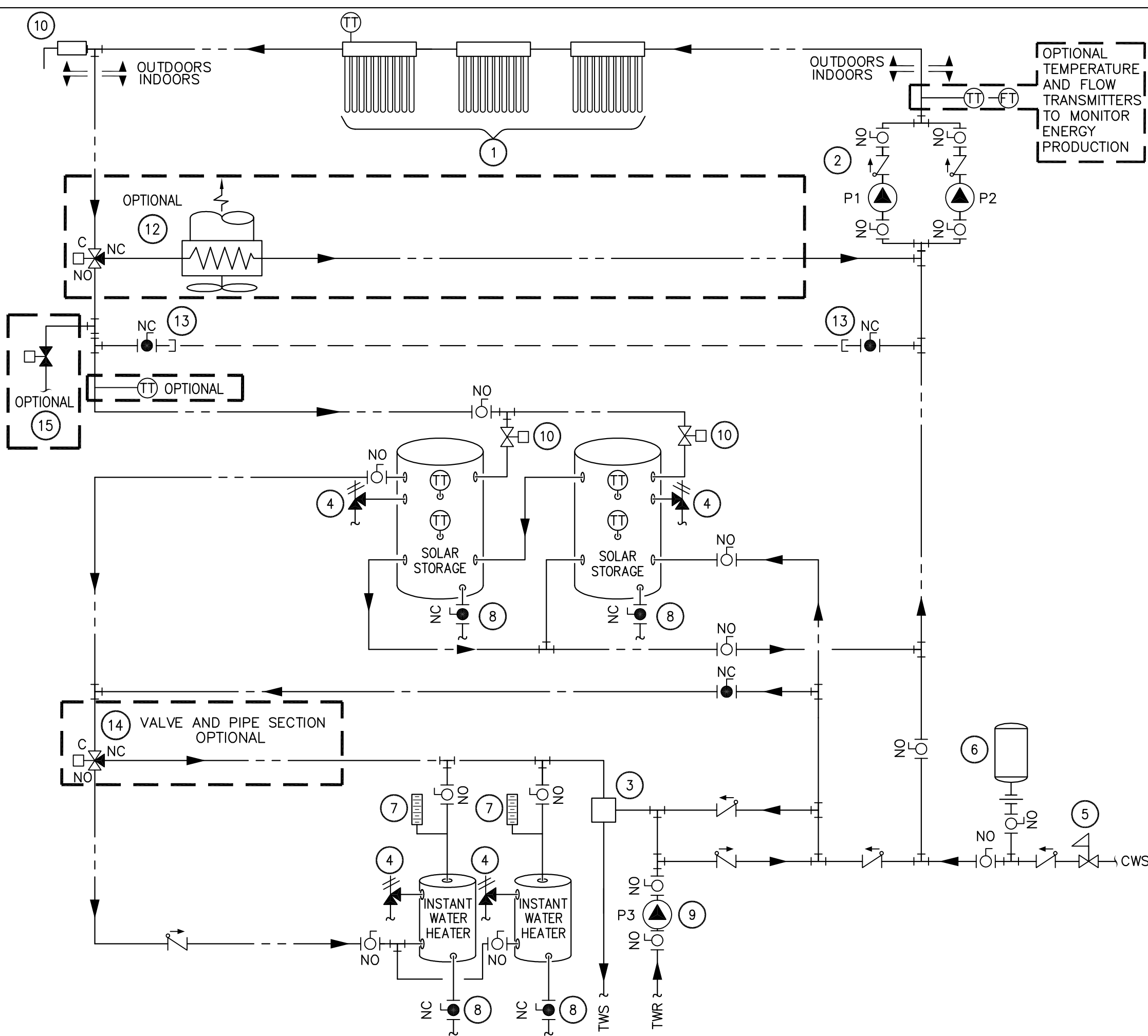


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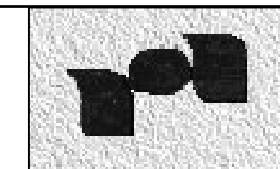


**GENERAL NOTE :**

1. ADD ISOLATION VALVES AND UNIONS AS NEEDED.

**KEYED NOTES :**

- ① INSTALL KINGSPAN, HP-450 SOLAR COLLECTORS IN SERIES UP TO 6 UNITS. FOR MULTIPLE ROW SYSTEMS REFER TO SOLAR ARRAY FLOW DIAGRAM, DHW-10.
- ② SOLAR CONTROL AND PUMP STATION. CONNECT TO ALL RTD's (TT), OPTIONAL HEAT DISSIPATER (12) AND VALVE ACTUATORS (10).
- ③ MIXING VALVE (SEE MIXING VALVE DETAIL DHW-0)
- ④ ROUTE T&P RELIEF VALVE (PRESSURE RELIEF ONLY FOR SOLAR STORAGE TANKS) DISCHARGE, FULL SIZE, TO FLOOR DRAIN.
- ⑤ PRESSURE REDUCING VALVE - INSTALL ONLY IF WATER SUPPLY PRESSURE EXCEEDS 75% OF WATER HEATING SYSTEM DESIGN PRESSURE.
- ⑥ ASME THERMAL EXPANSION TANK - SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATION.
- ⑦ COMBINATION TEMPERATURE AND PRESSURE GAUGE. INSTALL WITHIN 12" OF HOT WATER OUTLET.
- ⑧ PROVIDE FULL-PORT DRAIN VALVE AND ROUTE TO FLOOR DRAIN.
- ⑨ RECIRCULATION PUMP. PROVIDE AQUASTAT ONLY IF REQUIRED BY CODE WITH LETTER TO OWNER REQUIRING RELEASE OF LIABILITY (NON-MOVING WATER PROMOTES LEGIONELLA).
- ⑩ ACTUATOR VALVES FOR TANK PRIORITY.
- ⑪ FREEZE PROTECTION VALVE, THERMO-MEGA TECH MODEL 3/4" IC/FP-035, INSTALL ON COMMON SOLAR HOT WATER RETURN LINE TO DISCHARGE ON ROOF. VALVE AND TEE TO REMAIN UN-INSULATED.
- ⑫ FAN COIL UNIT, SIZED TO DISCHARGE AT LEAST 5,000 BTUH PER COLLECTOR. 3 PORT VALVE TO DIVERT COLLECTOR RETURN AWAY FROM STORAGE TANKS TO DISSIPATER AND ACTIVATE HEAT DISSIPATER FAN WHEN COLLECTOR REACHES 230 DEG F. DUCT DISCHARGE THROUGH NEAREST OUTSIDE WALL.
- ⑬ PROVIDE 3/4" SHUTOFF VALVES FOR FUTURE ACCESS POINTS, ACCESSIBLE WITHIN SAME AREA.
- ⑭ 3-WAY VALVE DIVERTS HOT WATER FROM SOLAR STORAGE TANK DIRECTLY TO MIXING VALVE WHEN TEMPERATURE IS 160 DEG F OR HIGHER.
- ⑮ FOR MX AND PLC CONTROLS ONLY, INSTALL MOTORIZED FREEZE PROTECTION BALL VALVE, 3/4", STAINLESS VALVE BODY, WITH ACTUATOR TO OPEN TO FLOOR DRAIN WHEN COLLECTOR TEMPERATURE SENSOR DETECTS ABOUT 38 DEG. F AND SOLAR PUMP IS NOT ACTIVATED.



**RAND ASSOCIATES INCORPORATED**  
 Domestic Hot Water Flow Diagram  
 2 INSTANT Water Heaters &  
 Dual Solar Storage Tanks

PIPING DIAGRAM		Size: B	FSCM No: -	Drawing No: DHW-13	Version: 1
Drawn By: BLW	Scale: NONE	Date: 08.14.2013	Sheet: 1	of 1	