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ENGINEER'S REPORT – WATER MAIN

Proposed Warehouse Facility
1980 Route 1
Township of North Brunswick
Middlesex County, New Jersey
November 19, 2021
BENJ File No. J200616

Project Definition:

The proposed project consists of domestic and fire services to be provided to the proposed residential development via 8" concrete ductile iron pipes. The proposed service lines are to be connected to the existing water main on site along the frontage of Route 1 loop around the building and connect into and an existing water main in an easement by Excelsior Street. The proposed water system will result in a water service as depicted on the accompanying plans.

The proposed utility layout is depicted on the enclosed Utility Plan 'A' prepared by Bohler, dated August 11, 2021, last revised November 19, 2021 (rev #3).

System Design:

All proposed water mains will have a minimum ground cover of 3.5' and will be installed with dense-graded aggregate base course (DGABC), stone bedding from 6" below to 12" above the top of the pipe. Prior to completion of backfilling, water line marking tape shall be placed along the entire length of the excavation, 2' below grade above the top of all mains, hydrant branches and services. Trenches will be back filled with select fill, excavated material, compacted in lifts to 95% compaction. Valves will be installed at branch connections in conformance with NJAC 7:10-11.10 (e) 6 and along the various pipeline routes to minimize disruption of service during maintenance or repair of mains and related appurtenances.

The system will be constructed as shown on the Site Plan documents. Wherever possible, water mains are to be installed to provide the required separation from sanitary sewer mains and appurtenances as specified in NJAC 7:10-11:10 (e) 5 (10' horizontal and 18" vertical separation, where the water main is over the sewer main). Where such separation is not possible, the proposed sanitary sewer line will be encased in concrete for a distance of 10' on each side of the crossing.

Disinfection of Water Mains:

All new water mains will be disinfected and tested prior to being placed into service. Liquid chlorine will be utilized for disinfection is accordance with the latest revision of NJAC 7:10-4.1, Disinfection.

Estimated Demand in accordance with NJAC 7:10 Table 1

Industrial Demand: Estimated number of employees: 1 per 3,000 sf of building = ±62 employees
25 gpd/employee = 25 gpd * 62 employees = 1,550 gpd
Office: 0.1 gpd/sf of office space = 0.125 * 7,591 = 948.875 gpd

Total Demand Flow: 2,498.875 gpd

Prepared by:

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