## LEGEND

- CH — COOLING/HEATING WATER SUPPLY
- CHR — COOLING/HEATING RETURN
- HWH — HOT WATER HEATING SUPPLY
- HWHR — HOT WATER HEATING RETURN
- CD — COOLING CONDENSATE DRAIN
- UNION
- SHUT-OFF VALVE
- PLUG VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE
- RELIEF VALVE
- STRAINER
- PRESSURE GAUGE
- THERMOMETER
- TRAP
- THERMOWELL
- PA — PIPE ANCHOR
- POINT OF CONNECTION NEW TO EXISTING
- ELBOW – UP
- ELBOW – DN
- TEE
- BRANCH OFF TOP
- BRANCH OFF BOTTOM
- M — CONTROL VALVE
- AUTOMATIC AIR VENT
- TRIPLE DUTY VALVE
- PUMP
- ACOUSTICALLY LINED DUCTWORK
- FLEXIBLE DUCT
- SQUARE TO ROUND TRANSITION
- SQUARE-THROATED ELBOW WITH TURNING VANES
- R — RADIUS ELBOW
- VOLUME DAMPER
- OPPOSED BLADE DAMPER
- M — AUTOMATIC DAMPER
- M — FLEXIBLE CONNECTION
- DN. — CHANGE IN ELEVATION
- POSITIVE PRESSURE AIR DUCT (UP)
- POSITIVE PRESSURE AIR DUCT (DOWN)
- NEGATIVE PRESSURE AIR DUCT (UP)
- NEGATIVE PRESSURE AIR DUCT (DOWN)
- M — MOTORIZED VALVE OR DAMPER OPERATOR
- TT — TEMPERATURE TRANSMITTER
- HT — RELATIVE HUMIDITY TRANSMITTER
- FRZ — FREEZE STAT – MANUAL RESET
- T — THERMOSTAT
- DPS — DIFFERENTIAL PRESSURE SWITCH
- S — DUCT SMOKE DETECTOR
- FUSED COMBINATION STARTER
- FD/AD — FIRE DAMPER W/ACCESS DOOR
- CRD — CEILING FIRE RADIATION DAMPER

## ABBREVIATIONS

| | |
|---|---|
| AC | AIR CONDITIONING UNIT |
| AD | ACCESS DOOR |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AP | ACCESS PANEL |
| APD | AIR PRESSURE DROP |
| B | BOILER |
| BC | BUILDING CONTRACTOR |
| BOD | BOTTOM OF DUCT |
| BI | BACKWARD INCLINED |
| BSS | BOILER SHUTDOWN SWITCH |
| BTU | BRITISH THERMAL UNITS |
| BTUH | BRITISH THERMAL UNITS/HOUR |
| CV | CONVECTOR |
| C/B | CIRCUIT BREAKER |
| CD | CEILING DIFFUSER |
| CFH | CUBIC FEET PER HOUR |
| CFM | CUBIC FEET PER MINUTE |
| CG | CEILING GRILLE |
| COP | COEFFICIENT OF PERFORMANCE |
| CR | CEILING REGISTER |
| CH | CABINET HEATER |
| CO | CLEANOUT |
| CONT | CONTINUED |
| CU | CONDENSING UNIT |
| DB | DRY BULB |
| DN | DOWN |
| DDC | DIRECT DIGITAL CONTROL |
| EA | EXHAUST AIR |
| EAT | ENTERING AIR TEMPERATURE |
| EER | ENERGY EFFICIENCY RATIO |
| EF | EXHAUST FAN |
| EWT | ENTERING WATER TEMPERATURE |
| EXIST. | EXISTING |
| FLA | FULL LOAD AMPS |
| FC | FORWARD CURVED |
| FCU | FAN COIL UNIT |
| FLR | FLOOR |
| FT | FEET |
| GC | BUILDING CONTRACTOR |
| GPM | GALLONS PER MINUTE |
| HP | HEAT PUMP OR HORSEPOWER |
| HC | MECHANICAL/ELECTRICAL (HEATING) CONTRACTOR |
| IN | INCHES |
| KW | KILOWATT |
| L | LENGTH |
| LAT | LEAVING AIR TEMPERATURE |
| LBS | POUNDS |
| LWT | LEAVING WATER TEMPERATURE |
| MAX. | MAXIMUM |
| MBH | THOUSAND BTUH |
| MC | MECHANICAL CONTRACTOR |
| MIN. | MINIMUM |
| NC | NORMALLY CLOSED |
| NO | NORMALLY OPEN |
| OA | OUTSIDE AIR |
| P | PUMP |
| PC | PLUMBING CONTRACTOR |
| PD | PRESSURE DROP |
| PH | PHASE |
| PRV | PRESSURE REDUCING VALVE |
| H, RH | RELATIVE HUMIDITY |
| RPM | REVOLUTIONS PER MINUTE |
| SA | SUPPLY AIR |
| SF | SUPPLY AIR FAN |
| TB | TERMINAL BOX |
| TCD | TEMPERATURE CONTROL DAMPER |
| TDH | TOTAL DYNAMIC HEAD |
| TOA | TEMPERED OUTSIDE AIR |
| TSP | TOTAL STATIC PRESSURE |
| TYP | TYPICAL FOR ALL SIMILAR ITEMS OR CIRCUMSTANCES |
| UH | UNIT HEATER |
| U.N.O. | UNLESS NOTED OTHERWISE |
| UV | UNIT VENTILATOR |
| WC | WATER COLUMN |
| WPD | WATER PRESSURE DROP |
| BMS,DDC,EMS | BUILDING ENERGY MANAGEMENT SYSTEM |
| EGC | EQUIPMENT GROUNDING CONDUCTOR |

## GENERAL NOTES

1. EVERY EFFORT HAS BEEN MADE TO ENSURE THE ACCURACY OF THE DRAWINGS AGAINST EXISTING SITE CONDITIONS. PORTIONS OF THE WORK ARE BASED ON BUILDING DRAWINGS PREPARED BY OTHERS. CONTRACTOR SHALL VISIT THE PROJECT SITE AND REVIEW ALL DRAWINGS BY OTHER TRADES BEFORE SUBMITTING BID AND SHALL BECOME FAMILIAR WITH THE PROJECT CONDITIONS. THE CONTRACTOR SHALL ADVISE THE ARCHITECT / ENGINEER PRIOR TO BID OF DISCREPANCIES WHICH WILL PROHIBIT THE PREPARATION OF AN ALL-INCLUSIVE BID OR COST PROPOSAL. NO ALLOWANCE FOR ADDITIONAL PAYMENT WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO VERIFY ALL EXISTING SITE CONDITIONS WITH THE CONTRACT DOCUMENTS.
2. ALL MATERIALS REQUIRED TO BE RATED SHALL BEAR A MARK ON EACH RATED ITEM. PRESSURE TREATED WOOD SHALL BE MARKED WITH THE AWPB QUALITY MARK REQUIREMENTS. FIRE RETARDANT WOOD SHALL BE PROVIDED WITH UL LABEL ON EACH PIECE OF LUMBER OR PLYWOOD. PROVIDE UL LISTED ELECTRICAL MATERIALS. PROVIDE AGA LABELED GAS FIRED EQUIPMENT AND VALVES. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR SAFEKEEPING OF EQUIPMENT AND MATERIALS INCLUDING THOSE SUPPLIED BY THE OWNER.
3. SECURE ALL NEW CONSTRUCTION WITH FASTENERS OF ADEQUATE SIZE AND AT PROPER SPACING TO INSURE THAT ALL MATERIALS WILL REMAIN SECURELY FIXED IN POSITIONS SHOWN. ALL GAS PIPING, FITTINGS AND VALVES SHALL BE APPROVED FOR NATURAL GAS SERVICE AND INSTALLED ACCORDING TO THE NATIONAL FUEL GAS CODE. ALL PRODUCTS AND CONSTRUCTION INDICATED ON THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED TO BE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR AS REUSED.
4. WHERE ACCESSORY MATERIALS ARE SPECIFIED AND NO EXTENT OF USE IS INDICATED, PROVIDE ACCESSORY MATERIAL WHEREVER USE IS POSSIBLE.
5. MINOR ITEMS OF WORK SUCH AS CUTTING, BLOCKING, TRIM, ETC., SHALL BE PERFORMED AS REQUIRED TO MAKE THE WORK COMPLETE AND SECURE WHETHER SHOWN OR NOTED ON THE CONTRACT DOCUMENTS OR NOT.
6. PROVIDE ALL LABOR AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF THE INDICATED SYSTEMS AND EQUIPMENT ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
7. ALL MATERIALS SHALL BE AS SPECIFIED OR EQUAL AS APPROVED BY ARCHITECT / ENGINEER. SPECIFIC MATERIALS SPECIFIED IS MEANT TO INDICATE QUALITY INTENT WHICH WILL BE USED AS BASIS FOR COMPARISON WITH SUBSTITUTES SUBMITTED FOR APPROVAL. THE DECISION AS TO WHAT IS EQUAL IS TO BE DETERMINED BY THE ARCHITECT / ENGINEER. ALL DEBRIS SHALL BE REMOVED FROM THE WORK AREAS AND OCCUPIED AREAS AT THE END OF EACH DAY. ON SITE STORAGE OF MATERIALS SHALL BE AS DIRECTED BY THE OWNER.
8. THE ARCHITECT / ENGINEER SHALL HAVE THE RIGHT AT ALL TIMES TO EXAMINE THE WORK AND DETERMINE THE CONFORMANCE WITH THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS AS INTERPRETED BY THE ARCHITECT / ENGINEER.
9. REMOVE EXISTING CONSTRUCTION TO THE EXTENT REQUIRED TO PROVIDE SPECIFIED WORK AS DETAILED UNLESS OTHERWISE NOTED. AT PENETRATIONS OF FIRE-RATED WALL, CEILING, OR FLOOR CONSTRUCTION, COMPLETELY SEAL VOIDS WITH FIRE-RATED MATERIALS, FULL THICKNESS OF THE CONSTRUCTION ELEMENTS.
10. ALL EXISTING CONSTRUCTION, SURFACES, FINISHES, ETC. ALTERED OR EXPOSED BY ANY DEMOLITION, REMOVAL OR INSTALLATION SHALL BE REPAIRED OR REPLACED AS NECESSARY, SYSTEMATICALLY CLEANED, PRIMED, AND FINISHED TO PROVIDE A MATCHING, FINISHED APPEARANCE WITH THE SURROUNDING EXISTING CONDITIONS; I.E. CHANNELED EXISTING FLOOR SLABS TO INSTALL PIPING SHALL BE RESTORED.
11. PROVIDE TEMPORARY PROTECTION FROM THE EXTERIOR WHERE CONSTRUCTION WORK RENDERS INTERIOR SURFACES EXPOSED TO THE EXTERIOR.
12. WHERE EXISTING SUBSTRATE CONSTRUCTION IS NOT SECURELY FASTENED, REFASTEN AS NECESSARY TO ADEQUATELY SECURE EXISTING CONSTRUCTION FOR ITS INTENDED USE.
13. INSTALL NEW CONSTRUCTION USING MATERIALS, TYPE, AND METHOD OF ANCHORAGE IN SUCH A WAY AS TO PROVIDE FOR EXPANSION AND CONTRACTION OF THE EXISTING SUBSTRATE AND NEW CONSTRUCTION.
14. ALL WORK SHALL BE IN ACCORDANCE WITH THE NFPA 101, 90A, 99 AND THE IMC 2012. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTIONS AND FEES. CONTRACTOR SHALL PROVIDE ALL DEMOLITION WORK, MATERIALS, EQUIPMENT AND LABOR AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK INDICATED BY THE DRAWINGS AND SPECIFICATIONS AND AS REQUIRED BY EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTORS AND SUBCONTRACTORS SHALL BE EXPERIENCED TECHNICIANS.
15. PROVIDE ALL NECESSARY SUPPORTS, CLAMPS, BRACKETS, ANGLES, MISCELLANEOUS STEEL AND OTHER ITEMS AS REQUIRED FOR PROPER SUPPORT OF DUCTWORK, PIPING, EQUIPMENT AND CONTROL WIRING IN ACCORDANCE WITH MSS STANDARDS AND PRACTICES SP-58 & SP-69, THE FUEL GAS CODES, THE MECHANICAL CODE, SMACNA AND THE NEC.
16. ALL LOW VOLTAGE CONTROL WIRING SHALL BE AS REQUIRED BY THE SYSTEM MANUFACTURER FOR THE REQUIRED DISTANCE BETWEEN DEVICES. ALL CONTROL WIRING SHALL BE RUN IN EMT AND INSTALLED PER NEC. TEFLON COATED FIRE RETARDANT CABLE MAY BE INSTALLED WITHOUT EMT IN CONCEALED SPACES. PROVIDE ALL COMPONENTS AND LABOR REQUIRED FOR A COMPLETE FUNCTIONAL CONTROL SYSTEM FOR ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WARRANTEES.
17. FIELD COORDINATE ALL PIPE, DUCT, CONDUIT AND CONTROL LINE RUNS BEFORE FABRICATION AND INSTALLATION. NO EXTRAS SHALL BE PERMITTED FOR REROUTING, REFABRICATION, RESTOCKING OR REMOVAL OF INSTALLED WORK DUE TO COORDINATION WITH BUILDING STRUCTURE, WORK OF OTHER TRADES, EXISTING BUILDING COMPONENTS OR TO CONFORM TO MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS FOR PROPER OPERATION.
18. DUCTWORK AND PIPING DRAWINGS ARE SCHEMATIC AND ALL DUCTWORK AND PIPING RUNS DO NOT SHOW ALL NECESSARY CHANGES IN ELEVATION OR OFFSETS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE ALL DUCT AND PIPE OFFSETS AS REQUIRED FOR THE INSTALLATION OF THE DUCT AND PIPE RUNS SHOWN ON PLANS. ALL CONTROLS, PIPING, DUCT, CONDUIT AND WIRING SHALL BE RUN CONCEALED WITHIN BUILDING CEILING SPACE, PARTITIONS OR CONNECTED EQUIPMENT UNLESS NOTED OTHERWISE.
19. HVAC CONTRACTOR SHALL COORDINATE ROOF EQUIPMENT LOCATIONS AND OPENINGS WITH GC AND WITH ROOF STRUCTURAL STEEL SHOP DRAWINGS. MARK UNIT OPENINGS ON STRUCTURAL DRAWINGS.
20. OFFSET ALL EXPOSED PIPING, DRAINS AND CONDUIT LINES AS REQUIRED SO THAT IT THEY DO NOT RUN ACROSS EQUIPMENT ACCESS PANELS, LIGHTS, SPEAKERS, FIRE ALARM COMPONENTS AND OTHER CEILING OR EXPOSED STRUCTURE MOUNTED DEVICES.
21. COORDINATE AND SCHEDULE ANY INTERRUPTION OF BUILDING OR OCCUPIED ROOM SERVICES WITH OWNER AT LEAST SEVEN DAYS IN ADVANCE. RESTORE ALL DEVICES CONNECTED TO SERVICE TO PRIOR WORKING ORDER WHEN SERVICE IS RESTORED. SERVICES INCLUDE WATER, FIRE ALARM, POWER, SANITARY, TELEPHONE.
22. NOTIFY AND COORDINATE WITH OWNER BEFORE USING ANY VOLATILE OR FUME PRODUCING COMPOUNDS SUCH AS DUCT SEALANT, CLEANING FLUIDS AND INSULATION GLUE IN OCCUPIED SPACES OR FAN ROOMS. PROVIDE MEANS OF TEMPORARY VENTILATION.
23. HYDRONIC PIPING SHALL BE TYPE L COPPER OR SCH. 40 STEEL. PROVIDE TWO PIECE FULL PORT BALL VALVES, VENT COCKS, DRAINS AND FITTINGS RATED FOR MINIMUM 150 PIG. PROVIDE UNIONS AT ALL PIECES OF EQUIPMENT TO PERMIT SERVICE. PROVIDE DIELECTRIC UNIONS AT PIPE JOINTS HAVING DISSIMILAR METALS. PRESSURE TEST AND STARTUP BOILERS, PUMPS, AIR HANDLERS AND CONDENSING UNITS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE ASME RELIEF VALVES TO PROTECT PRESSURE VESSELS, HEAT EXCHANGERS AND EACH SYSTEM. INSTALL, JOIN AND INSULATE PIPING PER ASME STANDARDS AND THE MECHANICAL AND ENERGY CODES.
24. CONTRACTOR SHALL PROVIDE ALL CABLING, CONNECTIONS AND CIRCUIT BREAKERS AS REQUIRED FOR CONTRACTORS USE OF OWNER POWER.
25. TIGHTLY INSULATE ALL DUCT AND PIPE WALL, FLOOR AND ROOF PENETRATION VOIDS WITH ROCK WOOL INSULATION OR OTHER APPROVED FIRE STOP SEALANT. INSULATION PRODUCTS SHALL BE FIRE RETARDANT AND MEET NFPA 255 AND ASTM E84 COMPOSITE FLAME SPREAD AND SMOKE DEVELOPED RATINGS (NOT TO EXCEED 25/50).
26. PROVIDE ALL WORK TO THE SATISFACTION OF THE LOCAL INSPECTING AUTHORITIES.
27. ALL DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL & FLEXIBLE, 2" CLASS RECTANGULAR DUCT EXCEPT NO LIGHTER THAN 26 GA SHEETMETAL SHALL BE USED. PROVIDE TURNING VANES IN ALL ELBOWS AND TEES OR USE RADIUSED FITTINGS WITH MID RADIUS EQUAL TO 1.5 TIMES DUCT WIDTH IN TURNING PLANE. PROVIDE 18x18 DUCT ACCESS DOORS AT ALL FIRE, SMOKE AND CONTROL DAMPERS. ROUND DUCTWORK PRESSURE CLASS SHALL BE RATED FOR 10" WG WITH NO LIGHTER THAN 26 GA. PROVIDE SPIRAL DUCTS IN FINISHED AREAS AT EXPOSED LOCATIONS. FOR DUCTS SMALLER THAN 18", PROVIDE ACCESS DOOR 2" SMALLER THAN DUCT. LOCATE ACCESS DOORS IN AN UNOBSTRUCTED AREA. FOR ROUND DUCTS, PROVIDE EASILY REMOVABLE CONNECTION TO DAMPER. FLEXIBLE DUCT MAY BE USED AT CONNECTIONS TO DIFFUSERS AND GRILLES IN CEILINGS WHERE DUCT IS CONCEALED. MAXIMUM LENGTH OF FLEXIBLE DUCT IS LIMITED TO 6 FT. ALL DUCT DIMENSIONS INDICATED ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. PROVIDE FIRE RETARDANT FLEXIBLE CONNECTOR AT ALL FANS AND VIBRATING EQUIPMENT. INSTALL, JOIN, SEAL AND INSULATE DUCTS PER SMACNA STANDARDS AND THE MECHANICAL AND ENERGY CODES.
28. INSULATE SUPPLY DUCTS WITH 1-1/2" THICK R6 DUCT WRAP FOR CONCEALED INDOOR LOCATIONS. INSULATE UNTEMPERED OUTDOOR AIR DUCTS WITH 3" THICK R8 DUCT WRAP FOR CONCEALED INDOOR LOCATIONS. INSULATE EXHAUST AND LAUNDRY DUCTS 8 FT FROM EXTERIOR PENETRATION AND FOR ENTIRE LENGTH WHERE RUN THROUGH UNHEATED SPACES AND ATTICS WITH 1-1/2" THICK DUCT WRAP. PROVIDE RIGID DUCT INSULATION WHERE DUCTS ARE EXPOSED IN MACHINE ROOMS, STORAGE ROOMS, KITCHENS, WAREHOUSE AREAS OR SERVICE AREAS. OMIT SUPPLY AIR DUCT INSULATION WHERE DUCTS ARE RUN EXPOSED THROUGH THE CONDITIONED SPACE THEY SERVE. SEAL EXPOSED INSULATION EDGES AND PAINT EXPOSED RIGID INSULATION TO MATCH ROOM COLOR. PROVIDE 3" THICK R8 RIGID DUCT INSULATION WITH WEATHERPROOF MEMBRANE AND SEALED JOINTS FOR OUTDOOR LOCATIONS. SEAL ALL EXTERIOR DUCT SEAMS AND JOINTS WATERTIGHT WITH SEALANT. EXTERIOR INSULATION WEATHERIZATION SHALL BE SUITABLE FOR FIELD PAINTING. PAINT WITH COLOR SELECTED BY ARCHITECT.
29. SEAL CONCEALED DUCTS OR DUCTS OUTSIDE OF THE CONDITIONED SPACE PER SMACNA SEAL CLASS A. DO NOT APPLY SEALANT OR INSULATE SUPPLY AND RETURN DUCTS THAT ARE EXPOSED WITHIN FINISHED AND CONDITIONED AREAS UNLESS NOTED OTHERWISE.
30. HVAC EQUIPMENT CONTROL PANELS, FACTORY EQUIPMENT CONTROL PANELS, DDC PANELS AND PUMP CONTROL PANELS SHALL HAVE A MINIMUM SCCR OF 35KA AND THE SCCR RATING SHALL BE LISTED ON THE PANEL.
31. PROVIDE 1/4" OR 3/8" SCALED SHOP DRAWINGS FOR ALL DUCT RUNS, WORK IN SOFFITS AND MECHANICAL ROOMS. PROVIDE LAYOUT COORDINATED WITH HVAC PIPING, SPRINKLER PIPING, PLUMBING DRAINAGE PIPING, ARCHITECTURAL REFLECTED CEILING PLANS AND LIGHT FIXTURES. INDICATE HVAC EQUIPMENT TO SCALE AND REVIEW CLEARANCES FOR RIGGING INTO PLACE AND SCHEDULING FOR RIGGING IF IT IS REQUIRED TO INSTALL EQUIPMENT BEFORE WALLS, ROOF OR OTHER OBSTACLES ARE IN PLACE. INDICATE CONFLICTS BEFORE SUBMITTING FOR REVIEW.
32. GENERAL CONDITIONS AND REQUIREMENTS OF ARCHITECTURAL SPECIFICATIONS ARE PART OF THIS WORK. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION OF THE HVAC AND PLUMBING SYSTEMS INDICATED ON DRAWINGS. ALL TECHNICIANS SHALL BE COMPETENT TO PROVIDE INSTALLATION SERVICES FOR THE SYSTEMS INDICATED ON THE DRAWINGS. CONTRACTORS SHALL SHOW PROOF OF BEING QUALIFIED TO PERFORM THE WORK OF THIS PROJECT. PROOF SHALL BE IN THE FORM OF LICENSING, BONDING, OR PRIOR EXPERIENCE AS APPLICABLE FOR THIS PROJECT LOCATION AND AS REQUIRED BY OWNER.
33. PAY ALL EXPRESS AND OVERNIGHT SHIPPING CHARGES FOR REPAIR PARTS REQUIRED FOR ANY REPAIRS.
34. RECTANGULAR FIRE DAMPERS SHALL BE TYPE B UNLESS APPROVED. TYPE A FIRE DAMPERS MAY BE USED IN TRANSFER AIR DUCTS UNLESS INDICATED OTHERWISE. PROVIDE DYNAMIC RATED FIRE DAMPERS IN EXHAUST FAN SYSTEMS AND OTHER FAN SYSTEMS NOT SHUTDOWN ON FIRE ALARM.
35. PROVIDE EQUIPMENT AND MATERIAL SUBMITTALS IN ACCORDANCE WITH SPECIFICATIONS AND REQUIREMENTS.
36. PROVIDE APPLICABLE SUBMITTALS FOR EQUIPMENT AND FIXTURES TO ENGINEER FOR REVIEW BEFORE ORDERING EQUIPMENT. COORDINATE SCHEDULING OF WORK TO ALLOW A MINIMUM OF TWO TO THREE WEEKS FOR REVIEW TIME PLUS DELIVERY TIME. INADEQUATE SUBMITTALS WILL BE RETURNED FOR RESUBMISSION. SUBMITTALS WILL BE DEEMED INADEQUATE IF THEY ARE THE WRONG PRODUCT, INCORRECT NUMBER OF COPIES OR DO NOT SPECIFY WHICH PRODUCT IS BEING SUBMITTED WHEN MULTIPLE PRODUCTS ARE INCLUDED WITH MANUFACTURER'S DATA. SUBMITTALS MARKED AS MAKE CORRECTIONS NOTED MAY BE CONSIDERED SUITABLE FOR ORDERING EQUIPMENT IF CORRECTIONS ARE COMPLIED WITH. PROVIDE ALTERNATE OR EQUIVALENT MANUFACTURERS WHEN REQUIRED FOR DELIVERY TO MEET THE CONSTRUCTION SCHEDULES. ENGINEER SHALL DETERMINE IF A PRODUCT IS EQUIVALENT. CONTRACTOR SHALL VERIFY THAT EQUIVALENT PRODUCTS HAVE THE PROPER SUPPORT AND CLEARANCES NEEDED FOR INSTALLATION. SUBMIT OPERATION AND MAINTENANCE MANUALS AT THE TIME OF SUBSTANTIAL COMPLETION.
37. ENGINEER'S REVIEW OF SUBMITTALS AND SHOP DRAWINGS CALLED FOR IN THE CONTRACT DOCUMENTS IS TO DETERMINE IF THE CONTRACTOR UNDERSTANDS THE CONTRACT DOCUMENTS. SUBMITTAL OR SHOP DRAWING REVIEW IS NOT INTENDED TO ASSURE THAT THE CONTRACTOR IS MEETING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. ENGINEER'S REVIEW OF SUBMITTALS DOES NOT RELIEVE CONTRACTOR'S OBLIGATION FOR SUPPLYING CORRECT VOLTAGE, QUANTITIES, MOUNTING DETAILS OR OTHER MEANS AND METHODS OF CONSTRUCTION. ENGINEER'S REVIEW OF SHOP DRAWINGS AND SUBMITTALS DOES NOT ASSUME RESPONSIBILITY FOR ANY ASPECTS OF A SHOP DRAWING SUBMISSION THAT AFFECT THE MEANS, METHODS, QUANTITIES, TECHNIQUES, SEQUENCES, OR PROCEDURES OF CONSTRUCTION OR FOR SAFETY PRECAUTIONS (ALL OF WHICH ARE ASSUMED TO BE THE CONTRACTOR'S RESPONSIBILITY).
39. PROVIDE A CERTIFIED OR APPROVED BALANCE CONTRACTOR TO BALANCE ALL AIR FLOWS AND WATER FLOWS ON DRAWING TO +/- 10%. INCREASE FAN SPEED, AND CHANGE BELTS AND SPEED TAPS, ADJUST DAMPERS AND BALANCE VALVES AS REQUIRED. SUBMIT MINIMUM 4 COPIES OF AIR BALANCE REPORT.

| Revisions: | Date |
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