

<b>SUBJECT:</b> Vibration Assessment for Planning Developments	
<b>AUTHORITY:</b>	<b>REVISION NO.:</b>
<b>REFERENCES:</b>	
<b>PREPARED BY:</b> Bill Jean	<b>APPROVED BY:</b> Marco Ramunno

**PURPOSE:** To establish a policy respecting a Vibration Assessment for Planning Application Developments

**BACKGROUND:**

The Town of Aurora recognizes the need for a Vibration Assessment Policy. This is to minimize the impact of construction vibration on adjacent properties. This would include the early identification of any vibration issues caused by the construction and identify the controlling of vibration in a manner that reflects the types of properties that are impacted, as well as, providing communication with the neighbours.

**POLICY:**

Vibration testing and monitoring will be required for any developments that includes the following construction activities:

1. Deep foundations
2. Drilled caissons or piles
3. Large scale soil compaction
4. Blasting
5. Any other construction activity where vibrations may negatively impact neighbouring buildings

Peak Particle Velocity (PPV) is the generally acceptable descriptor for evaluating vibration effects on buildings. The following are the general acceptable vibration limits measured at the foundation for buildings and structures within the zone of influence established.

1. Dwellings with concrete foundations, wood framed, drywall finish – Maximum Acceptable Peak Particle Velocity (PPV) – 5 mm/sec.

2. Structures that are sensitive to vibration due to age or construction techniques – Maximum Acceptable Peak Particle Velocity (PPV) – 3 mm/sec

### Procedure

1. A geotechnical report is required which assesses the soil and ground water information for the proposed site.
2. The applicant's Geotechnical Engineer will review and comment on the need for pre-condition surveys and vibration monitoring during construction. In the event the construction activities may have a potential to cause vibration, the report will include a minimum zone of vibration influence of 30 metres of the site's property line, identifying all properties within this zone.
3. The report will identify any risk structures within the zone of influence that may be susceptible to vibration issues. The report will make recommendations on whether vibration monitoring is required or recommended based on the review of the structures on the property.
4. Where vibrations are expected on neighbouring properties, all properties within the zone will be contacted by the developer requesting the owner permit a pre-construction survey to be performed.
5. Residents within the zone of influence will be provided notice prior to any activities occurring that may cause vibrations.
6. Prior to the commencement of construction activity that may cause vibrations, the applicant will provide a Notice to the Town and owners and occupants of properties within the zone of influence of the scheduled construction activity.

The Notice will include the following:

- A) Address of the proposed construction.
  - B) Contact Information
  - C) An explanation of the proposed construction activity and its potential to produce vibrations.
  - D) The statement of the levels of construction vibration that are prohibited.
  - E) Any other pertinent information related to the project as deemed necessary by the Consultant or Town.
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7. If a complaint is received the applicant/development shall immediately cause a Professional Engineer to perform a vibration assessment measurement at the location of the complainant.
  8. The Professional Engineer shall provide a copy of the results of the measurements to the complainant and the Town.
  9. The Professional Engineer shall provide his/her assessment and any recommendations.
  10. If the resulting measurements exceed the permitted vibration limits in this policy, construction will cease until such time as mitigation measures are implemented.