

DOMESTIC WATER HEATER SCHEDULE														
EQUIPMENT TAG	LOCATION	MANUFACTURER	MODEL	TYPE	INPUT (BTU/H)	TANK VOLUME (GALLONS)	EFFICIENCY (%)	GPH 100° TEMP. RISE	VENT DIA. (IN.)	BURNER				NOTES
										TYPE	ELECTRICAL			
											AMPS	PHASE	VOLT	
DWH-1	2ND FLOOR MECH ROOM	A.O. SMITH	BTH-400A	GLASS LINED TANK TYPE	399,900	119	95	460	4	SEALED COMBUSTION	5.7	1	120	1,2,3
DWH-2	2ND FLOOR MECH ROOM	A.O. SMITH	BTH-400A	GLASS LINED TANK TYPE	399,900	119	95	460	4	SEALED COMBUSTION	5.7	1	120	1,2,3
DWH-3	2ND FLOOR MECH ROOM	A.O. SMITH	BTH-400A	GLASS LINED TANK TYPE	399,900	119	95	460	4	SEALED COMBUSTION	5.7	1	120	1,2,3
NOTES: <ol style="list-style-type: none"> 1. OTHER ACCEPTABLE MANUFACTURERS: NONE. 2. FURNISH A.O. SMITH MODEL 9003910405 VERTICAL CONCENTRIC VENT KIT FOR EACH WATER HEATER. 3. VENTING SYSTEM TO BE PROVIDED WITH FACTORY SIZED ACID DILUTION SYSTEM ON CONDENSATE DRAIN FROM VENTING PIPING, EACH WATER HEATER. 4. ASME CONSTRUCTION. 														

PLUMBING PUMP SCHEDULE												
EQUIPMENT TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	GPM	HEAD (FT.)	RPM	MOTOR			NOTES
									HP	PHASE	VOLT	
DWP-1	2ND FLOOR MECH ROOM	DOMESTIC HOT WATER RECIRCULATION	BELL & GOSSETT	PR SERIES	INLINE, ALL BRONZE OIL LUBRICATED	8.0	15	1725	1/6	1	120	1, 2
NOTES 1. OTHER ACCEPTABLE MANUFACTURERS: NONE. 2. 1 1/2" FLANGED CONNECTIONS.												

DOMESTIC WATER EXPANSION TANK SCHEDULE							
EQUIPMENT TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	CAPACITY	NOTES
(DWET-1)	2ND FLOOR MECH ROOM	DWH-1,2,3	AMTROL	ST-70VC	BLADDER	11.4 GAL. ACCEPT./ 34 GAL. TANK	1,2,3,4
<p><u>NOTES:</u></p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>1. OTHER ACCEPTABLE MANUFACTURERS: WESSELS, WATTS, A.O. SMITH.</p> <p>2. TANK TO BE SPECIFICALLY FOR USE IN POTABLE WATER SYSTEMS.</p> <p>3. BLADDER SHALL BE MADE OF BUTYL RUBBER.</p> </div> <div style="width: 35%;"> <p>4. ASME CONSTRUCTION.</p> </div> </div>							



GENERAL
1.) ALL WORK SHALL BE INSTALLED AND ALL MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS OF ILLINOIS DEPARTMENT OF PUBLIC HEALTH ILLINOIS PLUMBING CODE 2014 EDITION, INTERNATIONAL PLUMBING CODE 2012 EDITION AND ALL LOCAL AMENDMENTS TO THE PLUMBING CODE.

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- 2.1 ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER SUPPLY/RETURN PIPING SHALL BE INSULATED WITH 1" THICK ASTM C547 FIBERGLASS PIPE INSULATION WITH ASTM C136 VAPOR BARRIER JACKET COMPLETE WITH PVC FITTING COVERS. INSULATE ALL DOMESTIC WATER SUPPLY PIPING TO THE FIXTURE CONNECTION. INSULATE ALL WATER SUPPLY PIPING IN CEILING PLUMBING CHASES AND WALLS.

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3.1. ALL SANITARY, VENT, STORM, DOMESTIC SUPPLY AND RETURN PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. ALL HORIZONTAL STORM, DOMESTIC SUPPLY AND RETURN PIPING SHALL BE INSULATED AND REST ON SHEET METAL INSULATION SHIELDS. SEE DETAIL ON MECHANICAL/ELECTRICAL COORDINATION DRAWINGS FOR ADDITIONAL INFORMATION. SWIVEL JOINT HANGERS MAY BE USED ONLY ON WASTE AND VENT PIPING WHEN PIPING IS NOT INSULATED. HANGER MATERIAL SHALL BE OF COMPATIBLE MATERIAL TO PIPING MATERIAL TO PREVENT CORROSION. HANGERS SHALL BE SUPPORTED FROM STRUCTURAL MEMBERS ONLY. SUPPORTING PIPING FROM METAL DECK SHALL NOT BE PERMITTED.

- | PIPE MATERIAL | MAX HANGER SPACING | ROD DIAMETER |
|--|--------------------|--------------|
| CAST IRON (ALL SIZES) | 5 FEET | 5/8" |
| CAST IRON (ALL SIZES) WITH
10 FOOT LENGTH OF PIPE | 10 FEET | 5/8" |
| COPPER TUBE, 1 INCH AND SMALLER | 8 FEET | 1/2" |
| COPPER TUBE, 1 1/4 INCH AND LARGER | 10 FEET | 1/2" |
| PVC (ALL SIZES) | 4 FEET | 3/8" |

4.1 PROVIDE PIPE LABELING IDENTIFICATION PER ASME A13.1

- 4.2 PROVIDE VALVE TAGS ON ALL VALVES INSTALLED UNDER THIS CONTRACT. PROVIDE A SUMMARY OF VALVE TAG NUMBERS, VALVE SIZES AND LOCATIONS ON A DURABLE MATERIAL FOR MOUNTING IN BOILER/MECHANICAL ROOM.

5.1 INSTALL BALL VALVES ON PIPING 2 1/2" AND SMALLER AND BUTTERFLY VALVES ON PIPING 3" AND LARGER IN EACH RISER OR BRANCH TAKEOFF FROM MAINS, RISERS AND AS INDICATED ON DRAWINGS.

- 5.2 BALL VALVES SHALL BE MILWAUKEE, NIBCO, STOCKHAM, APOLLO, KITZ, WATTS, OR JONAR; LEAD FREE NPS-61 CERTIFIED, WITH BRONZE TWO PIECE BODY, STAINLESS STEEL BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE, SOLDER ENDS, FULL PORT AND CONFORM TO MSS SP-110. WHEN PRESS FITTINGS ARE USED, VIEGA OR NIBCO SHALL BE AN ACCEPTABLE MANUFACTURER OF BALL VALVES.

- 5.3 BUTTERFLY VALVES SHALL BE VICTAULIC, GRINNELL, MILWAUKEE, NIBCO, STOCKHAM, APOLLO, KITZ, WATTS, OR JONAR; LEAD FREE NPS-6I CERTIFIED, DUCTILE IRON OR BRONZE BODY, STAINLESS STEEL DISC, LEVER HANDLE, GROOVED OR FLANGED ENDS, FULL PORT AND CONFORM TO MSS-SP67 OR MSS-SP25.

- 5.4 CHECK VALVES SHALL BE MILWAUKEE, NIBCO, STOCKHAM, APOLLO, KITZ, WATTS, OR JOMAR LEAD FREE NFS-61 CERTIFIED WITH BRONZE BODY, BRONZE HORIZONTAL SWING DISC AND CONFORM TO MSS SP-80.

- 5.5 STRAINERS SHALL BE WATTS, KECKLEY, LESLIE, WILKINS, KITZ, OR NIBCO; LEAD FREE NFS-6 CERTIFIED, BRONZE BODY, WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN AND 3/4" BLOW DOWN VALVE.

- 5.6 CIRCUIT SETTER SHALL BE BELL & GOSSETT, NIBCO, WATTS, ARMSTRONG, ILLINOIS, HCI; LEAD FREE NPS-61 CERTIFIED, CALIBRATED BALL TYPE BALANCING VALVE WITH PRECISION MACHINED ORIFICE, READOUT VALVES EQUIPPED WITH INTEGRAL CHECK VALVES AND GASKETED CAPS, CALIBRATED, NAMEPLATE AND INDICATING POINTER.

- 5.7 CONTRACTOR SHALL PROVIDE ALL MEANS TO SHUT-DOWN EXISTING PIPING SYSTEMS WHERE REQUIRED TO COMPLETE WORK UNDER THIS CONTRACT. CONTRACTOR SHALL PROVIDE ALL NECESSARY VALVES TO ISOLATE RENOVATED SECTIONS OF THE BUILDING WITHOUT DISTURBING SECTIONS OF THE BUILDING NOT UNDER RENOVATION.

- 5.8 INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.

- ### 5.9 INSTALL VALVES WITH CLEARANCE FOR INSTALLATION OF INSULATION AND ALLOWING ACCESS

ALL PIPING, FITTINGS AND JOINTS SHALL COMPLY WITH THE LOCAL AMENDMENTS AND THE AUTHORITY HAVING JURISDICTION. MATERIALS LISTED IN THE SPECIFICATION THAT DO NOT COMPLY WITH THESE AMENDMENTS SHALL NOT BE USED IN THE BIDDING PROCESS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE ADOPTED AMENDMENTS.

PLUMBING PIPING SHALL BE AS FOLLOWS:

A. COPPER TUBING: ASTM B88, TYPE L, HARD DRAWN.
FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22, WROUGHT
COPPER AND BRONZE.
JOINTS: ASTM B32, SOLDER, GRADE 95TA.

- B. COPPER TUBING: ASTM B88, TYPE L, HARD DRAWN.
PRESS FITTINGS: VIEGA PROPRESS; ASME B16.18 CAST COPPER ALLOY, ASME
B16.22 WROUGHT COPPER ASME B16.26 FLARED COPPER, EPDM O-RING.
FITTINGS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

1. CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS OF ALL PIPING, VALVES, PIPE HANGERS, PIPE INSULATION, MISC DEVICES, PUMPS, MIXING VALVES, PLUMBING FIXTURES, ACCESS PANELS, EQUIPMENT, DIFFUSERS, REGISTERS, TEMPERATURE CONTROL SYSTEM, LIGHTING FIXTURES, PANELEBOARDS, ELECTRICAL DEVICES TO ENGINEER FOR APPROVAL PRIOR TO ORDERING ANY ITEMS OR FABRICATING ANY DUCTWORK. SUBMITTALS SHALL BE RETURNED WITH 10 BUSINESS DAYS.

2. CONTRACTOR SHALL PROVIDE OWNER TRAINING ON ALL EQUIPMENT AND BUILDING SYSTEMS PROVIDED/ALTERED BY HIS WORK. TRAINING SHALL BE ACCOMPLISHED DURING TIME DEDICATED FOR THAT PURPOSE, NOT IN CONJUNCTION WITH SERVICE WORK.

3. AT COMPLETION OF PROJECT, CONTRACTOR SHALL SUBMIT 3 (THREE) COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ALL WORK PROVIDED BY HIM ON PROJECT. MANUALS SHALL BE CLEARLY ORGANIZED AND CONTAIN COPIES OF APPROVED EQUIPMENT, SHOP DRAWINGS, EQUIPMENT PARTS LISTS, SERVICE CONTRACTS, CONTRACTOR AND MANUFACTURER WARRANTIES, AND "AS BUILT" FLOOR PLANS.

4. CONTRACTOR SHALL PROVIDE WARRANTY FOR ALL MATERIAL AND GUARANTEE ALL WORKMANSHIP PROVIDED BY HIM FOR 1 (ONE) YEAR FROM SUBSTANTIAL COMPLETION OF WORK INVOLVED.

**2015 KITCHEN/CULINARY
WATER HEATER REPLACEMENT**
MCHENRY COUNTY COLLEGE
8900 U.S. HIGHWAY 14
CRYSTAL LAKE, ILLINOIS 60012

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