

July 24, 2017

Andrea Ouse, AICP  
Community and Economic Development Director  
City of Vallejo  
Community & Economic Development Department  
555 Santa Clara Street  
Vallejo, CA 94590

*Via Email: Andrea.Ouse@cityofvallejo.net*

**SUBJECT: Confirmation of Avoidance of Worn Steel Wheels by CalNorthern**

Andrea,

As discussed at our most recent meeting on 7/17/17, VMT has followed up with representatives of California Northern Railroad Company to obtain direct confirmation of compliance with the applicable Federal mandate to replace rail car wheels before they become worn and have the potential to elevate vibrational noise (attached Exhibit "A").

As you will recall, the supplemental AWN analyses of 5/11/16 and 6/09/16 (submitted to the City as part of the earlier ROA Project documentation and summarized in attached Exhibit "B") document a net total level of vibrational noise at the home located at NSL-10 of 74 VdB. This net level is 6dB below the threshold of significance, and takes into account each of the conservative adjustments applied by AWN to the base case curve for freight trains, following FTA guidance.

The attached statement issued to VMT directly by CalNorthern (Exhibit "A") provides confirmation that any further adjustment for "worn steel wheels" is inapplicable. Therefore, the proposed ROA Project's vibrational noise impact will be LTS.

The CalNorthern correspondence also addresses the issues of their commitment to minimize trains movements through Vallejo during peak commute hours, and of cooperating with the applicants and City to address safety and enhanced emergency access provisions called out in our ROA Project Description. We have addressed these issues in separate correspondence with you.

Sincerely,



Richard T. Loewke, AICP

Attachments: Exhibit "A", Exhibit "B"

Cc: Steve Bryan, Matt Fettig

## Exhibit "A"

July 17, 2017 Communication from California Northern Railroad

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**From:** Eric Kreutzberg <[eric.kreutzberg@gwrr.com](mailto:eric.kreutzberg@gwrr.com)>  
**Date:** Monday, July 17, 2017 at 2:52 PM  
**To:** Matt Fettig <[mfettig@vallejomarinetterminal.com](mailto:mfettig@vallejomarinetterminal.com)>  
**Cc:** Kirk Bedford <[kbedford@gwrr.com](mailto:kbedford@gwrr.com)>, Kimberly Thompson <[kimberly.thompson@gwrr.com](mailto:kimberly.thompson@gwrr.com)>  
**Subject:** RE: Vallejo Marine Terminal - Rail Issues for COV City Council

Matt,

Here is CFNR's response to your inquiry:

1. "noise vibration analysis"

A 10db penalty should not be added to the Caltrans formula, because the FRA mandates that CFNR not operate with rail equipment that has flat or worn wheels. There is a 2 inch wear limit. In order to insure CFNR compliance with Federal Law, all rail car wheels are inspected at Suisun interchange (with Union Pacific), and if not compliant, replaced.

2. Operating hours

If CFNR is receiving 50-car unit trains at interchange from Union Pacific, CFNR's delivery to VMT will be dictated by the timing of that delivery and any requirement to use UP run through power. That said, CFNR will work with Orcem, VMT and the City of Vallejo to attempt to provide service during time windows that minimize impact during peak traffic hours.

3. "safety measure...signal synchronization"

Signal output notification is feasible. The City of Vallejo can hook into CFNR's signal system. Cameras may be installed as well. The current non-binding base cost estimate to upgrade the 11 crossings is in the neighborhood of \$750,000. Developing the additional safety measures you describe will add cost.

Please let me know if you have other questions or need clarification on any point.  
Thanks.

**Eric Kreutzberg**  
Manager Sales & Marketing  
**California Northern Railroad Company**  
Cell: [530-219-9063](tel:530-219-9063)  
CFNR Office Main: [530-406-8981](tel:530-406-8981)  
[eric.kreutzberg@gwrr.com](mailto:eric.kreutzberg@gwrr.com)

## **Exhibit “B”**

### **Summary of AWN Analysis Showing ROA Project to have a Less-Than-Significant Vibrational Noise Impact**

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#### **VMT Component Operational Impacts for Groundborne Vibrational Noise:**

Section 16.72.050C of the City of Vallejo’s Municipal Code states that “Sounds from transportation equipment used exclusively in the movement of goods and people to and from a given premises, temporary construction or demolition work” are exempt from the Noise Performance Standards. Therefore, vibrations generated by transportation equipment are also exempt from the Vibration Performance Standards. Consequently, the reference guidance published by the Federal Transit Administration in their document Transit Noise and Vibration Impact Assessment is used as the basis for determining the threshold of significance for rail transportation vibrational noise (Office of Planning and Environment, FTA, Transit Noise and Vibration Impact Assessment, FTAVA-90-1003-06, May 2006).

The FTA guidance specifies an acceptable limit for ground-borne vibration (significance threshold) of 80 VdB, and a ground-borne noise acceptable limit (significance threshold) of 43dB(A) at residential properties and buildings where people sleep for infrequent events (defined as fewer than 30 vibration events of the same type per day). The FTA guidance states that this vibration criterion has been used to assess the impact of freight trains as no specific vibration impact criteria exist for freight railroads. While some caution is advised on the use of the criterion for assessing freight trains, the FTA advises that judgment is used in applying the criteria taking into account the frequency of the freight railways use. In this instance, given that there will only be an average of one train movement per day, limited to daytime hours, it is considered appropriate to adopt the 80 VdB and 43dB(A) limits discussed above for ground-borne vibration and ground-borne noise respectively.

In this instance, the railway contains irregularities and does not have continuously welded track, and trains and railcars have steel wheels. Therefore, the screening analysis is based on distances from the railway to the nearest dwelling, in this instance NSL10. The distance from the railway to the property line of NSL10 is approximately 155 feet. Because this distance is less than 200 feet a formal vibration analysis was performed by AWN for the proposed Modified ROA Project. The vibration assessment utilizes a suitable base curve (from the FTA) to predict the overall ground-surface vibration as a function of distance from the source. Adjustments are applied to account for factors such as vehicle speed, building type and propagation efficiency.

The base curve is specific to locomotive powered passenger or freight trains (traveling at 50 mph). Taking this curve and the distance to NSL10 of 155 feet into account, the base level of groundborne vibration, before adjustment, is 74 VdB at the property boundary of NSL10. Adjustments are then applied for actual train speed (-14 VdB for 10 mph), wheel and rail type and condition (+5 VdB adjustment for assumed retention of existing jointed track and assumed continued use of steel wheels), efficiency of propagation in soil (+10 assumption of worst-case condition), coupling to building foundation (-5 VdB for wood framing), the number of floors (-2 VdB for occupied rooms one floor above ground), and amplification due to resonance in floors, walls and ceilings (+6 VdB), to develop vibration projections for the specific receiver position inside the building at NSL-10. The resulting net total vibration level at NLS-10 remains at 74 VdB.

The analysis shows that the net total level of vibration at NSL-10 of 74 VdB is 6dB below the significance threshold. Therefore, both the revised original project and the proposed Modified ROA Project would have a less-than-significant combined (VMT and Orcem) operational vibrational noise impact, and no further mitigation is needed.