

Best Management Practice Noise

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If you have any questions about this procedures sheet contact Auckland Council on 09 301 0101.

1. When should I use this sheet?

This Best Management Practice (BMP) applies to any site where neighbouring properties or communities are likely to be affected by noise generating activities.

2. What's the aim?

Noise is a constant part of our daily lives; however, construction related noise can create an unwanted nuisance to surrounding residents and the wider community. Adopting best practice methods on site can help to mitigate noise and its effects – allowing stormwater related works to occur with the minimum amount of disturbance.

Important note – this BMP has been prepared as a general guide to managing noise on Stormwater Unit's maintenance and project sites. It is important that staff noise exposure be assessed and managed as part of the separate health and safety requirements of the project/site.

3. Why manage noise?

Perceptions of noise and the level of annoyance created by noise depends on a range of factors including the type of noise, its duration, distance from the source and the time of day. On stormwater maintenance and project sites there are many different sources and types of noise such as background noise from passing traffic, idling noise from machinery, and cutting, blast, impact and rotating noise from equipment.

The Auckland Council has rules that set what level of noise is acceptable from 'point-source' noise generating activities. However it can be difficult to accurately measure if your activities or site is in accordance with permitted noise levels.

This BMP therefore provides a practical advice on how to minimise noise or manage common noise generating activities on construction sites.



4. Site management and environmental controls

Forward planning – before you start works

- Notify neighbouring properties of works, giving them as much information on the nature of the work, the types of equipment to be used and the hours of operation.
- Identify nearby residents or business or sensitive landuses that may be adversely affected by noise.
- Identify the noise generating activities, machinery or equipment on site:
 - pay particular attention to work practices that are likely to be major contributors to noise (either the noisiest or longest durations of noise).
- Determine how to reduce or mitigate noise through appropriate site practices or controls.
- Consider preparing a Construction Noise Management Plan before commencement of a project which should detail noise generating activities, mitigation measures and management procedures to minimise noise or mitigate its effects.
- Schedule work so that the noisiest work occurs at standard times when it is likely to affect the least amount of people.
- Examine, and implement where feasible and reasonable, alternative work practices which generate less noise
 - for example, use hydraulic rock splitters instead of rock breakers, or electric equipment instead of diesel or petrol powered equipment.
- Arrange the work site to minimise the use of movement alarms on vehicles and mobile plant.
- Have a plan to deal with complaints.
- Identify a person who will be responsible for ensuring practices and controls are followed and implemented prior to starting works.

Environmental practices and controls

There are typically two ways of managing noise:

1. minimising controls or practices which reduce the amount of noise being generated
2. mitigating controls or practices that minimise the effects of noise.

It is best to try and minimise the amount of noise being generated through minimising controls in the first instance rather than trying to mitigate noise and its affects.

Common noise minimising controls or practices

- Ensure that unnecessary noise is avoided, such as dropping of scaffolding.
- Use quiet plant and machines which are specifically designed to produce less noise.
 - generally, electrically powered equipment is noticeably quieter than diesel-powered equipment and hydraulically powered equipment is quieter than pneumatic power.

- Specified plant and equipment such as excavators can also operate at very different noise levels. Look for and specify, lowest sound power level (shown as a PWL or SWL) marking when buying or hiring plant or equipment.
- Fit silencers.
- Avoid equipment that is either over or under powered.
- Where possible do not leave unnecessary equipment running or idling.
- Keep machinery covers and panels closed and well fitted.
- Ensure that machines are maintained regularly – simple maintenance can reduce noise levels by as much as 50 per cent
 - keep cutting tools sharp
 - replacing worn parts
 - carrying out balance checks and corrections as necessary
 - checking and replacement of defective vibration dampers, bearings and gears
 - tuning and adjustment of engines.

Common noise mitigating controls or practices

- Move noise sources like static plant and equipment as far as possible from sensitive boundaries.
- Screen noise sources to reduce the shield sensitive properties with stacks, spoils, and other construction material.
- House smaller noisy equipment in an acoustic enclosure (subject to manufactures specifications).
- Locate noisy equipment behind noise barriers:
 - barriers can be constructed on the work site from common construction building material (plywood, block, stacks or spoils)
 - the barriers can be constructed from commercial panels which are lined with sound absorbing material to achieve the maximum shielding effect possible
 - the length of the barrier should be greater than its height
 - ensure no gaps between the panels
 - the noise source should not be visible and barrier should be located as close as possible to the noise source
 - be careful not to reflect noise to other sensitive locations.

Monitoring and maintenance

- Regularly monitor noise – noise levels may be above permitted levels if you notice staff having to shout when at arm's length from each other while trying to communicate.
- Regularly assess site practices and controls to make sure that they are minimising or mitigating noise to an acceptable level.

5. Tips

- Involve staff in minimising noise;
 - talk to staff about noise from the works and how it can be reduced
 - avoid the use of radios or stereos outdoors where neighbours can be affected
 - encourage staff to avoid shouting, and minimise talking loudly and slamming vehicle doors
 - regularly train staff and contractors (such as at toolbox talks) to use equipment in ways to minimise noise.
- Keep potentially noise affected neighbours up to date on progress with the project.
- Provide contact details on a site board at the front of the site, and maintain a complaints register.



6. Useful links and information

- Go to aucklandcouncil.govt.nz and search for 'pollution'.
- Refer to the following Stormwater Unit BMPs:
 - Sediment and dust management
 - Works within watercourse
 - Works within potentially contaminated sites
 - Directional drilling
 - Reinstatement / site stabilisation
 - Spills and emergency management
 - Concrete and asphalt
 - Working in and around trees
 - Trenching
 - Works within sites of significance.



If a discharge occurs that has the potential to, or has entered the stormwater system or natural receiving environments, contact the Auckland Council 24 HOUR POLLUTION HOTLINE on 09 377 3107 immediately.

► Find out more:

For access to this BMP and to find the other BMP information sheets, visit aucklandcouncil.govt.nz/stormwater

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