

February 10, 2020

Don Neumann, Superintendent
York Water District
PO Box 447
York, Maine 03909

SUBJECT: AT&T ME4097, 5 Roots Rock Rd. – Generator Noise Study

Dear Don,

SmartLink has asked that I evaluate two standby generator options for the proposed site at 5 Roots Rock Rd. in York to determine which would cause the least noise impact on surrounding residences.

The options examined are:

1. Generac QuietSource 22 kW (LPG), outdoors in a provided sound-attenuating enclosure with an 8-ft sound barrier around the installation
2. Generac SD020 (Diesel) within a Sabre Industries walk-in enclosure (WIC)

Based on sound data provided by Generac, I have built computer models of both options in SoundPLAN, an industry-standard application for modeling of outdoor sound propagation. These models account for ground conditions, topography, effects of sound barriers, and other factors affecting sound propagation.

For both generators, data provided for full load condition were used.

Data for the diesel option do not include the exhaust component, so the model underestimates the sound levels somewhat. A request has been made for the exhaust data, but as is apparent in the analysis below, it is likely irrelevant.

QuietSource 22 kW (LPG)

The attached Figure 1 presents a plot of sound level contours in 5-dB increments radiating from the generator. The WIC has been included as an object in the model and provides shielding of sound from the properties to the northeast. Other structures have been omitted, as they would not have any effect on levels at the nearest residences.

The maximum property-line sound pressure level is approximately 55 dBA, due east of the generator.

SD020 (Diesel)

Figure 2 presents the predicted sound levels for the SD020 within the WIC. The exterior noise results from the need for intake and exhaust air louvers. No sound barrier is planned for this option.

The maximum property-line sound pressure level is approximately 66 dBA, due east-northeast of the WIC.

If the exhaust component were added to the model, this would be expected to increase somewhat.

Analysis

Even without the exhaust noise contribution, the SD020 option generates considerably more noise than the QuietSource option.

While the generators are of similar capacity, the QuietSource model includes a sound-attenuating enclosure. While the SD020 would be within a building, no sound attenuation for the ventilation openings is provided by the manufacturer. If there were a desire to pursue this option, aftermarket sound-attenuating louvers and a critical grade muffler could be retrofitted.

As modeled, the QuietSource LPG generator is the quieter option.

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Reuter", with a long horizontal flourish extending to the right.

Eric L. Reuter, INCE Bd. Cert.
Principal

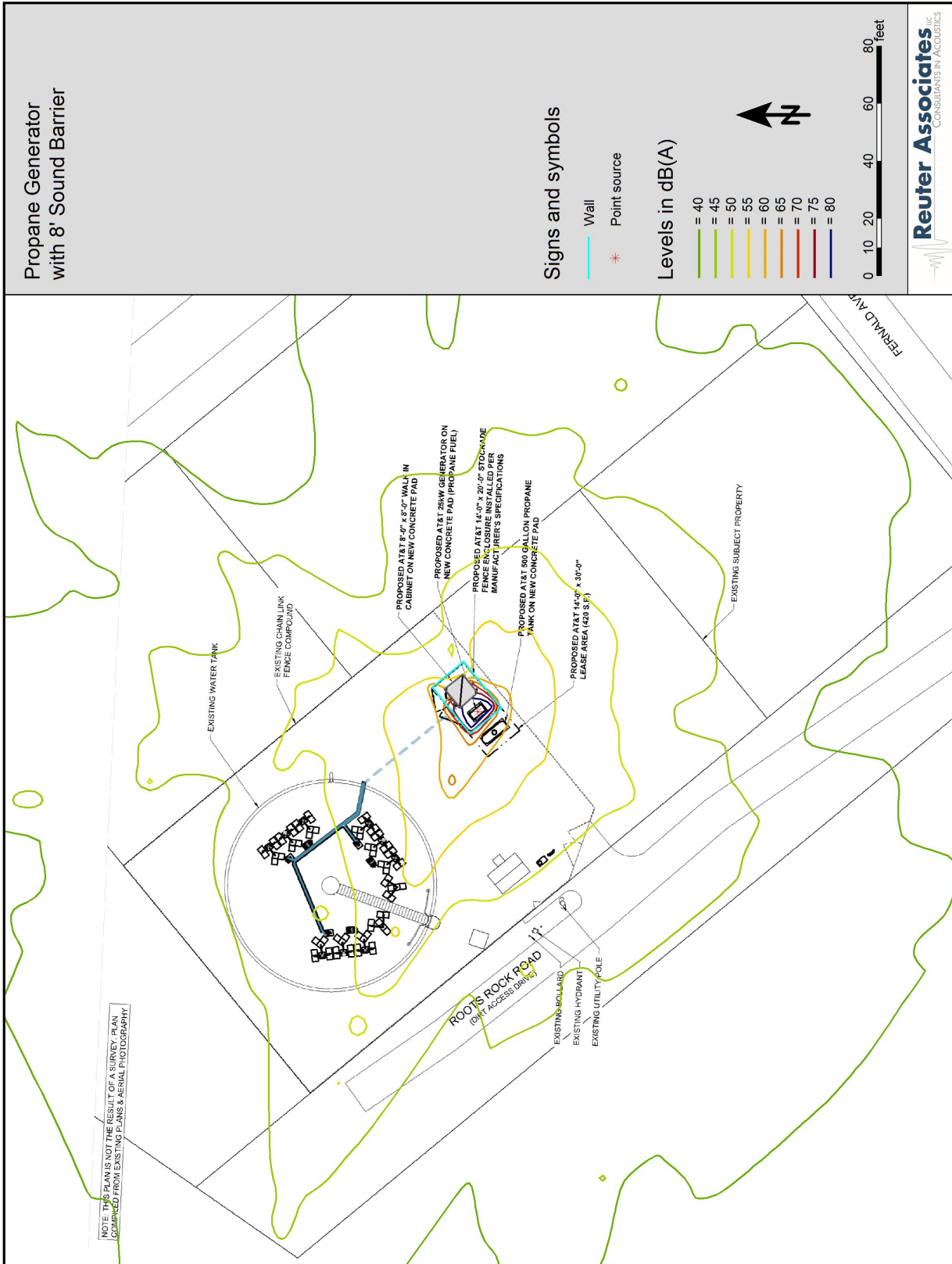


Figure 1 – Propane Option

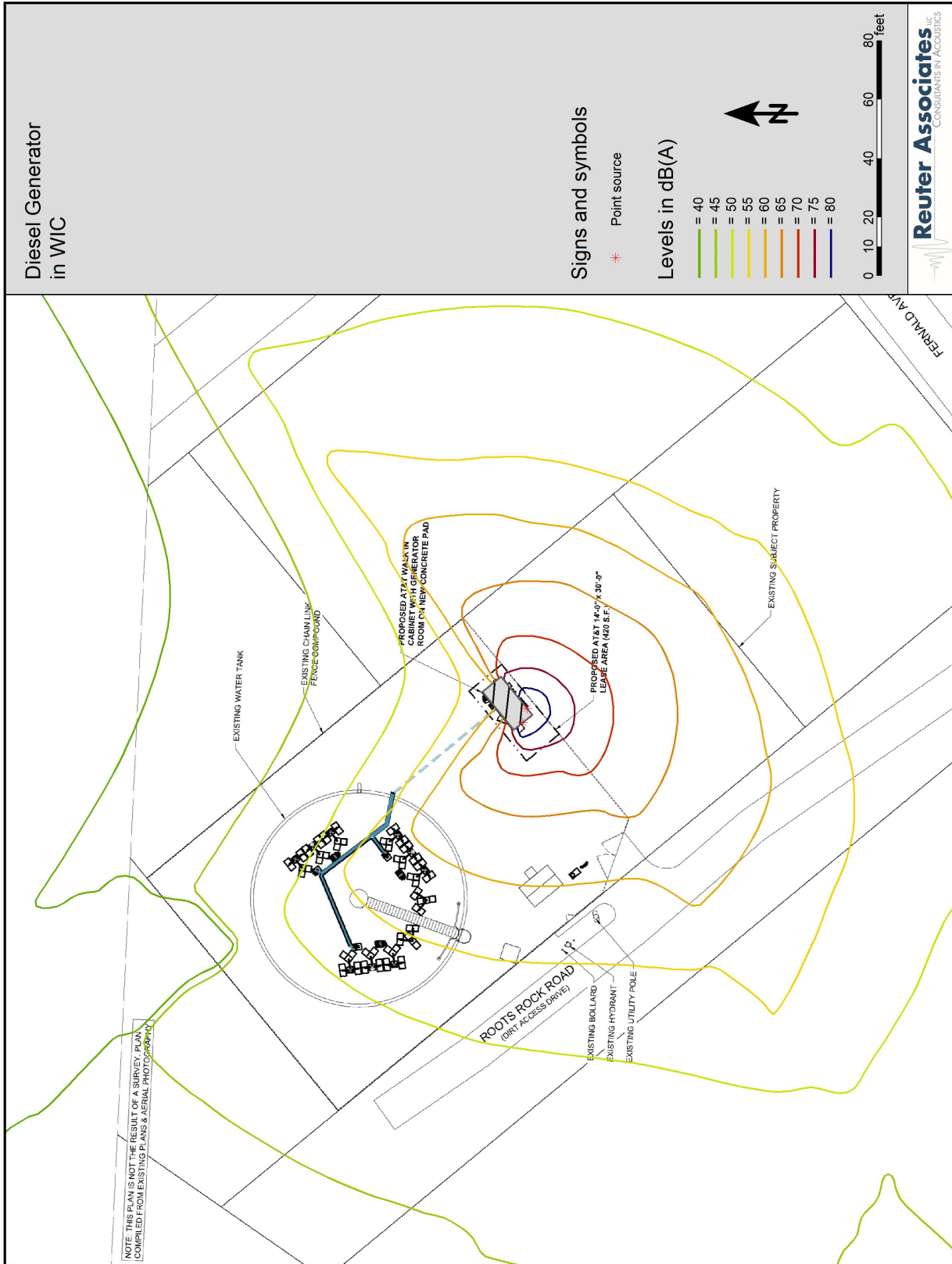


Figure 2 – Diesel Option