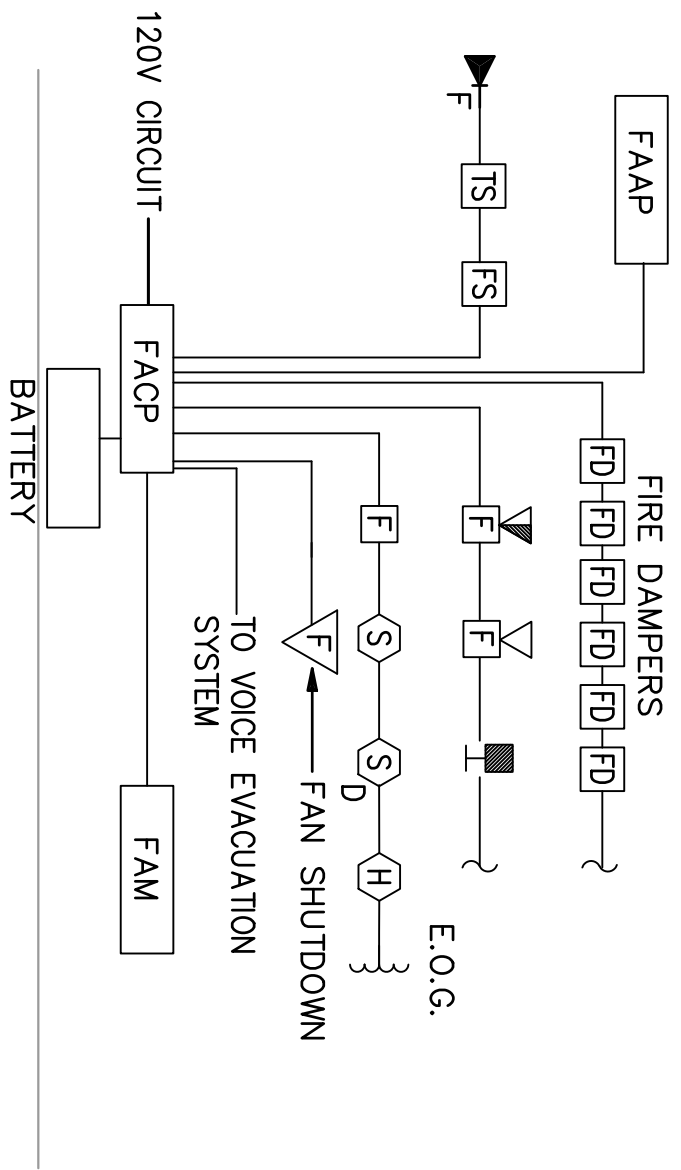
1.2 APPROVALS

- A. THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS PUBLICATION TO THE EXTENT REFERENCED. THE PUBLICATION ARE REFERENCED IN THE TEXT BY THE BASIC DESIGNATION ONLY. THE LATEST VERSION OF EACH LISTED PUBLICATION SHALL BE USED AS A GUIDE, UNLESS THE AUTHORITY HAVING JURISDICTION HAS ADOPTED AN EARLIER VERSION

1. FACTORY MUTUAL (FM) FM AS APPROVAL GUIDE
2. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- A. NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS;
- B. NFPA 13A RECOMMENDED PRACTICE FOR THE INSPECTION, TESTING AND MAINTENANCE OF SPRINKLER SYSTEMS;
- C. NFPA 70 NATIONAL ELECTRICAL CODE;
- D. NFPA 72 NATIONAL FIRE ALARM CODE;
- E. NFPA 90A STANDARD FOR THE INSTALLATION OF AIR CONDITION AND VENTILATING SYSTEMS
- F. NFPA 101 LIFE SAFETY CODE
3. UNDERWRITERS LABORATORIES, INC., (UL) LPED.
- A. CONTROL UNITS, SYSTEM (UL02).
- B. BOXES, MANUALLY ACTIVATED, (ULMK).
- C. CONTROL UNIT ACCESSORIES SYSTEM (UL0X).

1.3 MANUFACTURERS

- A. SILENT KNIGHT
- B. NOTIFIER
- C. SIMPLEX



FIRE ALARM RISER

NO SCALE

GENERAL NOTES – FIRE ALARM RISER

- ALL FIRE ALARM CABLES SHALL BE IN CONDUITS.
- REFER ADDRESSABLE FIRE ALARM SYSTEM WITH CONTROL PANEL AND ADDRESSABLE DEVICES.
- REFER TO FIRE ALARM SPEC. FOR ADDITIONAL REQUIREMENTS. PROVIDE ALL APPURTENANCES AS REQUIRED.
- ACTUAL FIRE ALARM SYSTEM DESIGN SHALL BE BY A COMPANY LICENSED TO DESIGN/INSTALL FIRE ALARM SYSTEM IN THE STATE OF TEXAS. FIRE ALARM SUBMITTALS SHALL BE SUBMITTED TO A/HJ FOR REVIEW AND APPROVAL.
- CONTRACTOR SHALL INCLUDE IN BID TO PROVIDE ADDITIONAL FIRE ALARM APPURTENANCES AS REQUIRED PER A/HJ WHETHER THE FIRE ALARM DEVICES ARE SHOWN OR NOT ON THE BID SET.
- CONTRACTOR SHALL INCLUDE IN BID TO PROVIDE ALL INTERFACING MODULES AS REQUIRED.
- PROVIDE 120V, 20A EMERGENCY CIRCUITS FOR FIRE SMOKE DAMPERS AS REQUIRED.
- CONTRACTOR SHALL INCLUDE IN BID TO PROVIDE A COMPLETE OPERABLE FIRE ALARM SMOKE EVACUATION SYSTEM FOR THE ENTIRE BUILDING WITH ALL REQUIRED APPURTENANCES PER FIRE ALARM SYSTEM MANUFACTURER'S RECOMMENDATIONS AND A/HJ BUT SHALL NOT BE LIMITED TO SPEAKERS, HORNS, WIRING, SYSTEM CONTROL PANEL, CONDUITS ETC.
- CONTRACTOR SHALL PROVIDE DUCT SMOKE DETECTORS AT SUPPLY AND RETURN OF EACH UNIT.

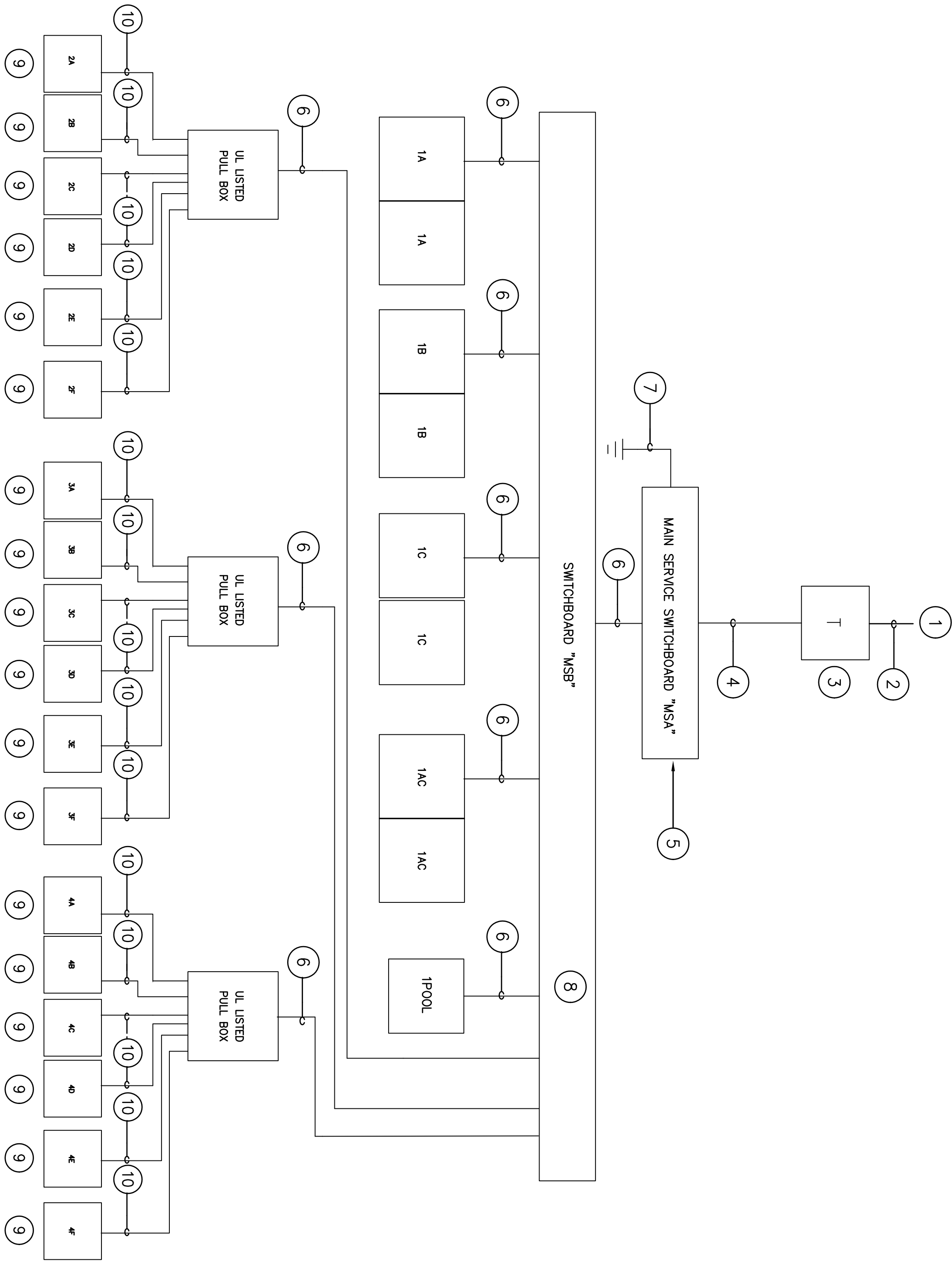
GENERAL NOTES – FIRE ALARM

A COMPLETE FIRE ALARM SYSTEM SHALL BE PROVIDED PER UL A/HJ AND SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODE. COORDINATE WITH VENDOR, OWNER AND ARCHITECT!

FIRE ALARM SYSTEM WITH FULL COVERAGE INSIDE THE OFFICE AREA, AND THE GUEST ROOM AREA SHALL BE DESIGNED BY OTHER (NOT WITHIN THE ELECTRICAL DESIGN WORK ON THIS PROJECT) AND PROVIDED UNDER THE FIRE ALARM SYSTEM CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM ENGINEER, FIRE MARSHAL, AND ARCHITECT FOR COORDINATION.

GENERAL NOTES

1. THE LOCATION OF FIRE ALARM DEVICES IS ONLY REPRESENTATIVE. THE FIRE ALARM SYSTEM SHALL BE DESIGNED AND INSTALLED BY A COMPANY LICENSED IN THE STATE OF TEXAS TO BOTH DESIGN AND INSTALL FIRE ALARM SYSTEMS.



ELECTRICAL ONE-LINE DIAGRAM -

NO SCALE

NOTES BY SYMBOL.

1. TO UTILITY CO. POLE. COORDINATE EXACT LOCATION WITH UTILITY CO. AND CIVIL.

2. NEW U.G. ELECTRICAL PRIMARY. REFER TO SITE PLAN.
3. NEW 208V, 3-PHASE UTILITY CO. PAD MOUNTED TRANSFORMER. PROVIDE PAD PER UTILITY CO. SPECS. COORDINATE METERING REQUIREMENTS & LOCATION WITH UTILITY CO.

4. U.G. ELECTRICAL SECONDARY. REFER TO ELECTRICAL PANEL SCHEDULE.

5. NEMA 3R, 120V/208V, 3-PHASE, 60K, 3000A SERVICE ENTRANCE SWITCHBOARD "MSA" WITH PAD LOCK TO SWITCHBOARD.

6. ELECTRICAL FEEDERS TYPICAL OF 6. REFER TO PANEL SCHEDULE MSB FOR QUANTITY, SIZE OF EACH FEEDER. PROVIDE PULL BOXES PER NEC AS REQUIRED TYPICAL.

7. #250 KCMIL CU. SERVICE ENTRANCE GROUND PER NEC 250.

8. 120/208V 3-PHASE MAIN SWITCHBOARD "MSB". REFER TO SCHEDULE "MSB".

9. TYPICAL PANEL AT EACH LEVEL TO SERVE GUEST ROOMS WITHIN THE SAME ROOM LEVEL.

10. ELECTRICAL FEEDER TO UNIT PANEL. TYPICAL. REFER TO PANEL SCHEDULE MSB FOR QUANTITY & SIZE. PROVIDE PULL BOXES PER NEC AS REQUIRED TYPICAL.

PANELBOARD											
02/17/10			10-27 AM								
DESCRIPTION	SIZE	WIRE/CONC.	CU.	LFMT	WIRE/CONC.	HEAT	A	B	WIRE/CONC.	LFMT	CU.
SPRING	20/1	20/1			1		2				
SPRING	20/1	20/1			5		4	6			30/2
SPRING	20/1	20/1			7		8				
SPRING	20/1	20/1			1		4	12			30/2
SPRING	20/1	20/1			13		14				30/2
SPRING	20/1	20/1			15		16				30/2
SPRING	20/1	20/1			19		20				30/2
SPRING	20/1	20/1			21		22				30/2
SPRING	20/1	20/1			23		24				30/2
SPRING	20/1	20/1			27		28				30/2
SPRING	20/1	20/1			29		30				30/2
THIS SEC. STARTING (V)			0	0	0	0	0	0	0	0	0
STARTING (V)			0	0	0	0	0	0	0	0	0
THIS SEC. STARTING (V)			0	0	0	0	0	0	0	0	0
STARTING (V)			0	0	0	0	0	0	0	0	0

NOTE:			
PROVIDE FEED-THROUGH USED PER THE SECTION 2.			
DESCRIPTION	WIRE/CONC.	SIZE	WIRE/CONC.
1-PHASE	100 MBS	100 MBS	100 MBS
POOL EQUIPMENT	100 MBS	100 MBS	100 MBS
LEVEL 1	100 MBS	100 MBS	100 MBS
SE. TYPED	100 MBS	100 MBS	100 MBS

NOTE:			
IN CASE OF SERIES RATED SYSTEM IS PROVIDED BY THE CONTRACTOR, THE PANEL SHALL BE UL LISTED AND RATED TO WORK WITH THE OPERATIONAL PANEL. OTHERWISE, PROVIDE A FULL RATED SYSTEM AS SHOWN.			
DESCRIPTION	WIRE/CONC.	SIZE	WIRE/CONC.
1-PHASE	100 MBS	100 MBS	100 MBS
POOL EQUIPMENT	100 MBS	100 MBS	100 MBS
LEVEL 1	100 MBS	100 MBS	100 MBS
SE. TYPED	100 MBS	100 MBS	100 MBS

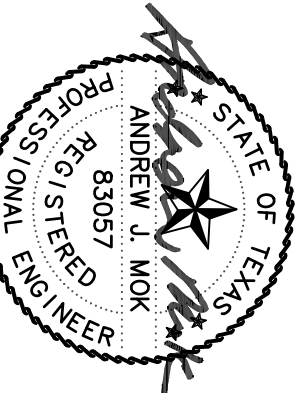
NOTE:			
NEC, PROVIDE UL SERIES RATED MAIN BREAKER TO WITHSTAND 60K AC.			
DESCRIPTION	WIRE/CONC.	SIZE	WIRE/CONC.
1-PHASE	100 MBS	100 MBS	100 MBS
POOL EQUIPMENT	100 MBS	100 MBS	100 MBS
LEVEL 1	100 MBS	100 MBS	100 MBS
SE. TYPED	100 MBS	100 MBS	100 MBS

NOTE:			
CONTRACTOR SHALL PROVIDE ALL RELATED ELECTRICAL PER PLUMBING EQUIPMENT SPECS./RECOMMENDATIONS FOR POOL SPA AND ASSOCIATED HEATER.			
DESCRIPTION	WIRE/CONC.	SIZE	WIRE/CONC.
1-PHASE	100 MBS	100 MBS	100 MBS
POOL EQUIPMENT	100 MBS	100 MBS	100 MBS
LEVEL 1	100 MBS	100 MBS	100 MBS
SE. TYPED	100 MBS	100 MBS	100 MBS

GENERAL NOTES (FOR ALL ELECTRICAL SHEETS)

- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND ELECTRICAL SPECS. REGARDING THE REQUIREMENTS ON SHOP DRAWINGS AND SUBMITTAL DATA.
- CONTRACTOR SHALL PROVIDE ALL TESTING, CLEANING AND ADJUSTMENT AS REQUIRED PER APPLICABLE CODES, UL, MANUFACTURER'S RECOMMENDATIONS AND ELECTRICAL SPECS.
- A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS FURNISHED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ARCHITECT AND OWNER AT THE COMPLETION OF WORK.
- ANY AND ALL SERVICE OUTAGES REQUIRED FOR THE PROJECT SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE SCHEDULED SHUTDOWN.
- BUSSES IN ALL PANELBOARDS OF ANY TYPE SHALL BE COPPER.
- PROVIDE ELECTRICAL METER AND ALL RELATED APPURTENANCES REQUIRED PER UTILITY CO. SPECS./RECOMMENDATIONS, AND SHALL PAY FOR ALL RELATED EXPENSES. COORDINATE INSTALLATION WITH THE UTILITY CO. AND THE OWNER.
- ALL CIRCUIT BREAKERS SHALL BE "BOLT-ON" TYPE AND FULLY RATED.
- ALL PANELBOARD CIRCUITS SHALL BE BALANCED ON ALL PHASES.
- ELECTRICAL SYSTEM SHALL BE FULLY RATED WITH A.I.C. RATING AS INDICATED ON PANEL SCHEDULE UNLESS OTHERWISE NOTED.
- LIGHT FIXTURES SHALL BE SUSPENDED FROM BUILDING STRUCTURE AND NOT FROM THE CEILING SYSTEM.
- ALL RECEPTACLES SHALL BE THREE-WIRE GROUNDING TYPE, SPECIFICATION GRADE, GENERAL ELECTRIC OR LEVITON.
- RECEPTAGE SHALL BE MOUNTED AT 16" AFF OR 6" ABOVE COUNTER TOP UNLESS OTHERWISE NOTED. THE MOUNTING HEIGHT SHALL COMPLY WITH THE LOCAL ACCESSIBILITY STANDARDS, ADA AND SHALL BE ACCEPTABLE TO A/HJ.
- ALL CONDUITS SHALL BE RUN STRAIGHT AND PARALLEL, TO BUILDING ELEMENTS. CONDUIT SHALL BE SUSPENDED FROM STRUCTURE MEMBERS, AND NOT FROM CEILING SYSTEMS.
- COPPER WIRING SHALL BE UTILIZED AND ALUMINUM WIRING IS NOT PERMITTED. WIRING SHALL BE RUN IN CONDUIT AND NO EXPOSED WIRING IS PERMITTED. LOW VOLTAGE, CONTROLS, REMOTE SIGNALING AND POWER WIRING SHALL BE RUN IN SEPARATE CONDUITS PER NEC.
- COORDINATE AND VERIFY EXACT REQUIREMENTS AND RESPONSIBILITY WITH OTHER TRADES SUCH HVAC, PLUMBING, & FIRE PROTECTION.
- A SEPARATE GREEN COPPER GROUND WIRE SHALL BE RUN IN EACH CIRCUIT WITH SIZE AS INDICATED ON PLAN OR PANEL SCHEDULE. A TYPICAL 120V, 20A HOMERUN CIRCUIT SHALL BE MIN. OF 2#12, #12G, IN 3/4"IC.
- IF THERE ARE ANY CONFLICTS OR DISCREPANCIES AMONG THE THE PLANS, SPECS. AND THE OTHER TRADES, CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR INTERPRETATION AND RESOLUTION. ALL CONFLICTS WITH REQUIRED ELECTRICAL SYSTEMS SHALL BE RESOLVED BY THE CONTRACTOR AT HIS OWN EXPENSES TO COMPLETE THE INSTALLATION AT NO ADDITIONAL COST AS PART OF THIS CONTRACT.
- PROVIDE GFI & AFCI PROTECTION AS REQUIRED PER APPLICABLE CODE.
- PROVIDE CLEARANCE TO ALL ELECTRICAL EQUIPMENT PER NEC ARTICLE 110 AND A/HJ. UNDER THE BASE BID, CONTRACTOR SHALL PAY FOR ALL RELATED EXPENSES TO RELOCATE ELECTRICAL EQUIPMENT WHEN IT IS NECESSARY TO MEET CODE AND UTILITY, OWNER'S REQUIREMENTS.
- GROUNDING SHALL BE PROVIDED IN ACCORDANCE WITH NEC 250 AND GROUNDING SYSTEM SHALL BE BONDED TO THE COLD WATER PIPING SYSTEM, BUILDING COLUMN STEELS AND DRIVEN GROUND RODS. CONTRACTOR SHALL PROVIDE AN EFFECTIVE GROUNDING SYSTEM PER NEC AND A/HJ.
- WHERE THE WORD "PROVIDE" IS USED, THE WORK IS UNDERSTOOD TO MEAN "THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL, AND MAKE FINAL CONNECTION TO THE EQUIPMENT" PER EQUIPMENT MANUFACTURER'S SPECS./RECOMMENDATIONS, NEC AND A/HJ.
- REFER TO PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION, AND REQUIREMENTS.
- THE ABBREVIATION "A/HJ" AS INDICATED ON THIS PROJECT STANDS FOR "AUTHORITY HAVING JURISDICTION".
- ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF TYPE.
- (NEMA-3R RATED ENCLOSURE)
- CONTRACTOR SHALL REFER TO FLOOR BOX MANUFACTURER'S SPECS. FOR ADDITIONAL INFORMATION AND REQUIREMENTS AND SHALL INCLUDE ALL EXPENSES IN BID TO PROVIDE ELECTRICAL & COMMUNICATIONS TO FLOOR BOXES AS REQUIRED. COORDINATE EXACT LOCATIONS WITH ARCHITECT PRIOR TO FLOOR IN & MAKE FINAL CONNECTIONS PER EQUIPMENT MANUFACTURER'S SPECS. AND RECOMMENDATIONS.
- ALL SWITCH AND CONVENIENCE OUTLET PLATES SHALL HAVE UNION COVERS EXCEPT THOSE EXTERIOR LOCATED SHALL HAVE STAINLESS STEEL COVER PLATES. NO SUBSTITUTES WILL BE ALLOWED.
- ALL EQUIPMENT LOCATIONS AND MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH LOCAL DISABILITIES ACTS AND ADA.
- CONTRACTOR SHALL REFER TO CIVIL, LANDSCAPE AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- CONTRACTOR SHALL RESOLVE ANY CONFLICT IN LOCATION WITH OWNER'S SITE REP. IN FIELD. CONTRACTOR SHALL COORDINATE INSTALLATION OF SITE LIGHTING WITH CIVIL AND LANDSCAPE.
- REFER TO CIVIL DRAWINGS FOR TRENCHING AND EASEMENT REQUIREMENTS.
- ALL EXTERIOR LIGHTING SHALL BE CONTROLLED VIA CONTACTORS (PHOTOCELL ON/ TIME CLOCK OFF) UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE LARGE RADIIUS 90 DEGREE SWEEPING BENDS FOR U.G. CONDUITS PER UTILITY CO. SPECS. AND REQUIREMENTS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ANDREW J. MOK  
P.E. ISSUED ON APR 24, 2010 FOR THE PURPOSE OF BIDDING, PERMITTING &  
CONSTRUCTION OF THIS PROJECT. ANY REUSE OF THIS SEAL FOR ANY OTHER  
NOTIFICATION TO THE ABOVE ENGINEER IS AN OFFENSE TO THE TEXAS STATE  
BOARD RULES.



05-24-10

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Sheets

Reviewed

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