

RENOVATION GENERAL NOTES:

- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FULL COORDINATION OF PROJECT INCLUDING THE EQUIPMENT AND INSTALLATION OF THE MECHANICAL WORK.
- CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
- THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS (SEE SCHEDULES), THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES (ELECTRICAL, STRUCTURAL, ETC.). IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS SUBMITTED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND ALL HIS SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED.
- COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER, WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
- ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, OR COMPONENT.
- INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH.
- CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
- UNLESS NOTED OTHERWISE, THE INDICATION AND/OR DESCRIPTION OF ANY ITEM, IN THE DRAWINGS OR SPECIFICATIONS CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM.
- EXACT LOCATIONS OF ALL EQUIPMENT, DUCTS, DIFFUSERS, ETC. SHALL BE COORDINATED WITH OTHER TRADES. SLOPED PIPING (PLUMBING), LIGHTING, AND ELECTRICAL REQUIREMENTS TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL REQUIREMENTS. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING GRID AND LIGHTING LAYOUT FOR COORDINATION OF FINAL DIFFUSER LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ARCHITECTURAL, ELECTRICAL, AND OTHER DRAWINGS FOR COMPLETE INFORMATION PRIOR TO BID.
- NO OTHER TRADES, I.E., ELECTRICAL, CEILING, PLUMBING, ETC., SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
- REPLACE ALL ARCHITECTURAL FEATURES REMOVED OR DAMAGED DURING THE COURSE OF THE WORK.

HVAC GENERAL NOTES:

- REFER TO GENERAL NOTES ON DRAWING FOR ADDITIONAL REQUIREMENTS.
- ALL HVAC WORK TO BE PER SMACNA AND ALL APPLICABLE CODES.
- ALL DUCTS SHALL BE MOUNTED HIGH AS POSSIBLE AGAINST BOTTOM OF JOISTS EXCEPT AS REQUIRED TO AVOID CONFLICTS WITH INTERSECTING DUCTS. DIAGONALLY OFFSET DUCTS IMMEDIATELY BEFORE AND AFTER PASSING UNDER INTERSECTING DUCTS OR LARGE STRUCTURAL MEMBERS TO MAINTAIN DUCT TIGHT TO STRUCTURE.
- MAXIMUM 3'-0" FLEX DUCT ON ALL DIFFUSER RUNOUTS. CONNECTIONS TO FLEX DUCT SHALL BE SMOOTH ON AIRFLOW SIDE.
- PROVIDE STREAMLINE TAP AND MANUAL BALANCING DAMPER AT EACH CONNECTION OF ROUND BRANCH DUCTS TO A RECTANGULAR DUCT. DAMPERS SHALL BE ACCESSIBLE TO ALLOW FOR REQUIRED BALANCING.
- SUPPLY DUCTS SHALL BE EXTERNALLY INSULATED WITH FIBERGLASS INSULATION UNLESS OTHERWISE SHOWN. DUCT SIZES SHOWN ON PLANS INDICATE FREE AREA REQUIRED IN DUCTS. ADJUST DUCT SIZES FOR LINER WHERE APPLICABLE OR WHERE SHOWN. SEE SPECIFICATIONS FOR INSULATION TYPE AND STANDARDS.
- INSTALL NEW FILTERS AT THE COMPLETION OF CONSTRUCTION. USE ONE SET OF FILTERS DURING CONSTRUCTION. INSTALL FINAL SET PRIOR TO TEST AND BALANCE.
- BALANCE AIR SYSTEM TO PROVIDE INDICATED AIR FLOWS. SEE SPECIFICATIONS FOR OTHER TEST AND BALANCE REQUIREMENTS. SUBMIT FINAL BALANCE OF AIR AND WATER SYSTEMS (FLOW AND TEMPERATURE) FOR REVIEW.
- MECHANICAL CONTRACTOR (MC) SHALL COORDINATE AND VERIFY THE FOLLOWING WITH THE ELECTRICAL CONTRACTOR (EC) PRIOR TO BID:
 - A) DISCONNECTS:
 - WHERE NOT FURNISHED WITH EQUIPMENT: FURNISHED BY EC, INSTALLED BY EC.
 - WHERE FURNISHED WITH EQUIPMENT: FURNISHED BY MC, INSTALLED BY EC.
- COORDINATE FINAL PLACEMENT OF ALL THERMOSTATS WITH OWNER AND ENGINEER. ANY THERMOSTAT THAT IS REQUIRED TO BE MOUNTED ON AN EXTERIOR WALL SHALL BE MOUNTED ON AN INSULATED PAD.

ONE LINE PIPE SYMBOLS

—TWS—	SUPPLY FROM TOWER
—TWR—	RETURN TO TOWER
—HWS—	HEATING WATER SUPPLY
—HWR—	HEATING WATER RETURN
—DHWS—	DISTRICT HEATING WATER SUPPLY
—DHR—	DISTRICT HEATING WATER RETURN
—CHS—	CHILLED WATER SUPPLY
—CHR—	CHILLED WATER RETURN
—DCHS—	DISTRICT CHILLED WATER SUPPLY
—DCHR—	DISTRICT CHILLED WATER RETURN
—SCHS—	SECONDARY CHILLED WATER SUPPLY
—SCHR—	SECONDARY CHILLED WATER RETURN
—D—	CONDENSATE DRAIN
—S12—	STEAM SUPPLY (PRESSURE NOTED)
—SR12—	STEAM RETURN (PRESSURE NOTED)
—PSR—	PUMPED STEAM RETURN
—BFW—	BOILER FEEDWATER
—B—	BALL VALVE
—B—	BUTTERFLY VALVE (LEVER HANDLE)
—B—	BUTTERFLY VALVE (GEAR OPERATOR)
—G—	GATE VALVE
—G—	OS & Y GATE VALVE
—G—	GLOBE VALVE
—C—	CHECK VALVE (SWING CHECK)
—C—	CHECK VALVE (BUTTERFLY CHECK)
—P—	PRESSURE REDUCING VALVE
—F—	FLOW LIMITING VALVE
—C—	CALIBRATED BALANCING VALVE
—V—	VALVE AT RISER
—S—	STRAINER W/ DRAIN VALVE
—U—	UNION
—A—	AIR TERMINAL / FAN COIL UNIT/HOT WATER RETURN CONTROL VALVE (2-WAY) ELECTRIC OR ELECTRONIC
—A—	AIR TERMINAL / FAN COIL UNIT CONTROL VALVE (3-WAY) ELECTRIC OR ELECTRONIC
—C—	CONTROL VALVE (2-WAY) ELECTRIC OR ELECTRONIC
—C—	CONTROL VALVE (3-WAY) ELECTRIC OR ELECTRONIC

ONE LINE PIPE SYMBOLS

—C—	CONTROL VALVE (3-WAY) ELECTRIC OR ELECTRONIC
—C—	CONTROL VALVE (2-WAY) PNEUMATIC
—C—	CONTROL VALVE (3-WAY) PNEUMATIC
—S—	EMERGENCY SHUT-OFF VALVE WITH FUSIBLE LINK
—F—	FLEXIBLE PIPE CONNECTOR
—M—	METAL BELLOWS PUMP CONNECTOR
—A—	AIR VENT (A - AUTO, H - HAND)
—P—	PRESSURE AND TEMPERATURE TAP
—G—	PRESSURE GAUGE
—G—	PRESSURE GAUGE W/ SIPHON
—T—	THERMOMETER W/ INSERTION WELL
—X—	ANCHOR
—P—	PIPE GUIDE
—F—	FLANGE
—E—	ELBOW, TURNED UP
—E—	ELBOW, TURNED DOWN
—E—	RISE OR DROP IN PIPE
—E—	ELBOW
—T—	TEE, SIDE CONNECTION
—T—	TEE, OUTLET UP
—T—	TEE, OUTLET DOWN
—O—	CAPPED OUTLET
—C—	CAPPED PIPE
—R—	CONCENTRIC REDUCER
—R—	ECCENTRIC REDUCER
—S—	STEAM TRAP (DRIP LEG)
—S—	STEAM TRAP
—D—	DIRECTION OF PITCH
—D—	PIPE TO FLOOR DRAIN
—E—	EMERGENCY MANAGEMENT SYSTEM INSERTION WELL

TWO LINE PIPE SYMBOLS

—E—	ELBOW - FLANGED LONG RADIUS 45°
—E—	ELBOW - FLANGED LONG RADIUS 90°
—E—	ELBOW - WELDED LONG RADIUS 45°
—E—	ELBOW - WELDED LONG RADIUS 90°
—E—	END CAP
—F—	FLANGES - SLIP ON
—F—	FLANGES - WELD NECK
—R—	REDUCERS - FLANGED CONCENTRIC
—R—	REDUCERS - FLANGED ECCENTRIC
—R—	REDUCERS - WELDED CONCENTRIC
—R—	REDUCERS - WELDED ECCENTRIC
—T—	TEE - FLANGED
—T—	TEE - WELDED
—B—	BUTTERFLY VALVE - LEVER OPERATOR
—B—	BUTTERFLY VALVE - WORM GEAR OPERATOR
—B—	BUTTERFLY VALVE - ACTUATOR
—C—	CHECK VALVE - SWING CHECK
—C—	CHECK VALVE - SILENT OR WAFER
—G—	GATE VALVE - NON RISING STEM
—G—	GATE VALVE - OUTSIDE STEM AND YOKE
—G—	GLOBE VALVE
—S—	STRAINER - Y
—S—	STRAINER - BASKET
—S—	SUCTION DIFFUSER
—F—	FLEXIBLE CONNECTORS

DUCTWORK SYMBOLS

—T—	THERMOSTAT
—W—	THERMOSTAT WIRING
—H—	HUMIDISTAT
—TS—	TEMPERATURE SENSOR
—FM—	GPM FLUID FLOW METER
—SA—	SUPPLY AIR DUCT
—RA—	RETURN AIR DUCT
—EA—	EXHAUST AIR DUCT
—CFM—	CUBIC FEET PER MINUTE
—EMS—	ENERGY MANAGEMENT SYSTEM
—ATC—	AUTOMATIC TEMP CONTROLS
—CO2—	CARBON DIOXIDE
—PPM—	PARTS PER MILLION
—Ø—	ROUND DIAMETER
—O—	FLAT OVAL (MAJOR/MINOR)
—E—	SHORT (1x) RADIUS ELL (RECTANGULAR OR ROUND) CENTERLINE RADIUS = 1d
—E—	LONG (1.5x) RADIUS ELL (ROUND OR OVAL) CENTERLINE RADIUS = 1.5d
—E—	SQUARE ELL
—E—	ELL WITH TURNING VANES
—T—	STREAMLINE TAP (RECTANGULAR)
—T—	STREAMLINE TAP (ROUND)
—T—	CONICAL TAP
—T—	STRAIGHT TAP
—T—	LATERAL TAP
—D—	MANUAL VOLUME DAMPER
—D—	MOTORIZED VOLUME DAMPER
—D—	FIRE DAMPER (FD)
—D—	SMOKE DAMPER
—D—	COMBINATION FIRE / SMOKE DAMPER (FD/S)
—D—	RECTANGULAR DUCT (WIDTH/DEPTH)
—D—	ROUND DUCT OFFSET
—R—	CHANGE IN ELEVATION (RISE, FALL)
—F—	FLEXIBLE DUCT
—S—	SUPPLY DUCT UP
—S—	RETURN DUCT UP
—S—	EXHAUST DUCT UP
—S—	SUPPLY DUCT DOWN
—S—	RETURN DUCT DOWN
—S—	EXHAUST DUCT DOWN
—D—	CEILING DIFFUSER
—D—	RETURN AIR GRILLE
—D—	EXHAUST AIR GRILLE
—A—	ACCESS PANEL
—A—	ACCESS PANEL IN ROUND OR OVAL DUCT
—X—	TYPE - THROW } SUPPLY AIR CFM } DEVICE
—X—	TYPE - RETURN/EXHAUST CFM } AIR DEVICE

DEMOLITION AND RENOVATION SYMBOLS

—X—	EQUIPMENT TO BE REMOVED
—X—	EXISTING EQUIPMENT
—X—	NEW EQUIPMENT
—X—	POINT OF CONNECTION TO EXISTING
—X—	TERMINATION OF DEMOLITION
—X—	DUCT TO BE REMOVED
—X—	EXISTING DUCT TO REMAIN
—X—	NEW DUCT
—X—	PIPING TO BE REMOVED
—X—	EXISTING PIPING TO REMAIN
—X—	NEW PIPING



7/1/16

**Fire Station Renovation and
Police Station Addition**
Building 7200 - Camp Joseph T. Robinson
North Little Rock, Arkansas

REVISIONS

ISSUE DATE
07/01/2016

PROJECT NO.
0901U

CONTENTS
GENERAL NOTES
AND LEGENDS -
HVAC

SHEET NUMBER

M0.0