



System: CWBR

Kinetics Noise Control Solutions

Rooftop, Mechanical Equipment Noise Control

Client

Large bakery in residential area

Issues

- Complaints filed by nearby residents regarding noise
- Client is required to comply with city noise ordinance
- Client had limited budget

Solutions

- The client contacted their local Kinetics Noise Control, Inc. (KNC) representative
- The KNC local representative and in-house engineering team determined the noise sources:
 - Rooftop air-handling units
 - Wall-mounted building exhaust fans
 - Chillers
 - Transformers

- Acoustic consultant recommended the attenuation of each piece of equipment.
- To work within the client's budget, KNC provided plans for a two-phase noise reduction approach.
- The noisiest piece of equipment was treated first, with follow-up noise tests to determine the need for the second phase.
- The client demonstrated his concern for his neighbors yet the need to stay within his budget.



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Advantages of Proposed Solution

- Kinetics Noise Control, Inc. (KNC) and their local representative participated in educating the surrounding residents and city officials of the reasoning for proceeding in phases. This helped them be patient with the client.
- The experience and knowledge of KNC's engineering team in the areas of acoustics, equipment operation and airflow were used to ensure that each specific noise control solution allowed for proper equipment operation and access.

Project Goals

- Quiet the noise levels of the bakery rooftop mechanical equipment to less than or equal to those dictated by the city ordinance.
- Stay within the client's budget.
- Educate the community and city officials of what needed to be done and acquire their patience to introduce the staged approach.
- Make sure the performance of the mechanical equipment is not degraded by the introduction of sound attenuating products.

NOISEBLOCK™ Applied Products

1) Exhaust Fan Discharge Silencers

KNC model VCS, standard, circular silencers constructed of 16 gage, solid, outer skins, 22 gage, perforated, inner skins were supplied. Iron ring flange connections mated the silencers with the exhaust fans. The silencers are cost effective and backed by KNC's extensive, independently tested database and years of proven performance.

2) Chiller Attenuation

KNC model STL-4, **NOISEBLOCK™**, a 4-sided barrier wall system designed from base-plate upward was offered to attenuate the noise propagating from the up-blast chiller. Included in the system was a personnel access door with panic passage hardware, STL-4 panels, trim, structural steel components, copy of structural calculations and P.E. stamped, piece-marked installation drawing set.

3) Acoustical Wall Hoods

KNC offered custom model VES, dissipative, elbow silencers with iron ring flanges and bracing to attenuate the wall mounted exhaust building ventilation. This controlled noise generated inside the building by the baking processes as well as that generated by the propeller fans venting the building exhaust and make-up air.

Resolution

By offering a phased solution KNC and their local representative helped the customer meet the required sound levels. Analysis showed a phase approach was an effective solution and saved the customer 60% in cost.