SANITARY SEWER DESIGN REPORT

for

Proposed Warehouse Building

Prepared for

Davidson Properties, LLC

Block 468.01; Lot 20.01
230 Davidson Avenue
Township of Franklin
Somerset County, New Jersey

Prepared by

BOHLER
NJ Certification of Authorization No. 24GA28161700

125 Half Mile Road, Suite 207
Red Bank, NJ 07701

James Thaon, P.E.
Professional Engineer License No. 54376

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A. Description of the Area to be Served

This narrative outlines the construction of a sanitary sewer conveyance system for a 37,460 square foot Warehouse Facility, as well as an existing building containing office and light manufacturing, on Block 468.01, Lot 20.01 located at 230 Davidson Avenue in the Township of Franklin, Somerset County, New Jersey. The proposed sanitary sewer service will flow by way of gravity from the proposed Warehouse Facility and existing office/light manufacturing building, respectively, via a 8” SDR-35 sanitary sewer laterals to the existing sanitary main located along Davidson Avenue. The proposed sanitary sewer improvements consist of 653 LF of 8" diameter SDR-35 pipe, two cleanouts, and six manhole.

B. Number of Proposed and Projected Ultimate Connections and the Anticipated Schedule of the Connections

As noted in the ‘Description of the Project’, the proposed warehouse building, and existing building will connect to the existing sanitary sewer line along Davidson Avenue. Our office has evaluated the estimated average daily sewage flows and peak daily sewage flows as per NJAC 7:14A-23.3 and found that the estimated average daily sewage flows to be 5,670 gpd and 6,825.8 gpd and the estimated peak daily sewage flow to be 11,340 gpd and 13,681.6 gpd, respectively, for the proposed Warehouse Facility and existing building. Combined Average Daily Flow to be conveyed by the proposed sewer main is approximately 12,496 GPD, accordingly, a NJDEP Treatment Works Approval is required.

<u>Proposed Warehouse Facility</u>

Estimated Average Daily Sewage Flows = Estimated Average Daily Warehouse Sewage Flows + Office Average Daily Warehouse Sewage Flows

Estimated Average Daily Warehouse Sewage Flows = (73 employees) * (25 gpd/employee) x 3 shift = 5,475 gpd

Estimated Average Daily Office Sewage Flow = 1,950 sf * (0.100 gpd/sf) = 195 gpd

Estimated Average Daily Sewage Flows = 5,475 gpd + 195 gpd = 5,670 gpd

Estimated Peak Daily Sewage Flows = (Estimated Average Daily Sewage Flows) * (Peaking Factor)

Estimated Peak Daily Sewage Flow = (5,670 gpd) * (2) = 11,340 gpd

Existing Office & Light Manufacturing

Estimated Average Daily Sewage Flows = Estimated Average Daily Manufacturing Sewage Flows + Office Average Daily Warehouse Sewage Flows

Estimated Average Daily Manufacturing Sewage Flows = (80 employees) * (25 gpd/employee) x 3 shift = 6,000 gpd

Estimated Average Daily Office Sewage Flow = 8,258 sf * (0.100 gpd/sf) = 825.8 gpd

Estimated Average Daily Sewage Flows = 6,000 gpd + 825.8 gpd = 6,825.8 gpd

Estimated Peak Daily Sewage Flows = (Estimated Average Daily Sewage Flows) * (Peaking Factor)

Estimated Peak Daily Sewage Flow =(6,840.8 gpd) * (2) = 13,682 gpd

C. Computational Analysis

Our office has evaluated the maximum drainage fixture unit load from the proposed Warehouse Facility as per the Plumbing Code and found that the proposed 8” sanitary sewer lateral at 0.50% is sufficient.