



PLAN CHECK CORRECTION SHEET FOR PUMP SYSTEMS (DOMESTIC OR FIRE) 2017 LAPC & 2016 NFPA-20

This is intended to provide uniform application of the codes by the plan check staff and to help the public apply the codes correctly.

Section: Mechanical Plan Check

Plan Check/PCIS Application No.:

Date:

Job Address:

Applicant Name:

Address:

Phone:

City/State/Zip:

E-mail:

Plan Check Engineer:

Telephone:

E-mail:

firstname.lastname@lacity.org

Your feedback is important; please visit our website to complete a Customer Survey at www.ladbs.org/LADBSWeb/customer-survey.jsf.

If you have any questions or need clarification on any plan check matters, please contact a plan check supervisor or call our Customer Hotline at (213) 482-0056.

Your plans have been examined and the issuance of a permit is withheld for the reasons set forth. The approval of plans and specifications does not permit the violation of any section of the Code, or other local ordinance or state law.

INSTRUCTIONS:

- Corrections with circled item numbers apply to this plan check.
- Additional corrections are at the end of the list.
- Incomplete or non-legible drawings or calculations will not be accepted.
- Incorporate all comments as marked on the checked set of plans and calculations and this correction sheet.
- For each correction indicate the sheet number and detail or note number on the plans where the corrections are made.
- **WHEN YOU HAVE COMPLIED WITH ALL CORRECTIONS, CALL OR EMAIL THE PLAN CHECK ENGINEER TO MAKE AN APPOINTMENT FOR VERIFICATION**
- **PLEASE BRING THE MARKED UP PLANS AND THE CORRECTIONS SHEET TO THE VERIFICATION APPOINTMENT**

SEE MARKED UP PLANS FOR CLARIFICATIONS OF CORRECTIONS.

PLAN DETAILS

1. Show the location of the pump (floor plan and/or isometric). (LAPC 101.5.1)
2. Show all piping connections to the pump (i.e. suction, discharge, Fire Department connection, pump bypass, etc.). (NFPA 20 Sec. 4.2.3.1(9); 4.2.3.1(11); 4.14; 4.15)
3. Show all elements and devices (i.e. Valves, PRV's, backflow prevention devices and controls), components and instrumentations associated with the pump and its driver. (NFPA 20 Sec. 4.2.3.1(9); 4.2.3.1(12))
4. Show an elevation detail of the piping system in accordance with the building height. A reference point or a datum must be indicated. (LAPC 101.5.1; NFPA 14 Sec. 8.1)
5. Show any other machinery or equipment related, associated and or used in conjunction with the pump and the system (i.e. tank, jockey pump, controllers, pump driver, etc.). (NFPA 20 Sec. 4.2.3)
6. Show the highest and the most remote outlet in reference to the pump. (NFPA 14 Sec. 8.1)

CALCULATIONS

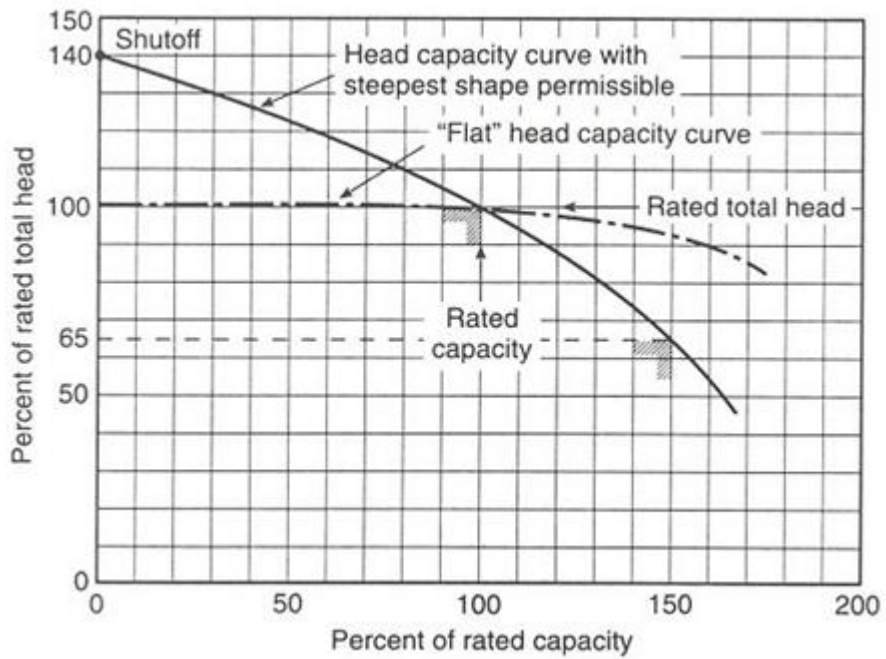
1. Provide hydraulic calculations to show the total head (psi or feet) required to meet the total required flow (gpm). Total head versus total gpm must be calculated from the pump performance curve information. These calculations are used to size the pump and the tank (when required). (NFPA 20 Sec 4.28.4.5; 5.2; 5.6.2)
2. Submit calculations showing that the NPSHA (Net Positive Suction Head Available) exceeds the NPSHR (Net Positive Suction Head Required). Provide the pump manufacturer's certified data to verify. (NFPA 20 Sec. 4.28.4.5; 5.2; 5.6.2)
3. Show all pressure and friction losses through the system. These losses shall be obtained and calculated from the related piping, fittings, valves and devices used in the system. (NFPA Sec. 20 4.28.4.5; 5.2; 5.6.2)
4. The rated flow capacity of the pump selected shall not be less than the system flow demand. (NFPA 20 Sec. 14.2.5)

NOTES ON PLANS

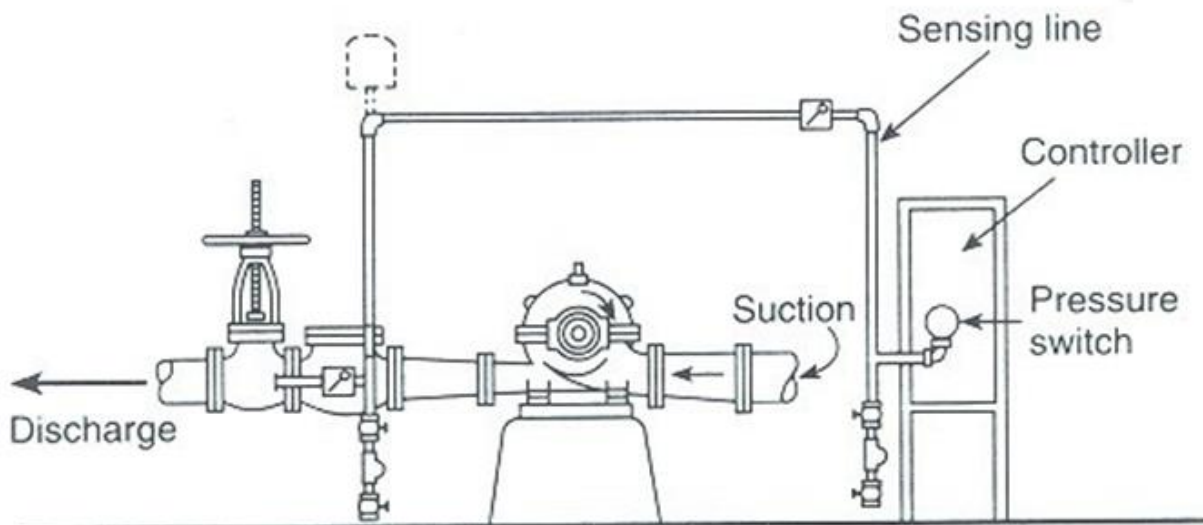
1. Show make and model of the pump and the pump driver. (NFPA 20 Sec. 4.2.3.1(5); 4.2.3.1(9))
2. Show information on the tank if required. The tank lining material shall also be indicated on the plans. Tank lining is required to be listed. (NFPA 22 Sec. 4.6.1)
3. Show any listings that are available for the pump and its driver, including its components. Fire pumps are required to be UL listed. (NFPA 20 Sec. 4.7.1)
4. Show the pump curve to accompany with the plans and to include the following; Head vs. GPM, BHP, NPSHR and Efficiency. (NFPA 20 Sec. 4.5.1; 4.5.2, 4.2.3.1(6))
5. Show pump driver information (i.e. HP, RPM, etc.) and whether electric or diesel. (NFPA 20 Sec. 4.2.3.1(12))

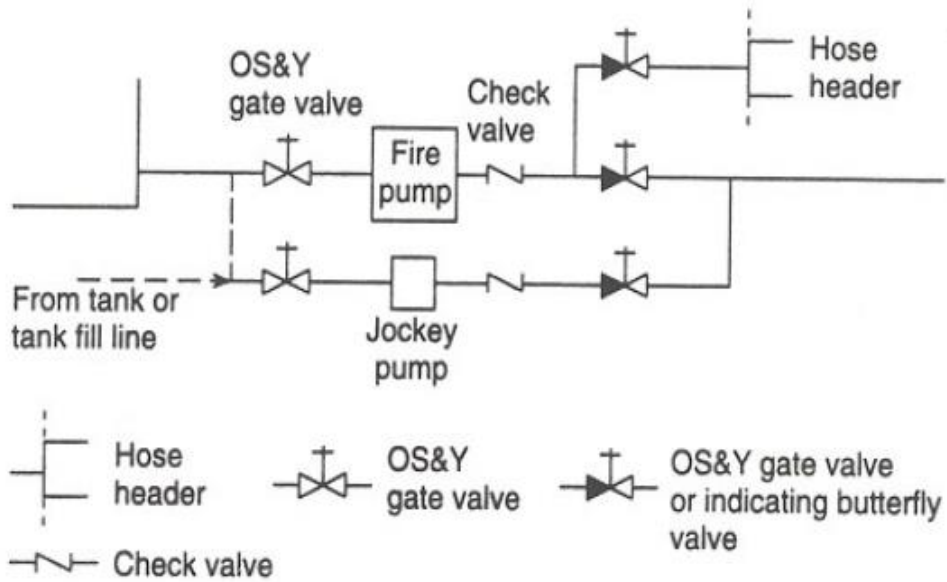
EXAMPLES

1. A typical pump performance curve:

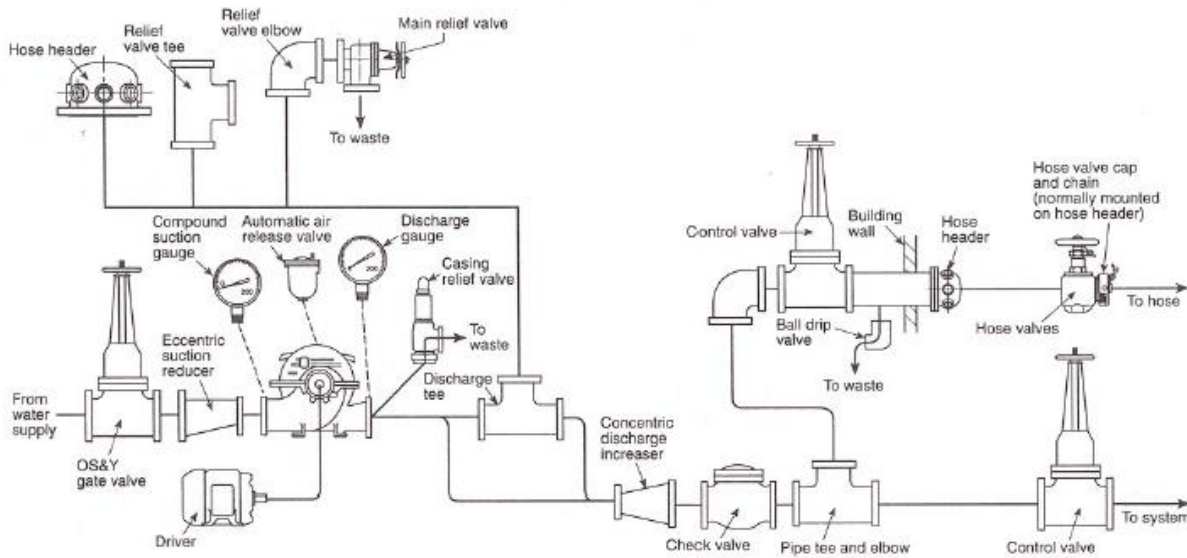


2. There may be more than one application (i.e. Domestic or Fire) and more than one configuration for each application. Depending on the situation and suitability of the building one may use a pump system with or without a tank:

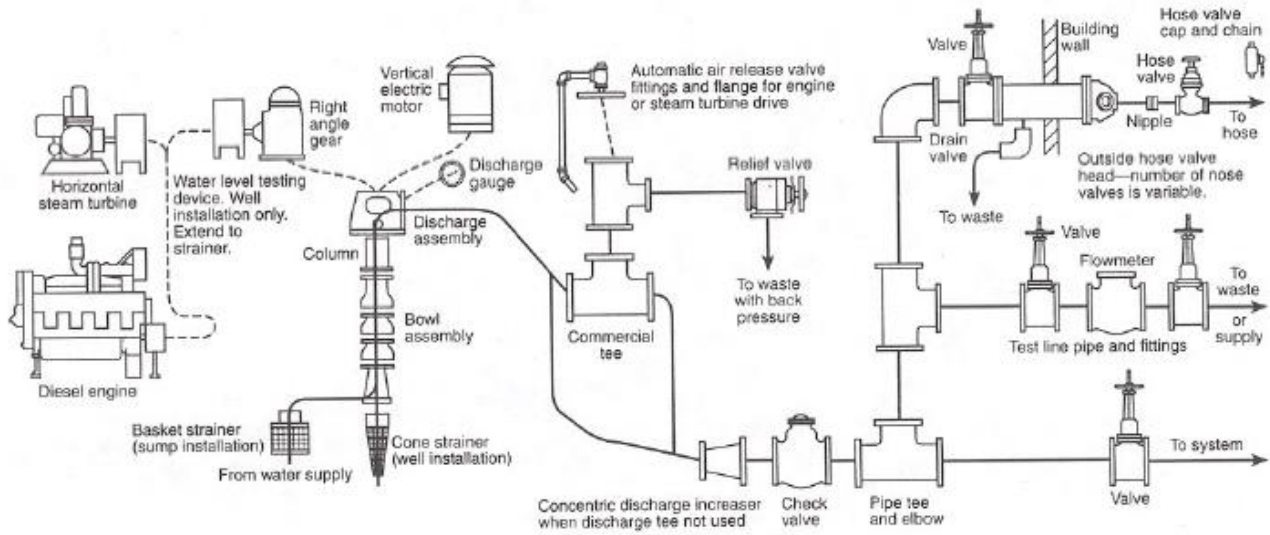




3. And there may be a case when a horizontal or a vertical shaft pump is used.
 a. Horizontal Shaft Pump:



b. Vertical Shaft Pump:



Additional Corrections	Code Section

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