Many construction operations result in the propagation of seismic waves in the ground surrounding the site of the operation. These vibrations are potentially damaging to nearby infrastructure either by direct impact of the ground wave causing distortion of the structure or by settlement caused by vibrations causing shakedown settlement of loose sands. To evaluate potential damage it is necessary to convert applied energy to ground motion (vibration) through some coupling mechanism and to trace the decay of those vibrations to whatever facility is of concern. The amplitude of the vibrations reaching the target facility must then be compared to a standard criteria for damage or for annoyance to people. Methods of converting energy to particle velocity and charts of scaled distance are presented to estimate ground motion at the source in the first place and at any distance from the source in the second place. Finally, some criteria for limits of tolerable vibration levels are presented for both structural and human response.

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