

## DESIGN CHECKLIST

PROJECT NAME \_\_\_\_\_

DISCIPLINE \_\_\_\_\_ DATE \_\_\_\_\_ TYPE REVIEW \_\_\_\_\_

REVIEWER \_\_\_\_\_ DRAWINGS REVIEWED \_\_\_\_\_

EVERY ITEM WILL BE REVIEWED AND NOTED FOR COMPLIANCE (C),  
OR NON-APPLICABILITY (NA).

### SECTION 11 - PLUMBING

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- |    |   |
|----|---|
| A  | GENERAL - Check   |
| 1. | Pipe concealment spaces, furring, or chases are adequately sized.   |
| 2. | Isometrics riser diagrams are provided for each plumbing and compressed air system, etc.  |
| 3. | The distance from vent to fixture trap conforms to the International Plumbing Code.   |
| 4. | The water heater design data schedule on the plans agrees with the design analysis and that it includes the storage capacity and hourly recovery. |
| 5. | An air gap or indirect waste is provided on all food service equipment as required by the International Plumbing Code.                            |
| 6. | Hose faucets around the outside of the facility are provided as required by the Unified Facilities Criteria for Plumbing. Verify the              |

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- wall hydrants are not specified when hose faucets are intended.
7. The grades of all drain lines are accurately calculated and that the invert elevations are established and indicated on the drawings.
  8. Electrical drawings indicate power to pumps and water heaters. All power characteristics should be shown on mechanical plans.
  9. Equipment schedules indicate the necessary units, capacities, types, sizes, special notes, etc.
  10. When specification phrases such as "as shown on plans" or "as indicated" are used, the requirement is shown on plans.
  11. Water hammer arresters for fixtures are provided for groups of about four fixtures instead of at each faucet, control valve, or flush valve except where quick-acting valves are installed. See special note in back of applicable guide specification about when these may be left out.
  12. Drinking water dispensers are sized in accordance with the Unified Facilities Criteria for Plumbing and that the type and size are placed in the equipment schedule. Note that the size does not refer to the physical dimensions but to the cooling water capacity. Provide sufficient numbers of water dispensers or coolers to service the needs of the proposed number of building occupants and so that the occupants do not have to travel more than the specified number of feet to reach a dispenser.

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13. Electric water heaters up to 80 gallons conform to Unified Facilities Guide Specifications. Water heaters greater than 20 gallons in capacity should have a dual type heating element. Designs having a single heating element and lesser capacity require a tailor-made specification.
14. Under Certain Conditions vacuum relief valves are specified for the cold water connection to electric water heaters. A check valve is unacceptable. Location of relief valves should be in accordance with the International Plumbing Code.
15. Vapor barrier or other protective jacket and the insulation are specified for insulated hot and cold water pipes. In accordance with Government requirement. Insulation of cold water piping may not be required for some sites if the water temperature is high. A/E should determine whether insulation is needed based on water temperature and ambient air temperature.
16. In buildings taller than two stories or where the total stack height is greater than 35 feet, extra heavy soil pipe, not service weight pipe, is used.
17. Flow diagrams agree with the actual piping and equipment arrangements shown on the plan drawings.
18. Verify that adequate space is available for piping in kitchens and bathrooms.
19. Separate drawings are provided for drain-waste-vent piping and mechanical process piping.

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20. Non-potable water is not provided to food preparation and bathing areas.
21. A complete legend and list of abbreviations for plumbing is provided.
22. Electric heating elements in food warming tables have automatic shutoffs to prevent element failure when low water situations occur.
23. Shop floors slope away from equipment and hydraulic lift shafts and toward drains which are adequate in size.
24. Air and water are available for vehicle use external to shops and maintenance bays in order to avoid using the bays for checking water in radiators or air in tires.
25. Water sources and/or waste and water piping should not be located above (or on the floor above) electrical switch gear or transformer rooms.
26. Floor drains are provided in rooms and areas with fire pumps. Fire pumps with conventional packing seals are piped to the nearest floor drain.
27. When applying self closing valves verify that the available minimum water pressure will be capable of closing the valve.
28. In facilities subject to shock, water storage tanks should be provided with a flexible PVC liner in lieu of coatings.
29. Verify that plumbing access panels have been included and specified.

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- 30. Verify that the specifications do not allow the usage of polybutylene piping.
- 31. The design incorporates seismic requirements based on the seismic zone for the project location.

**B** SPECIAL NOTES - Check

- 1. Coordinate plumbing plans with exterior site plans and with exterior utilities.
- 2. When no central water softening system is available, check water analysis for hardness. If required, provide water softeners in accordance with applicable technical manuals.
- 3. Check minutes of all conferences to ensure that all comments have been complied with.
- 4. Check preliminary review comments for compliance.
- 5. Check to see that instructions have been complied with in respect to listing Government furnished equipment.
- 6. Check project criteria for instructions concerning plumbing requirements.
- 7. For all items, compare specifications to be used with Unified Facilities Guide Specifications, and the International Plumbing Codes.

**C**  
INITIAL

PROPRIETARY MATERIALS AND EQUIPMENT

To the best of my knowledge, the specifications and drawings do not include any proprietary or sole source materials or equipment except for the following approved items: