

The City Needs to Take a Leadership Position by Enacting Bylaws Based on Careful Analysis of All the Issues.



Resolutions Regarding Measurable Noise Bylaw Enforcement at River World

Objective

- ▶ **Present Our Concerns:** regarding the testing that has been conducted in relation to the City's 'Measurable Noise Bylaw'.
- ▶ **Propose a Resolution:** we would like Richmond City's Councillors to follow through on their statements and request further tests be taken from our properties.

Testing Done by VCH Was NOT Done in Accordance with the Intent of the Bylaw:

- ▶ **City of Richmond, Measurable Noise Bylaw:**
 - ▶ 3.2.2.2 A person must not make, cause or permit to be made a continuous sound exceeding sound levels: (a) of 55 dBA or more during the daytime, or (b) of 45 dBA or more during the nighttime, when received at a point of reception within a quiet zone.
- ▶ **City of Richmond definition of Point of Reception:**
 - ▶ (a) any place or parcel where the originating sound is received, other than the place or parcel where the sound originated, provided that after 2:00 a.m. and before 8:00 a.m. on any day, point of reception is any point beyond the property line, of the source of the noise, on any parcel used as a site for a Commercial Entertainment Establishment as if it was in a Quiet Zone; or
 - ▶ (b) any place on a strata lot designated, shown or described on a strata plan, other than the strata lot or other or parcel from which the sound originated.

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Issues Regarding Testing Done in the Homes at RiverWind

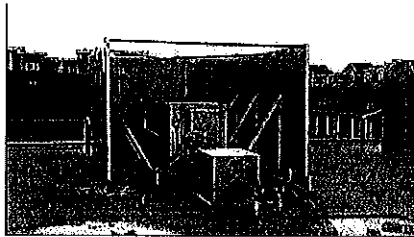
- ▶ **Testing Requests Were Denied:** One resident was denied the filing of a complaint by VCH from the outside of their three-year-old son's room. As per (b) of the point of reception.
- ▶ **Tests Were Not Long Enough:** conducted on-site by VCH were 3 minutes in length, which do not give an accurate view of the constant, fluctuating noise.
- ▶ **All 5 Rooftop Compressors May Not Have Been On:** VCH has been relying on TWF and their employees and sub-contractors to verify that the compressors are all on and that units are running at their loudest emission levels during testing, which we feel is a conflict.

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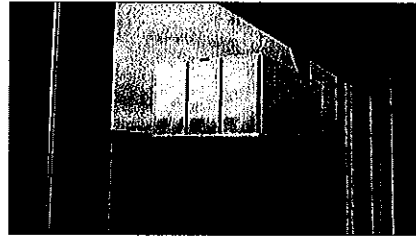
- ▶ **Tests Were Not Taken During Actual Hours of Complaint:** Tests have never been conducted between 10pm and 7am, which is the time duration in which the majority of complaints take place. As the noise fluctuates up and down, we also feel that multiple tests need to be taken during these hours to get an accurate view of noise emissions.
- ▶ **VCH Agreed That Nighttime Testing Over Several Hours Should Be Done, But Never Did Any:** On Sept 17, 2009- Nigel Headley with VCH emailed Steve Chong & TWF with the following statements:
 - "After Stan (Sonic Enclosures- hired by TWF to bring them to compliance with the City's bylaw) has completed all of the modifications to the compressor unit and has independently verified its reading to be below 45 dBA, I will conduct an inspection onsite with one of the residents to confirm his findings."
 - "It is our understanding that the compressors have multiple noise levels intermittently. I would suggest that Stan conduct a thorough noise survey at the residential complex to include a specified time frame, possibly 8-10 hours continuously, to accurately reflect the true noise levels coming from the compressor units."

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Compressors Units On the Roof of True World Foods



Neighbours complain that noise from compressors on the industrial complex's roof keeps them awake. (CBC)



Machines, seen here outside a bedroom window, run all night. (CBC)

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Richmond City Council Members Agree With RiverWind Residents:

- ▶ Coun. Greg Halsey-Brandt said he "believes that the authors of the bylaw that limits noise levels to 45 decibels in Riverwind's light industrial zoned neighbourhood never intended that figure to be applied to the interior of a house, let alone a bedroom.".... "Halsey-Brandt believes the wall and roof of the warehouse shielded much of the noise from the ground level readings, as the sound from True World's five compressors sits on the roof more than two storeys up and projects directly at the upper floors of the multi-family residential complex"..... "Halsey-Brandt would like to see the noise readings taken in direct line-of-sight between the compressors and the residents, at the property line, even if it's 30 feet up."

Richmond Review Published: October 30, 2009

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- ▶ Coun. Evelina Halsey-Brandt said that "despite the preliminary finding from the Richmond health department that True World Foods is now in compliance with the city's noise limits in its light-industry zoned neighbourhood, that's not the end of the issue." "She wants to ensure that the testing done by the health department was done in accordance with the intent of the bylaw." "She believes the 45 decibel noise limit set forth in the bylaw applies to the noise level at the property line"

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What We Expect of our Elected Officials:

- ▶ For Richmond City Council to stand by the statements they made and have VCH perform noise readings with line of site of the compressors at the property line. (ie. 2 stories up)
- ▶ Conduct multiple noise readings between the hours of 10pm and 7am.
- ▶ Have a third party from the City or VCH present at True World Foods to confirm that all compressor units are running and that they are running at their loudest levels (ie. Defrost mode) during all future tests.

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March 12, 2010

RiverWind Homeowners
Andrews Road
Richmond, BC, Canada

Attention: Andrea Niosi

Dear Andrea:

Following is a summary of the sound level testing that was performed earlier this year. The sound level meter used was a Bruel & Kjaer Model 4436. This device is actually a dose meter used for WCB type applications. It measures basic noise levels and accumulates the dosage. Ideally, we should use an analyser that could detect different frequencies and harmonics of those frequencies. The following tests and readings were obtained:

- Test #1: Dec 30th. Time: 11pm. Location: Property line adjacent to Units #37 and #38.
Decibel readings as follows:
 - Background noise level was 28 - 38db.
 - Variation appeared to be mainly due to vehicular traffic.
 - Noise Levels from the refrigeration compressors did vary at over 40db and peaked at over 45db.

- Test #2: Jan. 5th. Time: 11:15pm. Location: Property line adjacent to Units #37 and #38.
Decibel readings as follows:
 - Background noise level was 30 - 37db.
 - Variation again appeared to be mainly due to vehicular traffic.
 - Noise Levels from the compressors varied at over 40db and appeared again to peak at over 45db.

I also attempted to take a look, as best as I could from ground level, at the enclosures over the refrigeration compressors. They do appear to be of sheet metal construction that encloses three sides of the compressor units. I suspect that the sheet metal is also vibrating and causing harmonics to be generated that are adding to the base noise levels. We would need access to a sound level analyser that can differentiate between frequencies and harmonics, but based on my previous experience, I'm fairly certain that is the case.

There are two additional points that should be considered in this analysis:

- The measurements referred to above were taken at ground level. They would almost certainly be higher if taken at the same level as the compressors.
- The meter used essentially averages the sound levels over the range of frequency being measured. From my experience, equipment similar to the refrigeration compressors in question typically generate sound over a wide range of frequencies, but they also typically have peaks at certain frequencies as well. Those peaks would most certainly be higher than the average reading supplied by the sound level meter used.
- Sound levels also have a tendency to sum together vectorally in some cases. Harmonics can then exacerbate the problem. I suspect that is the case with this situation.

March 12, 2010

Sound level attenuation is likely possible with these refrigeration units. I have experience attenuating noise from natural gas compressor stations. The techniques used are very much frequency dependent. In other words, high frequency noise attenuation will require different methods than those used to attenuate low frequency noise.

Unfortunately, due to the limits of the equipment I had access to, I was not able to confirm with scientific certainty that the sound levels are over the statutory limits, but I strongly suspect that they are. Please also note that the uncertainty isn't only due to the limits of the meter I had. Weather conditions and things like humidity levels also influence readings. I also took the readings after hours since background noises will add to the noise of interest. Usually, background noises are lower in the evening, so will not contribute as much to the sum.

Sincerely,

MB (Mike) Tarr
President