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March 20, 2017

Mr. Elliot S. Conway, Mayor  
Village of Upper Brookville  
1395 Planting Fields Road  
The Annex  
Oyster Bay, NY 11771-1302

**Subject: Refuse Vehicle Impacts on Residential Streets**

Dear Mr. Conway:

You asked for our views on the introduction of a single hauler solid waste district in the Village of Upper Brookville (Village) based the following assumptions:

- 7 licensed carters
- No trash truck size restriction
- “Back Door” pickups
- Residents may “opt out” of the district
- 4.2 square miles
- 21 miles of roads
- 550 dwellings
- Population of 1,700

You estimate over 80% of residents will participate initially in the district.

R3 Consulting Group (R3) specializes in providing solid waste management services exclusively to municipal agencies. We emphasize the creation of technically and financially-sound solutions that can be effectively implemented and maintained over the long-term. R3 staff have analyzed the impacts of refuse vehicles on street maintenance costs for dozens of jurisdictions, and we offer the following observations from our work with other municipalities.

In general, all other factors the same, moving from a seven-hauler collection system to a single-hauler districted collection system would be expected to reduce the number of vehicle miles traveled with a corresponding decrease in the associated street maintenance impacts. With no current truck size limits, the district limit on vehicle size to 10-yard garbage trucks should further reduce Village road and driveway damage. We anticipate these two factors alone will significantly extend Village road life and, over time, should result in materially lower street maintenance related taxes for your residents.

While roads will deteriorate if simply left unused, most deterioration is associated with use; and the damage caused by vehicles goes up much more than proportionately with size and weight. Hence, costs associated with maintenance are greater for trips made by heavy vehicles. Trash trucks are typically the heaviest vehicles regularly operating on residential local roads and are a major contributor to wear-and-tear on those roads.

The most significant steps a jurisdiction can take to minimize trash truck street maintenance impacts is to: (a) reduce the number of trash truck miles traveled on the Village’s streets; and (b) limit the size and weight of the collection trucks. Moving to a solid waste district should achieve these goals.

The average number of passes each vehicle makes down each residential street segment will be reduced significantly under a districted system. Reducing the size (weight) of refuse vehicles will also be expected to reduce the impact of refuse vehicles on the Village's streets. While we have not specifically analyzed the impact of these changes on the Village's street maintenance costs, it is not uncommon for districted or franchised refuse vehicles to be responsible for between 10% and 20% of the axle loadings (impacts) on a typical residential street. Under an open competition system like the Village currently those impacts are multiplied. As such, switching from the current open competition system to a districted system should significantly reduce the impact of refuse vehicles on the Village's streets, with corresponding savings in street maintenance costs. Limiting the size of refuse vehicles would be expected to result in additional savings.

While unrelated to the district decision, the second significant step to extend village road life is early maintenance. Deferring the low cost of maintaining roads during the first half their life will raise the cost approximately 4 times the cost of repairing and replacing them following significant damage. Roughly \$1 spent in time will save \$4 later in reconstruction.

Other expected impacts from moving to a single-hauler district include:

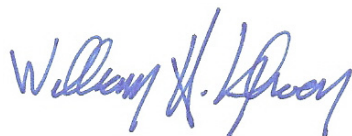
- Reduced emissions/ improved air quality;
- Improved neighborhood aesthetics;
- Reduction in the number of days per week that collection service occurs in a neighborhood;
- Reduction in noise;
- Increased neighborhood safety; and
- More uniform service quality.

\* \* \* \* \*

We appreciate the opportunity to be of service to the Village, and would be pleased to complete a formal study, if requested, to quantify the likely annual savings in pavement damage from moving to a single-hauler district. If have any further questions, please feel free to contact me at (916) 782-7821 or [wschoen@r3cgi.com](mailto:wschoen@r3cgi.com).

Sincerely,

**R3 CONSULTING GROUP**



William Schoen | Principal