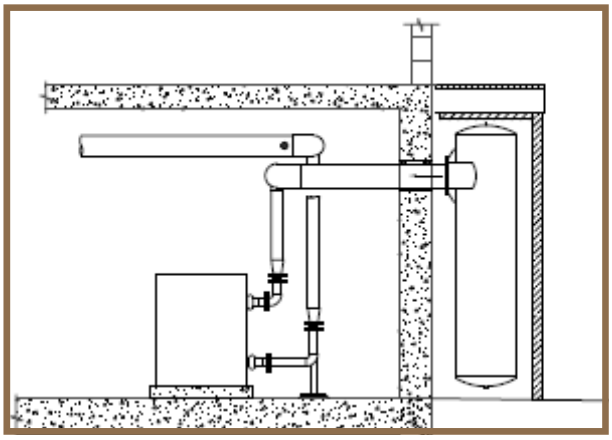
Big Sky Acoustics, LLC

Consulting services for noise assessment & acoustical design.

PROJECT PROFILE: BLOWER NOISE



PROJECT: WASTE WATER TREATMENT PLANT
Bigfork, MT

Residents near the new WWTP complained about excessive blower noise that sounded like a "hum". Big Sky Acoustics was hired to measure the existing blower noise, and determine effective noise control measures in order to modify the system.

BSA's SERVICES AND SOLUTIONS:

- Three pre-aeration blowers and four membrane scour blowers are located inside the new building, with inlet pipes for each set on the exterior building façade. BSA measured the plant noise levels at adjacent residences.
- Measured dominant tones between 63 and 315 Hz at various operating conditions and blower speeds, and determined that the pre-aeration blowers were the louder fan set.
- Developed noise control recommendations to modify the system, including:
  - Verify that the systems were operating correctly and at the lowest airflow possible.
  - Determine if the system controls could be set to use one blower at a higher operating speed, instead of multiple blowers at a lower speed, to meet demand and reduce the noise levels.
  - Install silencers between each set of blowers and their associated inlet on the outside of the building. BSA provided the minimum attenuation characteristics and three manufacturer recommendations.

BSA predicted that the blower noise levels would be 31 to 35 dBA lower (i.e., less than 1/4 as loud) at the residences with the silencers installed. After the modifications were complete, the project mechanical engineer happily stated "the hum has disappeared!"

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