NEXT ASS'Y: FINAL ASS'Y:

# MECHANICAL LEGEND

## PLUMBING

| SYMBOL | DESCRIPTION |
|---|---|
| | ACTUATOR |
| AAV | AUTOMATIC AIR VENT |
| AV | AIR VENT (MANUAL) |
| BFP | BACK FLOW PREVENTER |
| | BALANCING FLOW CONTROL VALVE |
| | BALANCE VALVE / CIRCUIT SETTER VALVE |
| | BALANCE VALVE |
| | BALL VALVE |
| | BUTTERFLY VALVE |
| | BUTTERFLY VALVE |
| | CALIBRATED BALANCE VALVE |
| | CHECK VALVE |
| | FLOAT VALVE |
| | GATE VALVE |
| | GATE VALVE NORMALLY CLOSED |
| | GLOBE VALVE |
| P | PRESSURE GAUGE WITH COCK |
| | PRESSURE REDUCING VALVE |
| | PRESSURE REGULATING VALVE |
| | PRESSURE RELIEF VALVE |
| | PUMP SUCTION DIFFUSER |
| | STRAINER WITH DRAIN VALVE |
| | THREE WAY CONTROL VALVE |
| VTR | VENT THRU ROOF |
| WHA | WATER HAMMER ARRESTOR |
| | CAP OR PLUG |
| | CONCENTRIC REDUCER |
| | CONNECTION - DOWN |
| | CONNECTION - UP |
| | ECCENTRIC REDUCER |
| | ELBOW DOWN |
| | ELBOW IN PLAN |
| | ELBOW UP |
| | EXPOSED CLEAN OUT |
| | FLANGED JOINT |
| | FLEXIBLE CONNECTION |
| FCO | FLOOR CLEAN OUT |
| | FLOOR DRAIN |
| FD | FLOOR DRAIN |
| FS | FLOOR SINK |
| HB | HOSE BIBB |
| | HOSE CONNECTION |
| | INDIRECT WASTE |
| | PEET PLUG |
| | QUICK DISCONNECT |

| SYMBOL | DESCRIPTION |
|---|---|
| | PIPE ANCHOR |
| | PIPE EXPANSION JOINT |
| | PIPE SLEEVE OR GUIDE |
| | PIPE SUPPORT |
| | POINT OF CONNECTION |
| RD | ROOF DRAIN |
| RDO | ROOF DRAIN OVERFLOW |
| | SIGHT GLASS |
| | TEE DOWN |
| | TEE UP |
| | THEROMO WELL |
| | THERMOMETER WELL |
| | UNION |
| WCO | WALL CLEAN OUT |
| YCO | YARD CLEAN OUT |
| | FAN |
| | CENTRIFUGAL PUMP (FLOW SHEETS) |
| | WALL MOUNTED PUMP |
| | CENTRIFUGAL PUMP |
| | CENTRIFUGAL PUMP (DOUBLE SUCTION) |
| MH | MANHOLE |
| | EXPANSION BELLOWS. |

| LEGEND | DESCRIPTION |
|---|---|
| CHWR | CHILLED WATER RETURN (COOLING) |
| CHWS | CHILLED WATER SUPPLY (COOLING) |
| CA | COMPRESSED AIR OUTLET |
| CA | COMPRESSED AIR (PLAN AIR) |
| CD | CONDENSATE DRAIN |
| CD | CONDENSATION DRAIN (HVAC) |
| CNDR | CONDENSER WATER RETURN |
| CNDS | CONDENSER WATER SUPPLY |
| DIR | DEIONIZED WATER RETURN (HVAC) |
| DIS | DEIONIZED WATER SUPPLY (HVAC) |
| | DIRECTION OF FLOW |
| | DIRECTION OF SLOPE |
| D | DRAIN |
| FWD | FIRE WATER |
| | HEAT TRACE |
| HWR | HOT WATER RETURN (HEATING) |
| HWS | HOT WATER SUPPLY (HEATING) |
| NG | NATURAL GAS (FUEL GAS PIPING) |
| OFL | OVER FLOW (RAIN WATER) LEADER |
| SWHR | SANITARY (POTABLE) WATER HOT ( RETURN) |
| SWHS | SANITARY (POTABLE) WATER HOT ( SUPPLY) |

| LEGEND | DESCRIPTION |
|---|---|
| SWC | SANITARY (POTABLE) WATER COLD |
| POW | POLISHED WATER |
| PW | PROCESS WATER |
| PD | PROCESS DRAINAGE |
| RWL | RAIN WATER LEADER |
| RL | REFRIGERANT LIQUID (5) |
| RS | REFRIGERANT SUCTION |
| SS | SANITARY SEWER LINE |
| | SOIL OR WASTE PIPE ABOVE GRADE |
| | SOIL OR WASTE PIPE BELOW GRADE |
| SD | STORM DRAIN |
| TWR | TOWER WATER RETURN (TECHNICAL EQ. COOLING) |
| TWS | TOWER WATER SUPPLY (TECHNICAL EQ. COOLING) |
| V | VENT |

## HVAC - CONTROLS

| SYMBOL | DESCRIPTION |
|---|---|
| LI | LEVEL INDICATOR (BOILER WATER) |
| C | CONTROLLER |
| DM | DAMPER MOTOR |
| DP | DIFFERENTIAL PRESSURE GAUGE |
| DPS | DIFFERENTIAL PRESSURE SENSOR |
| ES | END-SWITCH (POSITION DAMPER INDICATION) |
| FE | FLOW ELEMENT |
| FI | FLOW INDICATOR |
| FM | FLOW METER |
| FT | FLOW TRANSMITTER |
| G | GEAR OPERATOR |
| HOA | HAND-OFF-AUTOMATIC SWITCH |
| MS | MANUAL SWITCH |
| M | MOTOR |
| STR | MOTOR STARTER AT MOTOR CONTROL CENTER |
| O | ON-OFF STATUS SIGNAL |
| P | PRESSURE ELEMENT |
| PE | PNEUMATIC/ELECTRIC SWITCH |
| POS | POSITION SWITCH |
| PI | PRESSURE INDICATOR |
| RC | RECEIVER CONTROLLER |
| RH | RELATIVE HUMIDITY |
| RE | RESISTIVITY ELEMENT |
| RTD | RESISTANCE THERMAL DEVICE |
| SD | SMOKE DETECTOR |
| DSD | DUCT SMOKE DETECTOR |
| S | START/STOP INTERFACE |

## HVAC

| SYMBOL | DESCRIPTION |
|---|---|
| S/S | START/STOP SWITCH |
| LL | LOW-LEVEL (FREEZE-PROTECTION) |
| T | IN-DUCT THERMOSTAT |
| T | ROOM THERMOSTAT |
| T | TEMPERATURE SENSING ELEMENT |
| TT | TEMPERATURE TRANSMITTER |
| VFD | VARIABLE FREQUENCY DRIVE |
| WS | WATER FLOW SWITCH |
| | POWER/INTERLOCK WIRING |
| | CONTROL SIGNAL CABLE |
| DS | DOOR SWITCH |

## HVAC - DUCTWORK & EQUIPMENT

| SYMBOL | DESCRIPTION |
|---|---|
| | CEILING FAN |
| | DIFFUSER / GRILLE CALLOUT CFM (CFM FUTURE)<br>THROW DIRECTION<br>TYPE AS PER SCHEDULE<br>NECK SIZE |
| 200<br>816CD-2<br>4-WAY | CEILING (SUPPLY) DIFFUSER<br>CAPACITY (200 CFM)<br>NECK SIZE (8"ø)<br>OUTLET SIZE (16"x16")<br>TYPE AS PER SCHEDULE<br>DIRECTION OF FLOW |
| 400<br>12x12 CG-1 | CEILING (EXHAUST) GRILLE<br>CAPACITY (400 CFM)<br>TYPE AS PER SCHEDULE<br>OUTLET SIZE (12"x12") |
| 500<br>24x24 CR-1 | CEILING (RETURN) REGISTER<br>CAPACITY (500 CFM)<br>TYPE AS PER SCHEDULE<br>OUTLET SIZE (24"x24") |
| 000<br>00x00 RR-1 | SIDEWALL (RETURN) REGISTER<br>CAPACITY (CFM)<br>OUTLET SIZE (00"Wx00"D)<br>TYPE AS PER SCHEDULE |
| 000<br>24"x12" SR-1 | SIDEWALL (SUPPLY) REGISTER<br>OUTLET SIZE (24"Wx12"D)<br>TYPE AS PER SCHEDULE |
| FAC | COMBINATION FIRE APPARATUS CABINET |
| C / C | COOLING COIL |
| VD | DUCT BRANCH TAKE-OFF WITH REFERENCE TO AIR FLOW |
| | DUCT BRANCH WITH ADJUSTABLE EXTRACTOR |
| 24x12 | DUCT SIZE, (WIDTHxDEPTH) |
| RHC | RE-HEAT COIL (IN-DUCT) |
| | EXHAUST DUCT |
| F / F | FINAL FILTERS |

| SYMBOL | DESCRIPTION |
|---|---|
| | FAN POWERED VAV BOX W/H.W. REHEAT COIL |
| | FLEXIBLE DUCT CONNECTION |
| H / C | HEATING COIL |
| DN | INCLINED DROP IN DUCT WITH REFERENCE |
| R | INCLINED DROP IN DUCT WITH REFERENCE |
| | LINEAR SLOT DIFFUSER |
| M | MOTORIZED CONTROL DAMPER |
| VD | OPPOSED BLADE DAMPER WITH LOCK QUADRANT |
| | RETURN DUCT |
| | VAV BOX W/H.W. REHEAT COIL |
| | SPLITTER DAMPER |
| | SQUARE ELBOW WITH TURNING VANES |
| | SUPPLY DUCT |
| T 8 | THERMOSTAT WITH REHEAT BOX IDENTIFICATION |
| | TRANSITION FROM RECTANGULAR TO ROUND |
| VD | VOLUME DAMPER (MANUAL) |
| | ACOUSTICAL OR INTERIOR DUCT LINING |
| | AIR DUCT RETURN OR EXHAUST, SECTION |
| | AIR DUCT SUPPLY, SECTION |
| FD | AUTOMATIC FIRE DAMPER |
| SFD | SMOKE/FIRE DAMPER |
| | UNIT HEATER (HORIZONTAL) |
| | UNIT HEATER (VERTICAL) |
| DS | DUCT SUPPORT |
| | "PITOT" STATIC TUBE TRAVERSE |
| SC PF T H T H T | FIRE SCREEN, PREFILTER, TEST SECTION, HEPA FILTER, TEST SECTION, HEPA FILTER, TEST SECTION. |
| | DENOTES SAFETY CLASS (SSC). SUBSTITUTIONS FOR SSC COMPONENTS MAY NOT BE MADE WITHOUT THE PROPER AUTHORITY. |
| | DENOTES SAFETY SIGNIFICANT COMPONENT (SSC). SUBSTITUTIONS FOR SSC COMPONENTS MAY NOT BE MADE WITHOUT THE PROPER AUTHORITY. |
| | HUMIDIFIER |

## GENERAL NOTES:

A. ALL WORK SHALL BE IN ACCORDANCE WITH ALL FEDERAL CODES AND ORDINANCES.

B. THE CONTRACTOR SHALL READ ALL OF THE GENERAL NOTES, SPECIFICATIONS AND PLANS AND SHALL BE SATISFIED TO THEIR TRUE MEANING AND INTENT AND SHALL BE RESPONSIBLE FOR COMPLYING WITH EACH. WHEREVER TWO OR MORE SPECIFICATIONS OR PLANS AND SPECIFICATIONS MAY CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL TAKE PRECEDENCE.

C. IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIAL NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THIS WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES THAT MAY EXIST IN THE PLANS AND/OR SPECIFICATIONS PRIOR TO SUBMITTING BID. THE CONSTRUCTION MANAGER AND THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE.

D. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE CONSTRUCTION MANAGER.

E. CONTRACTOR SHALL INSTALL ALL PIPING AND DUCTWORK SYSTEMS TO BEST SUIT FIELD CONDITIONS, AND COORDINATE WITH THE INSTALLATION WORK OF OTHER TRADES. THE DRAWINGS ARE DIAGRAMMATIC BUT MAY BE SCALED TO DETERMINE THE APPROXIMATE LOCATION OF PIPING AND DUCTWORK. NOTIFY THE CONSTRUCTION MANAGER OF ANY DEVIATIONS FROM THESE DRAWINGS PRIOR TO FABRICATION AND/OR INSTALLATION.

F. LOCATIONS AND DIMENSIONS OF EQUIPMENT, PIPING, AND THEIR SUPPORTS ARE SHOWN DIAGRAMMATICALLY BUT MAY BE SCALED TO DETERMINE THE APPROXIMATE LOCATION OF PIPING OR DUCTWORK. ACTUAL DIMENSIONS AND LOCATIONS ARE DEPENDENT ON MATERIAL SUPPLIED BY CONTRACTORS. CONTRACTORS SHALL PROVIDE OR DETERMINE DIMENSIONS AND PROVIDE LAYOUT DRAWINGS FOR COORDINATION WITH OTHER TRADES IN ACCORDANCE WITH THE SPECIFICATIONS.

G. DEAD LEGS OVER 6" LONG IN PIPING ARE PROHIBITED.

H. ACCESS AROUND CABLE TRAYS SHALL BE MAINTAINED AS FOLLOWS: 24" ON EITHER SIDE, 12" ABOVE. OTHER SYSTEMS SHALL NOT BE MOUNTED TO CHANNEL SUPPORT TRAPEZE FOR THE CABLE TRAY OR TO CABLE TRAY. SEE ELECTRICAL DRAWINGS FOR CABLE TRAY LOCATIONS.

I. CLEAN ALL DUCTWORK IN THE SHOP PRIOR TO SHIPPING. ALL DUCTWORK SHALL BE TRANSPORTED TO THE SITE IN COVERED VANS TO ELIMINATE CONTAMINATION OR SHALL BE SEALED PRIOR TO SHIPMENT AND SHALL BE PROTECTED FROM CONTAMINATION AT THE SITE. AFTER FABRICATION, AND DURING AND AFTER INSTALLATION, SEAL SECTIONS OF OPEN DUCTWORK WITH PLASTIC SHEETING TO PREVENT THE INTRUSION OF DIRT AND DEBRIS.

J. CONTRACTOR SHALL REMOVE RUBBISH WASTE MATERIALS ON DAILY BASIS AND PROTECT AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE WHICH MAY OCCUR.

K. PROVIDE VALVED DRAIN SYSTEM AT THE LOW POINTS IN EACH LIQUID PIPING SYSTEM AND A MANUAL AIR VENT IN EACH PIPING SECTIONS THAT CAN TRAP AIR.

L. ALL VALVES AND OTHER PIPING SYSTEM SPECIALTIES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.

M. ALL PIPING IS TO BE FLUSHED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS

N. UNIONS, BRUSHINGS, TRANSITIONS AND/OR REDUCING INSERTS, ETC. NOT SHOWN ON DRAWINGS BUT REQUIRED FOR INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

O. CONTRACTOR IS RESPONSIBLE FOR FIELD ROUTING DRAIN PIPING FROM EQUIPMENT, ETC. TO THE APPROPRIATE WASTE WATER SYSTEM.

P. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE SO THERE WILL BE COUNTER FLOW BETWEEN WATER AND AIR.

Q. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.

R. FURNISH AND INSTALL SYSTEMS, UNITS, EQUIPMENT, AND PARTS TO MEET OR EXCEED CURRENT APPLICABLE REQUIREMENTS FOR SEISMIC RESISTANCE SPECIFIED BY CODES, REGULATIONS, OR AGENCIES HAVING JURISDICTION. INCLUDE ALL SUPPORTS, ANCHORS, BRACES, AND OTHER RESTRAINING DEVICES REQUIRED. ALL SEISMIC RESTRAINTS SHALL MEET SEISMIC ZONE 2A REQUIREMENTS OF STD. BLDG. CODES AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. SEISMIC JOINTS HAVE 6" MOVEMENT IN ALL DIRECTIONS AT INTERCONNECT AND 4" MOVEMENT AT ALL OTHER LOCATIONS.

S. ALL PIPES AND DUCTS PENETRATING FIRE SEPARATIONS SHALL HAVE UL APPROVED FIRE RATED ASSEMBLY.

T. ALL WORK SHOWN ANYWHERE ON THE DRAWINGS IS INCLUDED; SHOULD AN ITEM (SUCH AS A VALVE) BE SHOWN ON A DETAIL OR SCHEMATIC BUT NOT ON A PLAN VIEW OR VICE VERSA, IT MUST BE PROVIDED AS THOUGH IT WERE SHOWN IN ALL PLACES ON THE DRAWINGS.

U. THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS IN FULL COMPLIANCE WITH SPECIFICATIONS.

V. PROVIDE ACCESS DOORS FOR ALL ITEMS CONCEALED WITHIN BUILDING STRUCTURE WHICH REQUIRE SERVICE.

W. KEEP DUCTS A MINIMUM OF 12" ABOVE CEILINGS EXCEPT FOR BRANCH DUCTS TO SERVE DIFFUSERS.

X. ALL DUCT PENETRATIONS OF THE FIRE-RESISTIVE CONSTRUCTION OF HORIZONTAL EXIT CORRIDORS SERVING AS MEANS OF EGRESS AND HAVING NO OPENING SERVING THE CORRIDOR SHALL BE OF NOT LESS THAN 0.019 INCH THICKNESS (NO 26 GALVANIZED SHEET STEEL GAGE).

Y. ALL EQUIPMENT, PIPING AND DUCTWORK SHALL BE PERMANENTLY IDENTIFIED AND LABELED AS REQUIRED IN THE SPECIFICATIONS.

Z. COORDINATE ANY BELOW SLAB WORK OR PENETRATIONS THRU CONCRETE WITH STRUCTURAL MEMBERS.

AA. KEEP ALL PIPING BOP ELEVATIONS WHERE INDICATED AND OFFSET AS REQUIRED.

BB. WHERE MAIN PIPE SIZE IS NOT INDICATED BETWEEN BRANCH CONNECTIONS IN THE DRAWING, THE PIPE SIZE SHALL BE OF THE LARGER PRECEDING PIPE SIZE.

CC. ALL MECHANICAL UTILITY PIPING AND DUCTWORK SHALL BE INSTALLED TO 5'-0" BEYOND THE NORMAL ENVELOPE OF THE BUILDING OR AS SHOWN ON DRAWINGS.

DD. ALL UNDERGROUND MECHANICAL UTILITY PIPING AND DUCTWORK SHALL HAVE A MINIMUM OF 3'-0" OF COMPACTED EARTH COVER.

EE. ALL PROCESS WASTE PIPING FLOWING BY GRAVITY SHALL HAVE A MINIMUM SLOPE OF ONE PERCENT. AS NOTED ON DRAWINGS

FF. ALL MECHANICAL UTILITY SERVICES SHOWN ON THESE DRAWINGS ARE LABELED FROM LEFT TO RIGHT AND FROM TOP TO BOTTOM WHEN A GROUP OF PIPING OR DUCTWORK ARE IDENTIFIED.

(3) GG. DELETED!!

HH. SITE UTILITIES DRAWINGS (UHU SERIES DRAWINGS) NORTH (N) AND EAST (E) COORDINATES REFERENCE THE SNS COORDINATE SYSTEM NAD 83 (88). THE SNS GRID ORIGIN POINT IS LOCATED AT X-10 GRID COORDINATES N-27,612.730950 AND E-38,196.144070 WITH THE SNS GRID BEING ROTATED 6 DEGREES CLOCKWISE FROM THE X-10 GRID AT THAT POINT. (88) REFERS TO THE YEAR MARTIN MARIETTA ENERGY SYSTEM (MMES) ESTABLISHED G.P.S. MONUMENTS ON THE OAK RIDGE RESERVATION USING VALUES PUBLISHED IN 1986 BY THE TN. DEPARTMENT OF TRANSPORTATION, WHICH TIED THE MMES G.P.S. MONUMENTS TO THE TN GEODETIC REFERENCE NETWORK SYSTEM.

II. FINAL DUCT TIE-INS TO EQUIPMENT SHALL BE ADJUSTED TO ACCOMODATE ACTUAL CONNECTION SIZES.

JJ. UNLESS NOTED, ALL CONNECTIONS TO VAV INLETS WILL BE THE SAME SIZE AS THE TERMINAL BOX CONNECTION.

KK. MAXIMUM LENGTH OF FLEX DUCT RUNOUTS SHALL NOT EXCEED 4'-0".

(5) LL. ALL COILS SHALL BE CONNECTED FOR COUNTERFLOW OPERATION.

MM. ALL THERMOMETERS AND TEMPERATURE SENSORS SHOWN IN THE FLOW DIAGRAMS WILL BE PROVIDED BY OTHERS. UNDER THIS CONTRACT FURNISH AND INSTALL A 3/4" THREAD-O-LET AT THE APPROXIMATE LOCATIONS INDICATED. THE THREAD-O-LETS WILL BE PLUGGED IN THE FIELD TO ALLOW FOR HYDROSTATIC PRESSURE TESTING. MATERIALS FOR THE THREAD-O-LETS SHALL MATCH THE PIPING IN WHICH THEY ARE BEING INSTALLED.

NN. ALL PRESSURE GAUGES AND PRESSURE SENSORS SHOWN IN THE FLOW DIAGRAMS WILL BE PROVIDED BY OTHERS. UNDER THIS CONTRACT FURNISH AND INSTALL A 1/2" THREAD-O-LET AT THE APPROXIMATE LOCATIONS INDICATED. THE THREAD-O-LETS WILL BE PLUGGED IN THE FIELD TO ALLOW FOR HYDROSTATIC PRESSURE TESTING. MATERIALS FOR THE THREAD-O-LETS SHALL MATCH THE PIPING IN WHICH THEY ARE BEING INSTALLED.

OO. ALL IN-LINE CONTROL VALVES WILL BE FURNISHED BY OTHERS AND INSTALLED UNDER THIS CONTRACT.

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO BIDDER ARE NOT TO BE USED FOR OTHER PURPOSES AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

SECTION AND DETAIL KEY: NUMBER OF SECTION OR DETAIL; DRAWING ON WHICH SECTION OR DETAIL IS SHOWN OR TAKEN

THIS DOCUMENT CONTROLLED BY CHANGE CONTROL SYSTEM 4
ENGINEERING PROCEDURE SNS-ENG-G001

| REV | CHANGE TYPE | CHANGE CONTROL SYSTEM | CHANGE REQUEST NUMBER | DESCRIPTION | DSN | CHK | DEPT | DATE | PE | DATE | PJ | DATE | REQ | DATE | UTB | DATE | RPE | RPE NO | DATE | ST | CV | EC | EE | EM | IE | M | PD | SE | AR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | | | | TARGET - CERTIFIED FOR CONSTRUCTION - 10/26/01 | MMK | BWJ | | | MD | 11/15/01 | RAD | 11/12/01 | | | JRL | 11/14/01 | BWJ | 105869 | 10/26/01 | REW | - | WRS | AK | WRS | BWJ | - | MP | - | ED |
| 7 | | | | BASIS OF AWARD - 10/03/01 | JG | BS | | | CJG | 10/9/01 | TM | 10/8/01 | | | JRL | 10/9/01 | BWJ | 105869 | 10/3/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 6 | | | | CERTIFIED FOR CONSTRUCTION - 8/3/01 | MMK | BWJ | | | CJG | 8/9/01 | RAD | 8/6/01 | | | JRL | 8/7/01 | BWJ | 105869 | 8/3/01 | REW | - | WRS | RL | WRS | BWJ | - | RM | - | WAS |
| 5 | | | | CERTIFIED FOR CONSTRUCTION - 7/27/01 | JG | BS | | | CJG | 7/27/01 | TM | 7/27/01 | | | JRL | 7/27/01 | BWJ | 105869 | 7/27/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 4 | - | - | - | CERTIFIED FOR CONSTRUCTION - 7/13/01 | JG | BS | | | CJG | 7/17/01 | TM | 7/16/01 | | | JRL | 7/17/01 | BWJ | 105869 | 7/13/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 3 | - | - | - | CERTIFIED FOR CONSTRUCTION - 6/27/01 | JG | BS | | | CJG | 6/28/01 | TM | 6/28/01 | | | JRL | 6/28/01 | BWJ | 105869 | 6/27/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 2 | | | | CERTIFIED FOR CONSTRUCTION - 5/15/01 | JG | BS | | | CJG | 5/15/01 | TM | 5/15/01 | | | JRL | 5/15/01 | BWJ | 105869 | 5/15/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 1 | | | | TARGET-SUBSTRUCTURES CERTIFIED FOR CONSTRUCTION - 4/18/01 | JG | BS | | | CJG | 4/18/01 | TM | 4/18/01 | | | JRL | 4/18/01 | BWJ | 105869 | 4/18/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |
| 0 | | | | CFC FE/LN SUBSTRUCTURE SUBMITTAL - 3/30/01 | JG | BS | | | CJG | 4/6/01 | TM | 4/6/01 | | | JRL | 4/6/01 | BWJ | 105869 | 3/30/01 | SC | AW | BS | RL | BS | BJ | - | BS | - | WS |

REVISION OR ISSUE PURPOSE — REVISION APPROVALS — SQUAD CHECK

RPE: BRUCE W. JOHNSON, REGISTERED ENGINEER, AGRICULTURE, COMMERCE, No. 00105869, STATE OF TENNESSEE — REV. 8, DATE 10/26/01

| DRAWING APPROVALS | | |
|---|---|---|
| DSN | M.KEHOE | 10/26/01 |
| DRW | J. STEIN | 10/26/01 |
| CHK | B. JOHNSON | 10/26/01 |
| DEPT | | |
| PE | C.GARREN | 10/9/01 |
| PJ | R.DEAN | |
| REQ | | |
| UTB | JR LAWSON | 10/9/01 |

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PROJECT NAME: SPALLATION NEUTRON SOURCE

# MECHANICAL SYMBOLS

| 1 | 48 | 49 | 50 | PLANT | BLDG | FL | SH. | OF | TYPE | CLASS |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | H | X | X | 8 | 8000 | | 1 | 1 | G | U |

| 51 | 52 | 53 | WBS | | REV |
|---|---|---|---|---|---|
| NC | NA | | 1.8 | H0.00.01 | 8 |



AutoCAD