

## SPECIFICATIONS

### GENERAL

1. THE CONTRACTOR SHALL PROVIDE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED FOR THEIR INDIVIDUAL SECTIONS OF WORK. THE WORD 'WORK' SHALL MEAN ALL LABOR, TRANSPORTATION, MATERIAL, EQUIPMENT, TOOLS, INSTALLATION, SUPERVISION, AND ANY OTHER INCIDENTAL ITEMS OR SERVICES OBVIOUSLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS WHICH SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED OR SHOWN.
2. ALL GENERAL CONDITIONS, SPECIAL REQUIREMENTS OR GENERAL REQUIREMENTS OF THE GENERAL CONSTRUCTION SPECIFICATION ARE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF PRINTED HERE IN FULL.
3. THE WORD 'PROVIDE' SHALL MEAN FURNISH AND INSTALL, MAKE ALL FINAL CONNECTIONS, AND LEAVE IN AN APPROVED OPERATING CONDITION.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE APPLICABLE UNIFORM BUILDING, MECHANICAL, PLUMBING, AND ELECTRICAL CODES, AND FEDERAL, STATE, AND LOCAL REGULATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING: WORKMEN'S IDENTIFICATION AND SAFETY, FIRE PROTECTION, CONTRACTOR'S LIABILITY INSURANCE, SAFETY BARRICADES, WARNING SIGNS, AND TRASH REMOVAL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING ALL FEES AND OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.
7. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL DRAWINGS FOR THE BUILDING, AND FOR OTHER TRADES, INCLUDING BUT NOT LIMITED TO, THE CONSTRUCTION DOCUMENTS, SHOP DRAWINGS, ETC. FOR ALL GENERAL CONSTRUCTION, STRUCTURAL, MECHANICAL, AND ELECTRICAL, AND SPECIALTY CONTRACTOR WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS PLANNED, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.
8. DRAWINGS ARE DIAGNOSTIC, SMALL SCALE, AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED, CERTAIN COMPONENTS, APPURTENANCES, AND RELATED SPECIALTIES ARE NOT SHOWN, AND SHALL BE PROVIDED. IT IS THE INTENT OF THE DRAWING AND SPECIFICATIONS TO CALL FOR FINISHED WORK TESTED AND READY FOR OPERATION. DO NOT SCALE DRAWINGS. ARRANGEMENT OF EQUIPMENT AND ROUTING OF PIPES AND DUCTWORK, ETC. INDICATED ON DRAWINGS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS AND REQUIRED ON SITE REVISIONS DURING CONSTRUCTION. (SEE ALSO 'BIDDING')
9. ALL WORK REQUIRED FOR IDENTICAL ITEMS SHOWN ON THE DRAWINGS SHALL BE PROVIDED ALTHOUGH EACH SPECIFIC IDENTICAL ITEM MAY NOT BE SHOWN IN DETAIL - OR CALLED OUT.
10. THE CONTRACTOR SHALL PROVIDE (5) COPIES OF SUBMITTALS AT ONE TIME, BOUND IN A NEAT & ORDERLY MANNER. PARTIAL OR UNMARKED SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE ALL EQUIPMENT, MATERIALS, AND DEVICES FOR REVIEW BY THE ENGINEER. WORK SHALL NOT START UNTIL ALL REVIEWS HAVE BEEN COMPLETED AND THE ITEMS TO BE PROVIDED ARE ACCEPTABLE. ALL MATERIALS AND EQUIPMENT SHALL BE COMMONLY USED, ACCEPTABLE GRADES IN THE CONSTRUCTION INDUSTRY AND SHALL BEAR THE 'UL', 'ASME', 'AMCA', OR OTHER LABEL WHEN APPLICABLE.
11. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH COMPLETE SETS OF AS-BUILT DOCUMENTS ACCURATELY SHOWING THE MATERIALS AND EQUIPMENT AS INSTALLED.
12. ALL MATERIALS AND WORKMANSHIP TO BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. REFRIGERATION COMPRESSORS SHALL BE GUARANTEED FOR A MINIMUM OF FIVE YEARS FROM DATE OF OWNER'S ACCEPTANCE. IN ADDITION, THE CONTRACTOR SHALL GUARANTEE THAT THE INSTALLATION, WHEN OPERATED IN ACCORDANCE WITH THE CONTRACTOR'S INSTRUCTIONS, WILL DEVELOP CAPACITY AND CHARACTERISTICS INDICATED OR SPECIFIED AND WILL FULFILL EACH AND EVERY REQUIREMENT OF THE DRAWINGS AND SPECIFICATIONS, AND SHOULD THE INSTALLATION IN ANY WAY FAIL TO DO SO, THE CONTRACTOR WILL, WITHOUT DELAY AND WITHOUT COST TO THE OWNER, PROVIDE WHATEVER ADDITIONAL EQUIPMENT, MATERIAL, AND LABOR IS NECESSARY TO CORRECT THE FAULT AND COMPLY WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
13. CONTRACTOR SHALL CHECK AND VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR PROBLEMS SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.

### HVAC

14. PROVIDE BASE AND COUNTER FLASHING FOR ITEMS PENETRATING THE ROOF - COORDINATE WITH ARCHITECTURAL REQUIREMENTS.
15. CONTRACTOR TO FURNISH AND INSTALL ALL STARTERS, WIRING, CONTROLS, DEVICES AND ALL CONDUIT, FOR A COMPLETE AND OPERABLE SYSTEM.
16. ALL WORK SHOWN IS NEW, UNLESS NOTED AS EXISTING.
17. MAINTAIN OCCUPANCY AND FIREWALL SEPARATION INTEGRITY AS REQUIRED. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL OCCUPANCY/FIREWALL SEPARATIONS AND SPECIFIC DETAILS FOR CONSTRUCTION. PROVIDE ALL NECESSARY FIRE DAMPERS, ACCESS DOORS, AND CAULKING, ETC. FOR APPROVED INSTALLATION.

### BIDDING

1. SUBMISSION OF A BID PROPOSAL, DIRECTLY OR INDIRECTLY BY THE CONTRACTOR FOR THIS WORK, SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE AND UNDERSTANDS THE CONDITIONS THAT MAY AFFECT THE PERFORMANCE OF THE WORK. CONTRACTOR IS EXPECTED TO CONTACT ARCHITECT FOR ANY PARTICULAR PROBLEMS AND CLEAR UP ANY POSSIBLE MISUNDERSTANDING BEFORE BID IS SUBMITTED. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF THE CONTRACT DOCUMENTS AND THE WORK TO BE ACCOMPLISHED.

2. BASE PROPOSAL ON MANUFACTURERS NAMED, UNLESS 'OR EQUAL' IS INDICATED.

### EXECUTION

1. THE CONTRACTOR SHALL PROVIDE ALL SLEEVES, OPENINGS, CUTTING, AND PATCHING NECESSARY FOR THE INSTALLATION OF THE WORK. CUTTING AND PATCHING SHALL BE DONE BY WORKMEN SKILLED IN THE TRADES REQUIRED AND PAID BY THE CONTRACTOR REQUIRING THE WORK COMPLETE.
2. THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HANDLING OF MATERIALS AND EQUIPMENT, AND THE NECESSARY PROTECTION FOR MATERIALS AND EQUIPMENT.
3. TOOLS AND EQUIPMENT WILL BE STORED IN OWNER DESIGNATED AREAS ONLY.
4. THE CONTRACTOR WILL PROTECT THE WORK AND MATERIAL AGAINST DIRT, THEFT, INJURY, OR DAMAGE UNTIL ACCEPTED BY OWNER. ALL WORK SHALL BE TURNED OVER TO OWNER CLEAN AND IN PERFECT CONDITION, READY FOR SATISFACTORY SERVICE.
5. PIPES AND/OR CONDUITS PASSING THROUGH WALL, FLOORS, AND PARTITIONS SHALL BE PROVIDED WITH SLEEVES, EXCEPT AS PROHIBITED BY UL LISTING. SLEEVES PASSING THROUGH WATER PROOFING OR DAMP PROOFING SHALL BE WATER TIGHT. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRE PROOFED WITH MATERIAL APPROVED AND AS DEFINED FOR THE RATING OF THE STRUCTURE AND UL LISTED.
6. EACH CONTRACTOR SHALL PROVIDE ALL FOUNDATIONS, HANGERS, AND SUPPORTS FOR ALL EQUIPMENT SUPPLIED AND/OR INSTALLED UNDER THEIR WORK. ANY EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH VIBRATION ISOLATION.
7. ALL EQUIPMENT SHALL BE PROVIDED WITH FACTORY FINISH. ALL REQUIRED PAINTING WILL BE PERFORMED UNDER THE GENERAL CONSTRUCTION SECTION OF THE SPECIFICATIONS.
8. WHERE PIPES OR CONDUITS PASS THROUGH WALLS, FLOORS, OR CEILINGS IN FINISHED AREAS, THEY SHALL BE FURNISHED WITH CHROME PLATED ESCUTCHEON PLATES.
9. AT THE CONCLUSION OF THE JOB, EACH PIECE OF EQUIPMENT, VALVE, SWITCH, STARTER, PANEL, PIPE LINE, CONDUIT, ETC., SHALL BE CLEARLY IDENTIFIED WHETHER EXPOSED OR CONCEALED, COVERED OR UNCOVERED, IN ACCORDANCE WITH OSHA AND ANSI REGULATIONS. IDENTIFY PIPES NEAR EACH VALVE WITH 'BRANDY-FERMA CODE PIPE TAPE' OR T. & B. WESTLINE 'TEL-A-PIPE' INDICATING DIRECTION OF FLOW, SERVICE ZONE, AND SIZE. TAPE SHALL BE APPLIED TO PIPE, CONDUIT, OR COVERING. VALVES, CONTROLS, AND DAMPERS SHALL BE IDENTIFIED BY 2-INCH LAQUERED BRASS TAGS WITH STAMPED LETTERS FASTENED WITH 'S' HOOKS OR CHAINS. EQUIPMENT IS TO BE IDENTIFIED AS TO FUNCTION AND PURPOSE BY MEANS OF PERMANENTLY ATTACHED LAMINATED PHENOLIC NAMEPLATES WITH BEVELED EDGES AND WHITE LETTERS ON BLACK BACKGROUND.
10. AT THE CONCLUSION OF THE WORK, ALL EQUIPMENT AND SYSTEMS SHALL BE CAREFULLY BALANCED, ADJUSTED, AND TESTED TO PROVIDE BALANCED, QUIET-OPERATING, STABLE AND SAFE SYSTEMS. DEMONSTRATE OPERATION OF ALL SYSTEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE.

### PRODUCTS

1. ALL DUCTWORK TO BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE SMACNA MANUAL ENTITLED 'HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE'. EXHAUST AIR DUCTWORK SHALL BE GALVANIZED METAL, EXCEPT WHERE OTHERWISE INDICATED. ALL ELBOWS SHALL BE FULL INSIDE RADIUS THROAT.
2. PROVIDE OPPOSED BLADE BALANCING DAMPERS WHEREVER NECESSARY TO FACILITATE AIR BALANCING OF THE DUCT SYSTEM.
3. SEAL ALL DUCT PENETRATIONS THROUGH WALLS, FLOOR AND ROOF. SEAL ALL TRANSVERSE DUCT SEAMS WITH APPROVED MASTIC. DUCT TAPES SHALL NOT BE ALLOWED FOR RIGID DUCTWORK.
4. EXHAUST DUCTWORK SHALL BE UNINSULATED. DUCTWORK
5. BALANCE ALL EQUIPMENT, DIFFUSERS, AND GRILLES TO OBTAIN THE AIR QUANTITIES AS SHOWN ON PLANS. CONTRACTOR SHALL PROVIDE (5) FIVE BOUND COPIES OF A CERTIFIED TEST AND BALANCE REPORT WITH FORMS CONTAINING INFORMATION INDICATED IN SCHEDULES. SUBMIT REPORT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PROJECT CLOSEOUT.
6. PROVIDE FLEXIBLE DUCT CONNECTORS ON INLET AND OUTLET OF ALL AIR MOVING EQUIPMENT, INCLUDING EXHAUST FANS AND FAN COIL UNITS.
7. REFER TO DRAWING SCHEDULE(S) FOR EQUIPMENT REQUIREMENTS.

## HVAC LEGEND

ABBR.	SYMBOL	DESCRIPTION
		DUCT SECTION POSITIVE PRESSURE - FIRST SIZE IS TOP
		DUCT SECTION NEGATIVE PRESSURE - FIRST SIZE IS TOP
		ROOF EXHAUST FAN
		RIGID DUCT
		ROUND DUCT - DOWN
		ROUND DUCT - UP
VD		MANUAL VOLUME DAMPER
CFM		CUBIC FEET PER MINUTE
BDD		BACKDRAFT DAMPER
RFM		FEET PER MINUTE
RPM		REVOLUTIONS PER MINUTE
WC		INCHES OF WATER COLUMN
TSP		TOTAL STATIC PRESSURE
ΔP		PRESSURE DROP, PRESSURE DIFFERENCE
POC		POINT OF CONNECTION, NEW TO EXISTING
DISC		DISCONNECT TO POINT INDICATED
DIA		DIAMETER
EX		EXISTING TO REMAIN
RX		REMOVE EXISTING
RXS		REMOVE EXISTING AND SALVAGE FOR REUSE THIS CONT.
RS		REINSTALL SALVAGED EQUIPMENT
DN		DOWN
FM		FROM
CLG		CEILING
TYP		TYPICAL
MTD		MOUNTED
HP		HORSEPOWER
W/		WITH
W/O		WITHOUT
REF		REFERENCE TO INFO. FOUND ON OTHER DRAWINGS
FTB		FINISH FLOOR TO BOTTOM
UG, UF		UNDERGROUND, UNDER FLOOR
AF, BFF		ABOVE, BELOW FINISHED FLOOR
AFG, BFG		ABOVE, BELOW FINISHED GRADE
NC		NOT IN CONTRACT

EXHAUST FAN SCHEDULE											
MARK	AIR FLOW (CFM)	E.S.P. IN. WC	TYPE	DRIVE	RPM	ELECTRICAL			MANUFACTURER MODEL OR EQUAL	OPER. WEIGHT	REMARKS
						VOLTS	PHASE	AMPS	HP		
EF	3000	0.5	VENT SET	BELT	622	208	1	-	1	COOK	215, 1, 2

NOTES:

1. PROVIDE REDWOOD RUNNERS FOR FAN SUPPORT, ATTACH TO ROOF AS REQUIRED.
2. HARD WIRE FAN FOR CONTINUOUS OPERATION.

## LIST OF DRAWINGS

- M-1 LEGEND, SCHEDULES, DETAILS & SPECIFICATIONS  
M-2 HVAC ROOF PLAN

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## DETENTION CENTER

LAS VEGAS, NEVADA

## SHEET TITLE: LEGEND, SCHEDULES, DETAILS & SPECIFICATIONS

DRAWN BY  
 CHECKED BY  
 DATE  
 SCALE  
 NO. SCALE  
 JOB NUMBER  
 SHEET NUMBER

**M-1**



## SPECIFICATIONS

### GENERAL

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK.
2. FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS & INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
3. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE LISTED OR LABELED BY UL, OR OTHER RECOGNIZED TESTING FACILITY.
4. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
5. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO VERBALLY APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
6. EXAMINATION OF BIDDING DOCUMENTS
  - A. EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND, NOT LATER THAN SEVEN DAYS PRIOR TO THE DATE OF RECEIPT OF BIDS, SHALL MAKE WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR THEREIN WHICH HE MAY DISCOVER. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ARCHITECT. ONLY A WRITTEN INTERPRETATION OR CORRECTION BY ADDENDUM SHALL BE BINDING. NO BIDDER SHALL RELY UPON INTERPRETATIONS OR CORRECTIONS GIVEN BY ANY OTHER METHOD. IF DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR ARE NOT COVERED BY ADDENDUM OR WRITTEN DIRECTIVE, CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS AND METHODS OF CONSTRUCTION RESULTING IN HIGHER COST. AFTER AWARD OF CONTRACT, NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE.
  - B. THE PERSON SUBMITTING THE REQUEST WILL BE RESPONSIBLE FOR ITS PROMPT DELIVERY. FAILURE TO SO REQUEST CLARIFICATION OF ANY INADEQUACY, OMISSION OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE CONSIDERED IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH COMPREHENSION OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS.
7. CONTRACTOR SHALL REVIEW MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.
8. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID, COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
9. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER.
10. WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE APPROVED EDITIONS OF LOCAL, STATE, AND NATIONAL CODES, ORDINANCES, AND ADA REQUIREMENTS.
11. ALL MATERIALS SHALL BE NEW AND SIMILAR MATERIALS SHALL BE OF THE SAME MANUFACTURER.
12. PROVIDE PERMITS AND INSPECTIONS AS REQUIRED.
13. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIATED WITHOUT COST TO THE OWNER.
14. PROVIDE RECORD DRAWINGS TO THE OWNER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
15. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
16. PRESENT SHOP DRAWINGS SUBMITTAL DATA AT ONE TIME, BOUND IN THREE (3) RING BINDERS, INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO: WIRING DEVICES, SAFETY SWITCHES, FUSES, MOTOR STARTERS, LAMPS, CONDUIT AND CONDUIT FITTINGS.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
18. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.
19. SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.

### SWITCHGEAR

1. DISCONNECT SWITCHES SHALL MATCH EXISTING TYPE AND MANUFACTURER.
2. CIRCUIT BREAKERS SHALL MATCH EXISTING TYPE AND MANUFACTURER.
3. WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C.



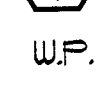
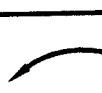
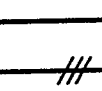
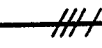
### MISC

1. SEE MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT TO EQUIPMENT AS REQUIRED.
2. WIRE SHALL BE COPPER.
3. CONDUITS PENETRATING THROUGH ROOF SHALL BE WATER TIGHT.
4. FINAL CONNECTIONS TO MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL TITE FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
5. INSTALLATION OF CONDUITS SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE.
6. ALL WIRING SHALL BE INSTALLED IN METALLIC RACEWAYS.
7. EMT FITTINGS SHALL BE STEEL SET SCREW TYPE.
8. FLEXIBLE METAL CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED. FLEXIBLE METAL CONDUIT SHALL NOT EXCEED 6 FEET IN LENGTH.
9. BOXES FOR WIRING DEVICES, ETC. SHALL BE MINIMUM 4' SQUARE.

### DEMOLITION

1. SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER. IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.
2. SERVICE SHALL BE MAINTAINED TO EXISTING AREAS DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE PORTABLE GENERATORS, CABLES, OUTLETS, ETC. AS REQUIRED TO MAINTAIN CONTINUITY OF SERVICE. PLACEMENT OF SUCH PORTABLE EQUIPMENT SHALL BE SUBJECT TO OWNER APPROVAL.
3. IMMEDIATELY AFTER AWARD OF CONTRACT, CONTRACTOR SHALL VERIFY AVAILABLE PHYSICAL SPACE AND AMPACITY OF EXISTING PANELBOARDS, SWITCHBOARDS, DISTRIBUTION BOARDS, MOTOR CONTROL CENTERS, ETC. AND PROVIDE WRITTEN DOCUMENTATION OF FINDINGS TO THE ARCHITECT/ENGINEER. DOCUMENTATION SHALL INCLUDE A MINIMUM 24 HOUR RECORDING AMPERE READINGS ON ALL EXISTING SWITCHGEAR BEING UTILIZED FOR THIS PROJECT.
4. CONTRACTOR SHALL PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.

## SYMBOL LIST

     	120/208V, 3 PHASE, 4 WIRE PANELBOARD. FUSED DISCONNECT SWITCH. SIZE AS INDICATED. MECHANICAL EQUIPMENT CONNECTION, SEE SCHED. ON MECH. PLAN INDICATES WEATHER-PROOF (NEMA 3R) CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING. HOMERUN TO PANEL 1/2" - 2 #2 THIN/THIN UNLESS NOTED 1/2" - 3 #2 1/2" - 4 #2
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DOES NOT INCLUDE GROUND WIRE. IF REQUIRED ADD CODE SIZE GROUND

### PRIOR TO COMMENCING WORK:

1. OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN.
2. COORDINATE INSTALLATION OF HVAC CONTROLS WITH MECHANICAL. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
3. OBTAIN SUBMITTALS AND SHOP DRAWINGS FROM ALL OTHER TRADES AND COORDINATE YOUR INSTALLATION ACCORDINGLY.
4. INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.
5. THOROUGHLY READ AND REVIEW ALL NOTES, SPECIFICATIONS, SYMBOL LISTS, SCHEDULES, ETC.
6. YOU ARE RESPONSIBLE FOR A COMPLETE INSTALLATION IN ACCORDANCE WITH ALL DOCUMENTS. CONTACT YOUR PRIME CONTRACTOR FOR A COMPLETE SET OF DOCUMENTS.

### LIST OF DRAWINGS

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|-----|--|
| E-1 | SYMBOL LIST, FIXTURE SCHEDULE & SPECIFICATIONS |
| E-2 | ELECTRICAL ROOF PLAN                           |

### REVISIONS

NO.	DESCRIPTION	DATE

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**DETENTION CENTER**

LAS VEGAS, NEVADA

SHEET TITLE:  
**SYMBOL LIST, FIXTURE SCHEDULE & SPECIFICATIONS**

DRAWN BY  
 JFS  
 CHECKED BY  
 BGG  
 DATE  
 03-05-03  
 SCALE  
 NO SCALE  
 JOB NUMBER  
 02-562  
 SHEET NUMBER

**E-1**

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