

April 11, 2018

Mr. W. Steven Ketchabaw George Comfort & Sons, Inc. 2 Manhattanville Road Purchase, NY 10577

Re: High Ridge Corporate Park, Stamford, Connecticut

Community Noise Impact of Proposed Life Time Fitness Facility – Additional Analysis

Dear Mr. Ketchabaw,

Reference is made to our letter of April 9, 2017, which analyzed potential community noise impact from activities associated with a Life Time Fitness (LTF) facility proposed to be developed at the High Ridge Office Park site. Specifically, the focus was potential noise generated by an outdoor pool area, which is to be used seasonally.

The referenced letter concluded that daytime noise at the west property line (border with Sunrise of Stamford) could be expected to be 66 dBA (A-weighted decibels), in excess of 55 dBA allowed by the City of Stamford Noise Ordinance; thus, mitigation measures would be required in order to comply with the ordinance. At the southern property line (border with Sterling Lake Lane), daytime noise would be 52 dBA, i.e. below the maximum.

At your request, we have conducted additional analysis of potential noise impact on residential dwellings on Sterling Lake Lane. This report supplements our report of April 9, 2017.

Our additional analysis included our production of a computer model. Source noise level data for outdoor pool area activity - identical to data used in our original analysis (from previous studies conducted by others) - was utilized to develop a computer model of noise propagation to the vicinity of Sterling Lake Lane. The computer model took into consideration shielding and reflection provided by nearby buildings; topographical features in the vicinity of the site; and the effects of vegetation and bodies of water; but did not include any specific sound attenuation structures on the proposed Life Time facility site.

Results of the computer modelling are shown in Figure 1, which depicts noise contours from outdoor pool area activity in 5 dBA increments. Also shown are noise levels predicted at specific locations.

#### Results

Results of current and previous noise level projections are as follows (in dBA, A-weighted decibels):

Maximum allowable noise level at High Ridge Park south property line (daytime)	55 dBA
Maximum projected noise level at south property line due to outdoor pool activities	52 dBA
Range of existing daytime residual (L90) ambient noise levels in community	42-51 dBA
Range of projected noise levels in vicinity of Sterling Lake Lane due to pool activities	34-48 dBA

You further requested that we re-examine our previous conclusions by taking into consideration the following:

- 1. A more recent conceptual site plan entitled "Concept 3 March 2018" dated March 8, 2018 (copy attached).
- 2. A site section sketch entitled "Section through Sunrise Buffer" dated March 23, 2018 (copy attached).
- 3. Techniques which may be utilized to further reduce noise propagation offsite.

Each of these items is addressed as follows:

## 1. A more recent conceptual site plan entitled "Concept 3 - March 2018" dated March 8, 2018

The LTF building is ideally situated to shield sound transmitting to the south. With this shielding, factored along with the distance to the south property line (450 ft. ±), noise levels predicted by our computer modelling along most of the south property line are substantially less than the 52 dBA originally predicted, and are even lower at the residences on Sterling Lake Lane (refer to Results above and Figure 1).

#### 2. A site section sketch entitled "Section through Sunrise Buffer" dated March 23, 2018

This sketch describes an approach to create a substantial "stepped" wall and earthen berm topped with a fence along the boundary, and is the most effective approach to providing significant noise reduction at the Sunrise of Stamford facility, again by physically shielding noise from the pool area. Either alone or in combination with further mitigation measures, described below, this approach will bring the transmitted noise into conformance with the noise ordinance.

### 3. Techniques which may be utilized to further reduce noise propagating offsite

In addition to the location of the LTF building, creation of distance between noise source and receiver, and creation of landscaped walls and berms, there are other effective measures that can be employed to limit propagation of noise offsite. The most effective measures include careful design and placement of stand-alone sound attenuation barriers. There are many options in these regards and photos of several, which are generally considered both effective and aesthetically pleasing, are attached. Strategic placement of these barriers nearest to the sound source (i.e. at the edge of the pool area) would be most effective.

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These measures, if properly and thoughtfully integrated into the site plan, will further reduce noise propagating offsite significantly. At the southern border, noise levels below the minimum daytime ambient noise level of 42 dBA are achievable. This means that at the homes on Sterling Lake Lane the pool noise will be effectively inaudible. This can be confirmed during the process of developing the site plan.

We trust this information will be useful. If you have any questions, don't hesitate to contact us.

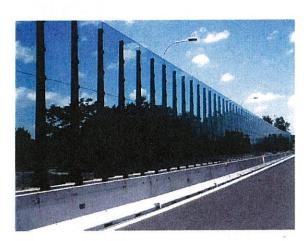
Sincerely,

Mark Reber, Principal Jaffe Holden

# **Example Sound Barrier Wall Options**





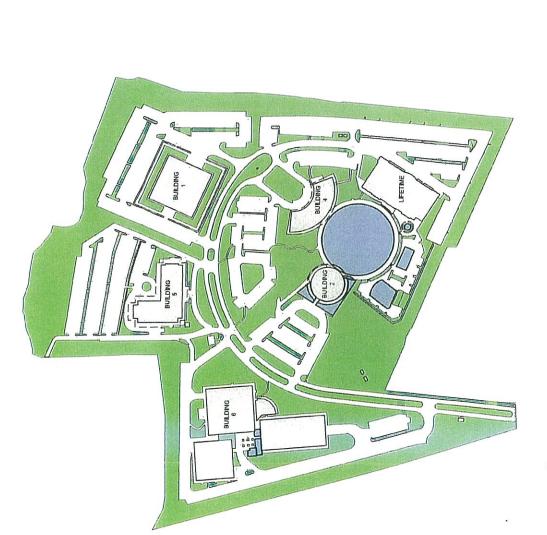




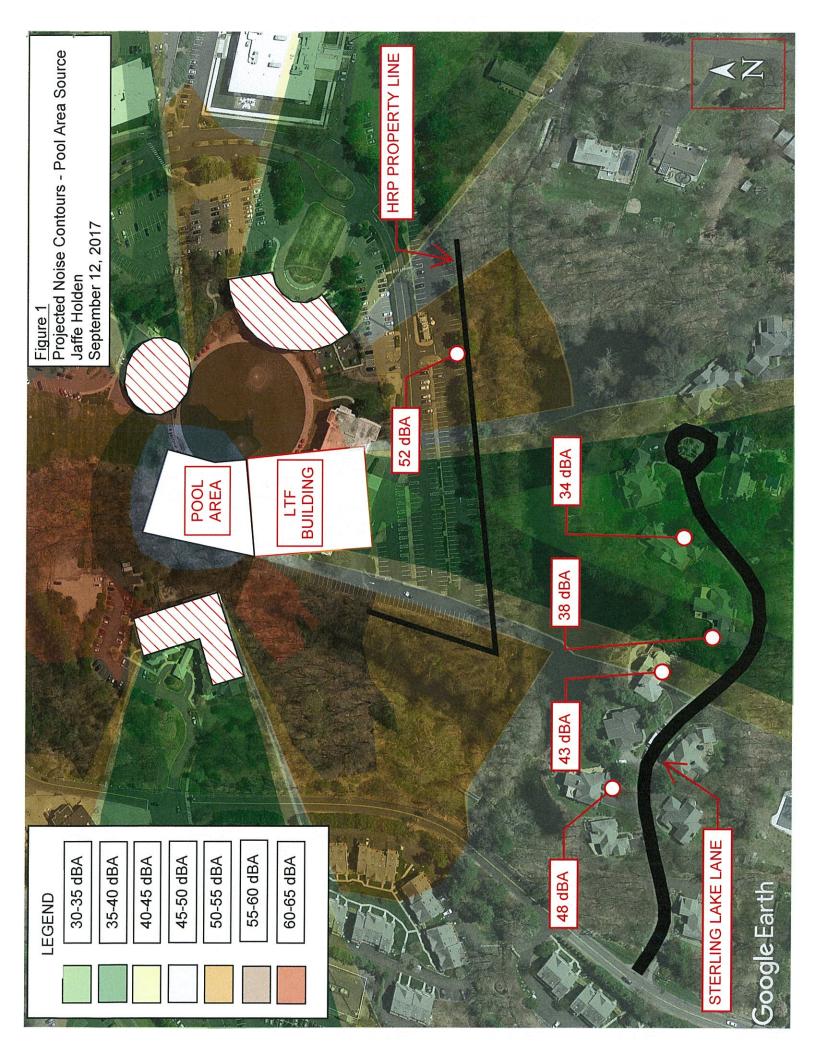


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HIGH RIDGE PARK CONCEPT 3 - MARCH 2018



11.21% 50.12% 0.307 1,691,800 SF 189,634 847,899 519,076 BUILDING FOOTPRINT GROSS FLOOR AREA TOTAL SITE AREA SITE COVERAGE



LTF POOL DECK

PLANTING .9

PLANTING

PLANTING

EXISTING PLANTING TO REMAIN

EXISTING ASSISTED LIVING PROPERTY
LIFETIME FITNESS PROPERTY

50' SETBACK



April 16, 2018

Mr. W. Steven Ketchabaw George Comfort & Sons, Inc. 2 Manhattanville Road Purchase, NY 10577

Re: High Ridge Corporate Park, Stamford, Connecticut

**Community Noise Impact of Proposed Life Time Fitness Facility** 

Dear Mr. Ketchabaw,

This is to correct a typographical error in our April 9, 2017 report. In Appendix B, the last line of the second table should read "Sum = projected SPL at west property line (dB)".

Please contact us if you have any questions.

Sincerely,

Mark Reber, Principal Jaffe Holden