



## Availability & Capacity Analysis by The Metropolitan District

The District requires that this analysis be completed prior to moving forward with a Developer's Permit Agreement or application for a permit to connect or modify a water and sewer connection through MDC's Utility Service Department. An owner and/or developer may be required by their lender, by the MDC, or other entity to obtain a letter from The Metropolitan District stating whether there is, or is not, water service, storm service (Hartford and portions of West Hartford) and/or wastewater collection available (adjacent) to the proposed development/redevelopment/change-in-use site and if such services are of sufficient capacity for the planned development. This analysis is also required for new fire suppression systems installations and/or proposed alterations to existing fire protection systems. The intent of the availability and capacity analysis process is to research the capability of the existing District water distribution system and/or wastewater collection and treatment system (including any pumping stations) to meet the consumption and/or discharges rates for the planned additional residential dwellings or commercial/industrial buildings. Please allow a minimum of four weeks to complete the availability and capacity analysis process.

The availability and capacity analysis process is as follows:

1. A formal request for an availability and capacity analysis is made to Michael Curley, P.E., Manager of Technical Services, 555 Main Street, Hartford, Connecticut 06103. This request must include:
  - The location of the proposed development, including a street address and a location map.
  - A \$600.00 check, per utility, payable to The Metropolitan District for administrative fees. The fees will be waived if the analysis is conducted as part of a (future) Developer's Permit-Agreement submission.
  - A detailed listing of the water uses and wastewater flow rates within the proposed development, including, but not limited to the following:

### **Residential**

- The type of dwelling units planned for the development (single-family, townhome, multi-unit, etc.), including lot size and proposed lawn coverage, if irrigation is planned.
- The number of one-bedroom, two-bedroom, three-bedroom, etc. units planned for the development so that the population may be calculated per State of Connecticut Department of Public Health (DPH) guidelines.
- Estimated water usage and wastewater flow rates calculated per DPH design flow guidelines, with average volume per day (gpd) and peak flow (gpm). **Flow shall not be calculated using fixture counts (CT Plumbing Code maximums).**
- The emergency (fire) service flow rate for sprinklers (if applicable). Please note if the flow rate is per unit, per building, etc. Please state if there is no fire service planned.

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- The number of fire hydrants proposed within the project limits, and the needed flow rate and duration as calculated by the design engineer, NFPA 1, ISO 9001 (recommended), and/or as required or requested by the local Fire Marshal.
- Other water uses and sources of wastewater within the planned development, such as landscape or other irrigation; community buildings (kitchen facilities, rest rooms and/or locker rooms, etc.); swimming pool or other facilities.
- Condensation and footing and/or underdrains (subsoil drainage/groundwater) shall not flow to the sanitary sewer (this includes flow from onsite separated systems that flow to or eventually flow to a combined MDC sewer instead of a storm system to a storm drain outfall). If piped to storm, these flows shall be estimated independently and added to storm water calculations (Hartford and portions of West Hartford). These requirements are regulated by MDC Sewer Ordinances and MDC's National Pollutant Discharge Elimination System (NPDES) permit.
- Stormwater (Hartford and portions of West Hartford) – stormwater calculations must be provided to indicate a no net increase (existing vs. proposed) of peak water runoff (i.e. both flow rate and total runoff volume) for 1-year up to a 100-year storm. Please note, for any new storm connections peak discharges and total runoff volume to existing MDC separated storm sewers shall not exceed a 10-year storm. For any existing storm connections to the separated storm or combined sewer peak discharges and total runoff volume shall be equal or less than the pre-development conditions. New storm connections to the combined sewer, if allowed, will depend on available downstream capacity in the mainline sewers or by necessary capacity constraints required to control overflows and surcharging mandated by State and Federal agencies, NPDES Permit, and as provided by MDC Sewer Ordinances.
  - The MDC has recently updated its stormwater policies to coincide with changes to MDC Sewer Ordinances. Contact Michael Curley, Manager of Technical Services for more detailed information about the MDC Stormwater Guidelines, email requests go to [mcurely@themdc.com](mailto:mcurely@themdc.com).
  - Due to widespread flooding complaints, Hartford Water Pollution Control Facility NPDES Permit restrictions, State and Federal mandates, and corresponding sewer ordinance changes the MDC has had to take a rigid stance with regard to issuing stormwater connection permits in Hartford and portions of West Hartford. No water or sanitary connection permits will be issued to the Developer until stormwater connection permits can be issued.
  - Stormwater calculations and requirements for (re)developments must be approved by the City of Hartford for conformance to their Zoning Regulations for peak flows and volume retention on site prior to submitting an application to MDC. See the current version of the City of Hartford Zoning Regulations - Section 6.14, Stormwater & Low Impact Development. Approval by the City does not exempt the applicant from compliance with MDC requirements.
  - When proposed stormwater discharges are tributary to existing outlets, storm sewers, or conduits owned by others (i.e. ACOE, CTDOT, Greater Hartford Flood Commission, etc.) then stormwater calculations must be first reviewed and approved by the appropriate agency before submitting an

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application to MDC.

- Submittals of storm calculations and their associated drawings must be in both hardcopy and electronic (.pdf) format.
- An overall site plan including proposed drainage system, underdrains, detention or retention, and treatment system layout drawing (24" x 36") with contours.
- The maximum elevation and mean elevation of the subject parcel

### Commercial/Industrial

- The type of commercial or industrial facility (office, retail, restaurant, hotel, manufacturing, etc.), including lot size and proposed lawn coverage if irrigation is planned.
- The size of the proposed commercial or industrial facility; specifically, the number of restrooms planned (office and retail), the number of customers (restaurant), the number of rooms (hotel), the number of employees, etc.
- Estimated water usage and wastewater flow rates calculated per DPH design flow guidelines, with average volume per day (gpd) and peak flow (gpm). **Flow shall not be calculated using fixture counts (CT Plumbing Code maximums).**
- Estimated water usage and wastewater discharges for industrial processes, including peak water usage and peak wastewater flow rates.
- The emergency (fire) service flow rate for sprinklers (if applicable). Please note if the flow rate is per unit, per building, etc. Please state if there is no fire service planned.
- The number of fire hydrants proposed within the project limits, and the needed flow rate and duration as calculated by the design engineer and required by the local Fire Marshal.
- Other water uses and sources of wastewater within the planned development, such as landscape or other irrigation; community buildings (kitchen facilities, rest rooms and/or locker rooms, etc.), swimming pool; HVAC equipment cleaning/blow down or fill cycles; intermittent but high instantaneous high flow processes (tank fill, tank draining, or other); or other facilities.
- Condensation and footing and/or underdrains shall not flow to the sanitary sewer (this includes flow from onsite separated systems that flow to a combined MDC sewer). If piped to storm, these flows shall be estimated for storm water calculations (Hartford). This is per MDC Sewer Ordinances and NPDES Permit.
- Combined Sewers – Condensation and groundwater from footing and or underdrains are not allowed in combined sewers or in separated sanitary sewers tributary to combined sewers. However, if these flows may not be discharged to ground due to City Ordinance/Regulations they may be piped to an existing separated storm and storm outfall as long as capacity exists. These flows will be analyzed on a case by case basis.
- Stormwater (Hartford and portions of West Hartford) – See Residential section above.
- An overall site plan including proposed drainage system, underdrains, detention or retention, and treatment system layout drawing (24" x 36") with contours.
- The maximum elevation and mean elevation of the subject parcel.

## 2. Fire Flows – Special Considerations

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### General

Due to the particularly large demand characteristics of fire flows as compared to domestic water needs, the MDC has established a total fire flow limit of 1500 GPM District-wide. Fire flow requires special attention and consideration (whether required for a renovation, a sprinkler conversion, or addition project) to protect the water distribution system. When specific fire flows are required for planned installations - including sprinklers, fire pump, and/or fire hydrants on site – these flows must be provided by the developers so it may be addressed in the Availability and Capacity request. For more detailed information refer to MDC's Fire Service Guidelines.

### Information Required

- a. Total Fire Flow Demand – Provide per local and State building and fire prevention codes for fire flow requirements. Notably the NFPA Codes 1 and 13 and/or in conjunction with Insurance Services Office, Inc., 2014, Guide for Determination of Needed Fire Flow. The total fire flow demand for the property is the largest of either the demand by building type and separation distances, or the largest sprinkler system zone demand with hose flow allowance, or standpipe flow as required by code and approved by the Fire Marshal.
- b. Sprinklers – Provide the largest sprinkler zone demand for conditions that are new, existing, renovated, expanded, etc. including sprinkler zones (if part of a building expansion/renovation/addition) over the entire property/lot.
  - i. Zone demand (in gpm)
  - ii. Hose allowance (in gpm)
  - iii. Sprinkler system type - provide type (listed below) and its corresponding riser/alarm valve diameter size (Note – due to their large sudden flow changes and potential for water hammer, MDC encourages the use of alternate systems when an ESFR, Dry, or Deluge system are planned – for example, heat tracing or heated spaces with a wet system, or else surge mitigation measures may be required and/or the addition of a fire service meter and meter pit):
    - a) Wet
    - b) Early Suppression Fire Response (ESFR)
      1. Valve size (diameter in inches)
    - c) Dry
      1. Valve size (diameter in inches)
    - d) Deluge
      1. Valve size (diameter in inches)
- c. Standpipe(s)
  - i. Flow - in gpm
  - ii. Wet or Dry? – Is it connected directly to the fire service piping coming into the building (Wet), or is fed from a fire department pumper truck connection on the outside of the building (Dry).
- d. Hydrants - The number of new or existing fire hydrants onsite
  - i. Number of hydrants off the MDC distribution system  
Number of hydrants downstream of onsite fire pump (if fire pump)
- e. Fire Pump – If a fire pump is required, provide the capacity (gpm) required and

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expected test flow (gpm). Please note the following:

- i. Fire pump direct connections to the MDC system will be reviewed on a case by case basis.
    - ii. Total fire flow demand over 1500 gpm will require a storage tank and a pump.
    - iii. Fire service meter and meter pit will be required.
  - f. Fire Flow not guaranteed – by MDC Water Ordinance Section W7b, MDC does not guarantee pressure nor flow and is not liable for the interruption of service.
3. District staff will review the submitted information to determine if the District's current infrastructure can accommodate the planned domestic and fire water usage and wastewater flow rates. District staff may request additional information as applicable to the particular development and design.
  4. The District will provide a written response if there is, or is not, sufficient availability and capacity to provide the planned development with water service and to convey and treat wastewater from the referenced project, as detailed by the owner and/or developer.
    - a. Please note that the pressure and quantity of water service available may vary across a development due to the elevation of specific dwelling units and/or buildings, as well as concurrent water consumption within the development and the surrounding area.
    - b. State of Connecticut Department of Public Health regulations require that The Metropolitan District provide a minimum water pressure of 25 psi (with 35 psi recommended), and a maximum water pressure of 125 psi (as measured at the water main). The owner and/or developer may request a hydrant flow test(s) in the vicinity of the subject site to measure the pressure for design purposes. Please indicate in your request if a flow test is planned or has been performed for the site. Current plumbing codes note to install pressure reducing valves onsite (inside buildings) where the public water supply is over 80-psi coming into a building.
  5. Additionally, our analysis does not focus on the technical adequacy of the design; such a review is conducted during the Developer's Permit-Agreement process or connection permitting process by MDC Utility Services Department, as applicable.
    - a. Due to the age of the MDC infrastructure in some areas, additional investigation of the condition of the sanitary, combined, storm, or water mains may be required prior to finalizing AC. Service may need to be evaluated to come from another MDC water and sewer system. This may include CCTV for sewers; structural analysis of manhole and sewers; and hydrant flow tests for water main capacity.
    - b. Because of recent MDC Water Ordinance changes, MDC policy requires all new (domestic and fire) water services to be metered with meter pits located outside the building just beyond the street line or easement boundary. Any exceptions to this policy will be determined by MDC Utility Services Department. Specific details and requirements for this installation can be obtained through the MDC Utility Services Department.