

Celebrating over 50 years of service

April 8, 2014

Mr. Chris Round
The Chazen Companies
547 River Street
Troy, NY 12180Re: (V) Ellenville Water System Improvements Project
Nevele Redevelopment – Municipal Sewer System Evaluation

File: 924.063.001

Dear Mr. Round:

Barton & Loguidice, D.P.C. (B&L) was retained by the Village of Ellenville in a letter agreement dated March 28, 2014, revised April 3, 2014 to provide a limited evaluation of the capacity of their sewer collection and treatment system in relation to the proposed Nevele Resort Redevelopment Project. The analysis included a review of the treatment capacity of the wastewater treatment plant (WWTP), current annual sewer flows, an analysis of the inverted siphon under Sandburg Creek, and a review of the expected collection system capacity based on available existing mapping.

Based on information provided by The Chazen Companies (Chazen), it is our understanding that the proposed development will discharge approximately 163,000 gpd (0.163 mgd). This sewer flow will be conveyed to the Village via a force main at an unknown flow rate to one of two potential connection points to the Village's existing sewer collection system.

A review of the sewer treatment capacity indicates that the WWTP is operating at a permitted capacity of 1.1 mgd and experiences normal dry weather flows of 0.3 mgd and wet weather flows of 0.5 mgd. Based on the projected flows from the proposed redevelopment, the Village has sufficient treatment capacity to accommodate the projected increase in flow from the proposed Nevele Redevelopment. A summary of existing and projected flows are provided in the following table.

Village of Ellenville Nevele Connection to Village Sewer System Sewer System Flows Summary	
Plant Capacity (mgd):	1.10
Existing Wet Weather Flow (mgd):	0.50
Existing Dry Weather Flow (mgd):	0.30
Projected Wet Weather Flow (mgd):	0.66
Projected Wet Weather Reserve Capacity (mgd):	0.44

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The power to **solve.**



A limited review of the existing sewer collection system along the proposed conveyance path, identified as Alternate 1 (Connection at Nevele Road) and Alternate 2 (Connection at Pine Street), has been conducted. The analysis calculated the capacity of the siphon under Sandburg Creek based on field measurements and the capacity of the existing gravity sewer lines was based on existing mapping. The following table shows the calculated limiting capacities along each pipe route:

Village of Ellenville Nevele Connection to Village Sewer System Limiting Capacities of System						
<i>Route Alternative 1: Nevele Road</i>						
From Manhole Number	To Manhole Number	Full Pipe Capacity (gpm)	Full Pipe Capacity (cfs)	Full Pipe Capacity (mgd)	Assumed Existing Flows (mgd)	Assumed Proposed Flows (mgd)
199	135	320	0.72	0.47	0.375	0.54
135	134	320	0.71	0.46	0.375	0.54
134	133	340	0.76	0.49	0.375	0.54
133	132	340	0.75	0.48	0.375	0.54
132	209	340	0.76	0.49	0.375	0.54
69	68	460	1.03	0.66	0.375	0.54
<i>Route Alternative 2: Pine Street</i>						
From Manhole Number	To Manhole Number	Full Pipe Capacity (gpm)	Full Pipe Capacity (cfs)	Full Pipe Capacity (mgd)	Assumed Existing Flows (mgd)	Assumed Proposed Flows (mgd)
262	261	370	0.83	0.53	0.125	0.29
364	Siphon	490	1.08	0.70	0.125	0.29

For the basis of this analysis, it has been assumed that 75% of the existing flows are from the portion of the existing system served by Route 1 and 25% of the existing flows are from the portion served by Route 2 as described herein.

Based on this analysis, it is suspected that projected pipe flows may exceed the pipe capacities as indicated above. It is to be noted, however, that no metering of existing flows or visual inspection of the pipe condition has been completed to date. Therefore, it is imperative that the final design of the force main connections to the existing collection system include a detailed analysis of the existing flow rates, the proposed pumping rates of the proposed project and physical condition of the collection system prior to connection.



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In summary, the Village has sufficient capacity at the WWTP to accommodate the proposed redevelopment flows, however a detailed analysis of the existing flows and proposed pumping rates must be considered in order to evaluate the need for potential upgrades to the collection system to accommodate the projected sewer flows.

If you have any questions, please do not hesitate to contact our office.

Very truly yours,

BARTON & LOGUIDICE, D.P.C.

A handwritten signature in blue ink, appearing to read 'Craig M. Marti'.

Craig M. Marti, PE
Senior Managing Engineer

CMM/ojf

CC: Joe Stoeckeler, Jr., Village Manager

