**Template 10**

### Noise wall modeling performed; Noise walls likely

***Items in red to be modified for specific project***

***Yellow highlighted items are instructive and should be deleted.***

The source of this traffic noise information is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (title, author, date of the TNR)

Traffic Noise Impacts

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in the table below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels as defined in the NCDOT Traffic Noise Policy.

## **Predicted Traffic Noise Impacts by Alternative\***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Traffic Noise Impacts** | | | | |
| Alternative | Residential (NAC B) | Places of Worship/Schools, Parks, etc. (NAC C & D) | Businesses (NAC E) | Total |
| Build 1 |  |  |  |  |
| Build 2 |  |  |  |  |
| Build 3 |  |  |  |  |

\*Per TNM 2.5 and in accordance with 23 CFR Part 772

Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts, including noise barriers, were considered for all impacted receptors in each alternative. Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb, and reflect highway traffic noise.

Noise Barriers

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. The following table summarizes the results of the evaluation.

**Preliminary Noise Barrier Evaluation Results\***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Alternative/\*\* NSA** | **Noise Barrier Location** | **Length / Height**1  **(feet)** | **Square Footage** | **Number of Benefited Receptors** | **Square Feet per Benefited Receptor / Allowable Square Feet per Benefited Receptor** | **Preliminarily Feasible and Reasonable (“Likely”) for Construction2** |
| Alt. A/ NSA 1 | NW 1 - I-40 Bus. eastbound, west of Crafton to east of Taylor | X | X | X | X / X | Yes (or No\*\*\*) |
| Alt. A/ NSA X | NW X – description of location | X | X | X | X / X | Yes (or No) |
| Alt.B/ NSA X | NW X– description of location | X | X | X | X / X | Yes (or No) |

1Average wall height. Actual wall height at any given location may be higher or lower.

2The likelihood of a barrier’s construction is preliminary and subject to change, pending completion of final design and the public involvement process.

3Barrier is not feasible due to an inability to achieve a minimum of 5 dB(A) of noise reduction for at least two impacted receptors. *USE AS APPLICABLE*

4Barrier is not reasonable due to the quantity per benefited receptor exceeding the allowable quantity per benefited receptor OR Barrier is not reasonable due to an inability to achieve at least 7-dBA noise reduction for at least one benefited receptor. *USE AS APPLICABLE*

*\*Option: It is also acceptable to provide a separate table for each alternative; this may be helpful where there are a lot of alternatives and/or a lot of walls.*

*\*\*Where there is only one alternative, delete “Alternative/” from leftmost column heading and report only NSA.*

*\*\*\*Every “NO” answer requires applicable footnote*

A traffic noise evaluation was performed that identified X noise barriers that preliminarily meet feasibility and reasonableness criteria found in the NCDOT Traffic Noise Policy. A more detailed analysis will be completed during project final design. Noise barriers preliminarily found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that preliminarily were not considered feasible and reasonable may meet the established criteria and be recommended for construction. This evaluation was conducted in accordance with the highway traffic noise requirements of Title 23 CFR Part 772.

In accordance with NCDOT Traffic Noise Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Categorical Exclusion (CE). NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.