

## FORCE MAIN REQUIREMENTS CHECKLIST

Owner' Name: \_\_\_\_\_

Engineer's Name: \_\_\_\_\_

Site Address: \_\_\_\_\_

Date: \_\_\_\_\_

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The following checklist is not all-inclusive, but is generally representative of the requirements of the Marlborough Site Plan Review and Approval Ordinance (SPR&A) and the Planning Board's Rules and Regulations (S/D R&R). In all cases, you should use the checklist in conjunction with the SPR&A and the S/D R&R as appropriate.

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- ☐ No force main shall pump directly into the City system. All force mains shall discharge into a precast sewer manhole to be located on the owner's side of the property line. The effluent shall then flow by gravity into a City sewer manhole.
- ☐ Any connection to a City sewer manhole shall be cored and fitted with a rubber boot
- ☐ A Street Opening Permit shall be obtained prior to any work within the City right-of-way
- ☐ Any connection to a City manhole or work within the City right-of-way shall conform to City requirements and shall be inspected prior to backfill
- ☐ A cleanout consisting of a tee with a threaded cap shall be installed on the main within the manhole (where the main changes from force to gravity) to allow for the main to be rodded
- ☐ Minimum residential service size shall be 2" schedule 40 PVC
- ☐ Minimum commercial service size shall be 4" ductile iron
- ☐ Minimum cover over force main shall be 5 feet
- ☐ All force mains shall be surrounded by 12" envelope of ¾" crushed stone
- ☐ Check dams shall be placed every 100 feet along force main
- ☐ Metallic warning tape shall be installed over the main within the trench
- ☐ Force mains shall be separated from other utilities by at least 5' horizontally
- ☐ Force mains shall be separated from water lines by at least 10' horizontally
- ☐ Pump chamber shall be sized to store 24 hours worth of effluent (minimum 1000 gallon capacity) and be made of precast concrete (or approved equal) capable of withstanding H2O loading
- ☐ The bottom of the pump chamber shall be sloped toward pump
- ☐ Pumps shall be sized to accommodate flows-Provide pump curves and calculations
- ☐ Duplex pumps are recommended
- ☐ An in-line union shall be placed in the discharge pipe near the pump to allow for the pump to be removed
- ☐ An in-line backflow preventer (with an external counterweight on Commercial sites) shall be installed on the discharge pipe to prevent effluent from backing up into the chamber
- ☐ An iron pipe shutoff valve (w/o drain) shall be installed on the discharge pipe (after the backflow preventer) to allow for the repair of pump
- ☐ The shutoff valve and backflow preventer shall be installed within a separate valve chamber where possible
- ☐ If separate valve chamber can not be provided, the backflow preventer shall be installed within the pump chamber and the shutoff outside the chamber with a riser box and stem
- ☐ All pressurized pipes within the chamber shall be restrained from movement with stainless steel straps affixed to the chamber
- ☐ Alarm systems indicating pump failure shall be installed on all pumps
- ☐ Residential systems shall require audible warning on alarm systems affixed to the house
- ☐ Commercial systems shall require audible and visual warnings on alarm systems affixed to the building at a location monitored 24 hours a day
- ☐ Run time meters shall be installed on all commercial systems
- ☐ All pumps shall have an anti-siphon prime
- ☐ Provide at least the following details:
  - Trench detail for force main
  - Trench detail for gravity mains
  - Sewer manhole detail
  - Pump chamber detail
  - Profile of entire system
- ☐ Force main shall be tested by filling with water and pressurizing main to 100psi for one hour. Pressure test shall be performed by an independent testing company