ILLINOIS POLLUTION CONTROL BOARD

YORK HIGH NEIGHBORHOOD COMMITTEE, JANET HODGE, FRED HODGE, PATRICIA BENNETT, DAVID BENNETT, SHEILA TRANT, MIKE TRANT, JOE VOSICKY, JEAN CONROY, PETER CONROY, FRANK SOLDANO, JOSEPH REAMER, ELIZABETH LALIBERTE, and CHARLES LALIBERTE,	)	
Complainants,	)	
v.	)	PCB 05-93 (Citizens Enforcement – Noise)
ELMHURST PUBLIC SCHOOLS, DISTRICT 205,	)	
Respondent.	)	

TO: SEE ATTACHED LIST

NOTICE OF FILING

PLEASE TAKE NOTICE that on the 27th day of July, 2006, the undersigned caused to be filed with the Illinois Pollution Control Board, James R. Thompson Building, 100 West Randolph Street, Suite 11-500, Chicago, Illinois 60601, Complainants' Rule 216 Admission of Fact and Admission of Genuineness of Documents in the above captioned matter, a copy of which is hereby served upon you.

Joseph F. Vosicky, Jr.

PROOF OF SERVICE

The undersigned, being first duly sworn, on oath deposes and states that a true and accurate copy of the foregoing Notice of Filing with documents was served by depositing on the 27th day of July, 2006, in the U.S. Mail at Chicago, Illinois with the proper first class postage prepaid, addressed as shown above; under penalties as provided by law pursuant to 735 ILCS 5/1-109 I certify that the statements set forth in this instrument are true and correct, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that he verily believes the same to be true.

Joseph F. Vosicky, Jr.

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RULE 216 ADMISSION OF FACT AND
ADMISSION OF GENUINENESS OF DOCUMENTS

Complainants, YORK HIGH NEIGHBORHOOD COMMITTEE, and the individual Complainants, pursuant to the Rules and Procedures of the Illinois Pollution Control Board and Illinois Supreme Court Rule 216, propound the following requests for admission of facts and for admissions of the genuineness of certain documents:

1. Wight & Co. is an architectural firm which contracted with ELMHURST PUBLIC SCHOOLS, DISTRICT 205, for the purpose of remodeling and reconstructing York Community High School.

2. Shen, Milsom & Wilke, Inc. are professional technology consultants in acoustics.

3. Shen, Milsom & Wilke, Inc. "conducted field measurements of ambient noise levels in the vicinity of York Community High School in Elmhurst, Illinois in order to assess the acoustical impact of rooftop mechanical equipment on neighboring residential communities" on or about August 23, 2002 and made a written report of their findings and recommended noise mitigation options to Wight & Co. on September 11, 2002.

4. A true and accurate copy of Shen, Milsom & Wilke, Inc.'s report to Wight & Co. dated September 11, 2002 is attached hereto as Exhibit "A".

5. Shen, Milsom & Wilke, Inc. conducted noise measurements at seven (7) different positions as noted on a site plan attached to their September 11, 2002 letter report as an Appendix which "Noise Level [readings] with Rooftop Equipment On" measured in A-weighted sound pressure levels, in order to simulate the response of the human ear expressed in units of decibels (dBA), revealed varying sound levels from 48 dBA to 75 dBA.

6. Shen, Milsom & Wilke, Inc.'s September 11, 2002 report determined that "in order for residences to not be readily aware of the noise emissions from the equipment, that the noise mitigation for the equipment will need to reduce background noise levels at the residential property line at night to the minimum ambient noise level in . . . the 40 to 43 dBA range."

7. Based on their field measurements of August 23, 2002, Shen, Milsom & Wilke, Inc. determined that "it will be necessary to provide noise mitigation for the cooling towers as well as the exhaust fans in order to reduce noise levels at the residences [positions 1-7] to acceptable levels."

8. That as of July 13, 2006, during the telephonic conference conducted by Bradley P. Halloran, Hearing Officer of the Illinois Pollution Control Board, Todd Faulkner, attorney for the Respondent, ELMHURST PUBLIC SCHOOLS, DISTRICT 205, represented that the level of noise emissions from the equipment is still out of compliance.

Respectfully submitted,

David E. Bennet, pro se

Joseph F. Vosicky, Jr., pro se

York High Neighborhood Committee
and Individual Complainants

Shen Milsom & Wilke, Inc
TECHNOLOGY CONSULTANTS in TELECOMMUNICATIONS, AUDIO/VISUAL & ACOUSTICS

2 North Riverside Plaza, Suite 1460
Chicago, IL 60606
(312) 559-4585 Fax (312) 559-3193
e-mail: chicago@shi.smwinc.com

September 11, 2002

Mr. Scott Flanagan
Wight & Co.
814 Ogden Avenue
Downers Grove, IL 60515

Re: York Community High School
Rooftop Mechanical Equipment Exterior Noise Evaluation

Dear Scott:

We have conducted field measurements of ambient noise levels in the vicinity of York Community High School in Elmhurst, IL in order to assess the acoustical impact of rooftop mechanical equipment on neighboring residential communities. This document contains the results of our site survey and offers our comments and recommendations on proposed options for mitigating noise emissions from the rooftop equipment.

Existing Conditions

During our site visit conducted on Friday 08-23-02, a physical inspection of rooftop mechanical equipment located on the north end of the new wing of the high school was undertaken. We noted that equipment consisted of three (3) BAC induced draft cooling towers and two (2) M.K. Plastics Corporation AXIJET-S science laboratory exhaust fans. The cooling towers are located at the north center of the roof with one of the exhaust fans situated in between two of the towers. The other exhaust fan is located slightly north of the cooling towers and closer to the west side of the roof. The new building is located adjacent to residential homes along the entire north and west side of the building.

It is our understanding that when this equipment is in operation, there have been complaints from the neighboring residences to the north and west of the building that noise emissions from the equipment are audible and a disturbance. It is also our understanding that the town of Elmhurst currently has no applicable noise ordinance that dictates maximum allowable sound pressure level values, measured in decibels, at residential property lines or other zoning adjacencies.

EXHIBIT "A"

Survey Procedure

In order to quantify the current conditions, an instrumented survey to record ambient sound pressure levels was conducted at various locations near the new high school building and near adjacent residences. Noise measurements were conducted at 7 different positions as noted in the attached site plan in the Appendix. Each measurement was conducted for roughly 10 to 15 second intervals in order to capture the average short term sound pressure levels due to various environmental conditions noted in the table below. Measurements at each of these positions were conducted with the rooftop equipment in operation and with the equipment turned off in order to assess the acoustical impact at the residences. We should point out that most of the measurements with equipment turned off were documented to attempt to best represent the 'quietest' ambient levels in the area (i.e. minimal to no vehicular traffic or other extraneous noise) in order to capture the worst case condition where the rooftop equipment would be most noticeable to residential occupants. Other background noise measurements depicting extraneous neighborhood activity were also taken (i.e. aircraft flyovers, vehicular traffic, etc.)

In a residential neighborhood such as this, background noise levels tend to fluctuate over time with daytime noise levels typically being higher due to increased vehicular traffic activity and other events, while nighttime background noise levels are usually quieter due to less activity. An instrumented survey for a 24 to 48 hour period to measure statistical noise data that would document fluctuations in sound pressure levels over time would provide more definitive information on the 'quietest' noise levels in these areas. However, the 'spot check' survey that was conducted as part of this analysis will still give some indication of the perceived impact of rooftop mechanical equipment on the residences.

For reference, the human ear does not perceive sounds at low frequencies in the same manner as those at higher frequencies (i.e., sounds at low frequency do not seem as loud as those of equal intensity at higher frequencies). Thus, the A-weighting network is provided in sound analysis systems to simulate the response of the human ear. A-weighted sound levels are expressed in units of decibels (dB). These levels in dB are used by the engineer to evaluate hearing damage risk and community annoyance impact. These values are also used in federal, state, and local noise ordinances. The symbol dB(A) or dBA are typically used to denote A-weighted sound levels. Based on this fact, it was determined that noise levels for this analysis would be measured in A-weighted sound pressure levels (dBA).

Survey Results

The table below summarizes the results of our noise survey at the various positions noted in the Appendix. As is noted above, a number of measurement

events involved some extraneous noise sources occurring in the vicinity which have been documented accordingly.

Ambient Noise Levels At Various Positions Near York Community High School
Decibel Values Reported in A-Weighted Sound Pressure Levels (re: 20μPa)

Test Position	Test Condition	Noise Level With Rooftop Equipment On (dBA)	Noise Level With Rooftop Equipment Off (dBA)
1	Aircraft Noise	75	NA
1	No Aircraft Noise	48	47
2	Garbage Truck Noise with equipment operating only	52	43
3	No significant extraneous ambient noise	52	44
4	No significant extraneous ambient noise	49	44
5	No significant extraneous ambient noise	51	43
6	No significant extraneous ambient noise	52	45
7	Construction Noise	55	55

In reviewing the survey data, it can be seen that the change in ambient noise levels at the residential areas adjacent to the new building did increase by as much as 8-9 dBA with the rooftop equipment in operation. This was most clearly noticeable at positions closer to the rooftop equipment (positions 2, 3, 5, and 6). For reference, an increase of 10 dBA would subjectively be perceived as a doubling of the overall noise level in a respective area. Measurements at positions 1 and 4 only yielded a 1-4 dBA difference in noise level with the units turned on and off. This would be perceived as a just noticeable increase in noise level with the units on.

Measurements at position 7 did not indicate any change in ambient noise level due to the fact that construction vehicles were in operation at the north end of the building which unfortunately tended to cover or mask any change due to the equipment operating conditions. However, we expect that similar conditions to position 5 or 6 would be perceived here during times of minimal community activity.

Based on the results of this survey, we believe that it will be necessary to provide noise mitigation for the cooling towers as well as the exhaust fans in order to reduce noise levels at the residences in question to acceptable levels. Since there is no applicable noise ordinance that dictates maximum allowable decibel levels at

residential property lines, we believe that in order for residences to not be readily aware of the noise emissions from the equipment, that the noise mitigation for the equipment will need to reduce background noise levels at the residential property line at night to the minimum ambient noise level in the area (We assume rooftop equipment would be operating during evening and nighttime hours). Based on our survey results, we expect this will need to be in the 40 to 43 dBA range.

Noise Mitigation Options

In reviewing the mechanical and acoustic performance data for the rooftop equipment as provided by the manufacturers, it was determined that the majority of the noise transmitting to the neighboring residences was due to the cooling towers. Although measurements with the exhaust fans running only was not possible during our survey, from our review and analysis of published sound ratings, we anticipate that they while they are not the dominant contributing factor to the noise issue, they also will require noise mitigation treatment to meet the suggested levels noted above at the residences.

In order to achieve appropriate cooling tower noise levels in the vicinity of the central plant, with towers running at full capacity we recommend the following noise mitigation treatment in order to attempt to approach the estimated nighttime ambient noise level:

1. Provide sound attenuator sections at the air intake and discharge of the cooling tower. We should caution that providing effective sound attenuator sections for an induced draft tower is often difficult due to static pressure drop considerations with the propeller fans at the top. The following presents some options:

    a. BAC offers a low noise sound attenuation package that incorporates air intake and/or discharge sound attenuators to reduce fan noise and open water fall noise. We have reviewed the sound attenuation packages offered by BAC and believe that the option utilizing both intake and discharge sound attenuation will provide a noticeable reduction in noise levels at the residences. Based on our analysis, we calculate that background noise levels would be in the 45 dBA range with this sound attenuation package. This would mean that with this option alone, under the expected quietest conditions at the residences, cooling tower noise would be slightly above ambient noise levels in the area.

    b. Provide cone extensions at fan discharge. This will serve to provide better air flow conditions, further orient fan noise upward, and thus provide some noise reduction at street level locations. However, air intake

noise will still have to be addressed through using the BAC package for intake only sound attenuation. Background noise levels at the residences would be in the 45 dBA range as well.

2. Although the sound attenuation options offered above will result in a noticeable reduction in noise level from the cooling towers, there would still be the possibility that complaints from residences could occur since the noise level would not fall below the expected lowest ambient noise level in the neighborhood. Additional noise mitigation treatment may be necessary to meet the estimated nighttime ambient noise levels at the residences. An additional option for noise mitigation would be to provide a solid sound barrier wall for the north and west sides of the cooling towers. The wall should be located as close to the cooling towers as possible (minimum required distance for maintenance clearance, etc.) and extend to the height of the towers. The walls would need to be constructed of a solid material with sufficient mass to reduce noise transmission such as a masonry wall or insulated metal panels.

— For this application, we offer the option of providing insulated acoustical metal panels for the sound barrier wall, as all details (terminations, intersections, etc.) are part of the package and represent good acoustical design and installation practice. Manufacturers of such products are:

Industrial Acoustics Company: 'Moduline' Panels
Local Rep: The Huff Company 847-362-7449

United McGill: 'Soundscreen' Panels
614-882-5455

— The pricing, availability, and installation issues for the prefabricated products are best addressed directly with the manufacturer and/or their local representative. The panels can also be constructed by a sheetmetal shop and installed by a general contractor, however, installation and coordination details would have to be similar to the prefabricated and 'pre-detailed' products. An outline specification for the panels can be provided.

3. Variable frequency drive for fans should be used for noise control purposes. During times when towers are not required to run at full capacity, such as during nighttime hours, operating the fans at lower speeds will serve to reduce noise levels to some degree. This could translate into less aggressive noise mitigation treatment than was recommended above if the noise levels from the tower fans at lower capacities is reduced noticeably. However, we

caution that this option only gives better control over the situation and may not apply to all cases since towers may still have to run at full capacity some of the time.

For the exhaust fan that is located at the northwest end of the roof, we offer the following suggestions for noise mitigation:

1. Provide the most effective sound attenuation available from the manufacturer. Based on past experience, discharge sound attenuation is the main option available from manufacturers of this type of exhaust fan and would only partially mitigate noise transmission to the residences.

2. The only other method of mitigating noise emissions from this fan would be to provide a local barrier wall/ enclosure for the fan that extended at least to the top edge of the fan (with packaged sound attenuation option#1) and be constructed of similar materials as was described above for the cooling towers.

We hope you will find the above information useful. We are available to review these options with your office and the school representatives. Should there be any questions or comments, do not hesitate to call.

Very Truly Yours,

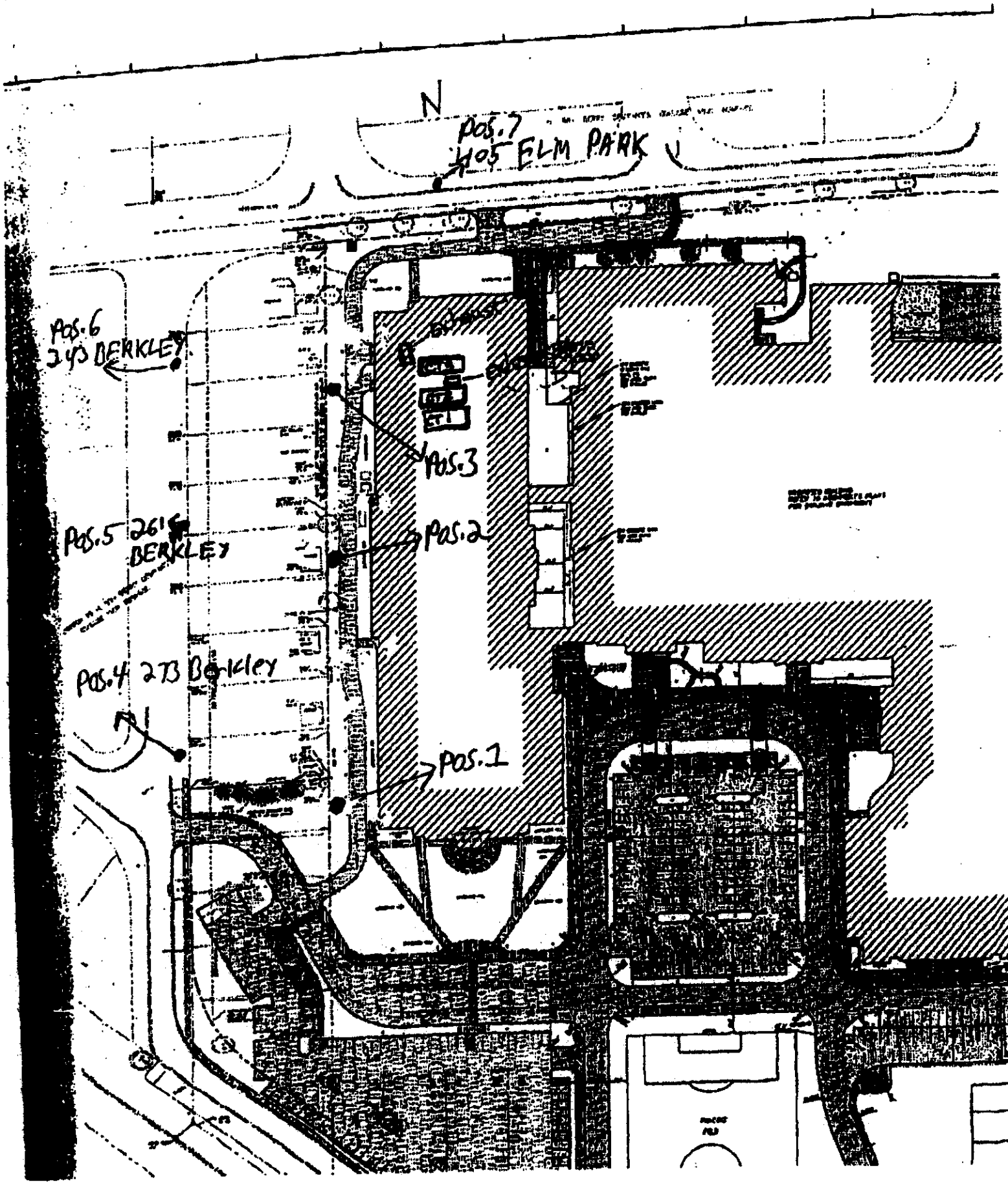
Shen Milsom & Wilke, Inc.

Erik J. Ryerson

Erik J. Ryerson
Associate

#02467

cc: Patricia Sumrow – Elmhurst Community District 205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Pos.7
405 ELM PARK
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