

Radhesh Bhatt

From: AWOOD-TAYLER Daniel <dan.tayler@roger-bullivant.co.uk>
Sent: 09 February 2024 15:06
To: Radhesh Bhatt
Cc: SALE Nathan
Subject: RE: URGENT - Upper Tean - Piling Information

Follow Up Flag: Follow up
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Hi Radhesh,

Thanks for the below. We can confirm that we are able to provide vibration monitoring and that our monitors can be set to trigger an email/text alarm at pre-set levels.

However we would observe that the levels suggested by the Staffordshire Moorlands District Council are highly likely to be exceeded. 1.0mm/s-1 is a very low limit.

BS5228: -2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration does provide guidance on acceptable levels and these are summarised in the table below;

GUIDELINE VALUES OF VIBRATION VELOCITY (PPV). BELOW THESE VIBRATION MAGNITUDES MINOR DAMAGE IS UNLIKELY TO OCCUR (FROM BS 5228: Part 4: 1992).

Type of structure	Type of vibration	Frequency of vibration (Hz)	Peak Particle Velocity mm/s
Residential with significant defects	Continuous	0 - 10	1.25
		10 - 50	2.5
		Over 50	5
	Intermittent	0 - 10	2.5
		10 - 50	5
		Over 50	10
Residential soundly constructed in <u>good</u> repair	Continuous	0 - 10	2.5
		10 - 50	5
		Over 50	10
	Intermittent	0 - 10	5
		10 - 50	10
		Over 50	20
Industrial and commercial light structural frame	Continuous	0 - 10	5
		10 - 50	10
		Over 50	20
	Intermittent	0 - 10	10
		10 - 50	20
		Over 50	40
Industrial and commercial heavy structural frame	Continuous	0 - 10	7.5
		10 - 50	15
		Over 50	30
	Intermittent	0 - 10	15
		10 - 50	30
		Over 50	60

As per above, a more commonly set vibration limit would be 10mm/s-1.

In terms of mitigation, there are things we can do, like slip trenches and pre-boring however these are by no means assured methods.

Trust this helps

Thanks

Dan Tayler

Ground Improvement Manager
Midlands and South



ROGER BULLIVANT

RB Walton Park, Heathcote Road, Swadlincote, Derbyshire, DE11 9DU



From: Radhesh Bhatt <Radhesh.Bhatt@keepmoat.com>
Sent: Friday, February 9, 2024 2:27 PM
To: AWOOD-TAYLER Daniel <dan.tayler@roger-bullivant.co.uk>
Subject: FW: URGENT - Upper Tean - Piling Information
Importance: High

You don't often get email from radhesh.bhatt@keepmoat.com. [Learn why this is important](#)

Good afternoon Dan,

Understanding that you have been sent the tender documents.

Can you please help answer some queries from the planner regarding vibration monitoring? **Need a response back today please.**

Can you please read below and let me know if you can agree with the statements and could comply with the necessary requirements?

(B) Piling - There is insufficient information regarding the proposed piling. We would expect a scheme for the proposed piling to be submitted and any piling at the site should comply with the condition below. It should be completed in accordance with the requirements of BS5228: -2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration and the following condition -

Piling Condition-

All piling activities undertaken during construction of the development hereby permitted must be carried out under constant vibration monitoring using a suitably calibrated Seismograph. During such monitoring, should vibration levels exceed 1.0 mms-1 at the nearest residential property, or at any property in the vicinity identified by the Local Planning Authority, or at a location within the site equivalent to the distance from the piling operations to the nearest residential property, the following action level criteria for vibration should be immediately implemented -

- *First Action Level: Vibration levels with a peak component particle velocity of 1.0 mms-1 to 2.0 mms-1 (at nearby premises).*
- *Second Action Level: Vibration levels with a peak component particle velocity of 2.0 mms-1 and above (at nearby premises).*

The First Action Level, if exceeded, shall trigger further consideration (by/on behalf of the developer) of what activities are causing the exceedance. Where an exceedance is caused by individual driven piling activities, no more than 10 piles per piling phase shall exceed the first action level. All exceedances should be reported to the Environmental Health Department (acting for the Local Planning Authority) with a brief description including the time and causation.

Where the piling operations on a plot exceed the Second Action Level then the piling operations at this location shall cease. However, piling operations may commence at a location further from the sensitive receptors providing this would not lead to an additional exceedance of the Second Action Level

The Environmental Health Department of Staffordshire Moorlands District Council shall be informed immediately of an exceedance of the Second Action Level caused by the piling operations.

Look forward to hearing from you.

Many thanks

Radhesh Bhatt

Technical Manager | West Midlands

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***** THANKYOU *****