## Appendix G-1

Noise Analysis for the Nelson-Sloan Quarry Restoration Project - Scenario Evaluation

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

## MEMORANDUM

To: Chris Peregrin, California Department of Parks and Recreation<br>From:<br>Subject:<br>Date:<br>cc:<br>Attachments: Mark Storm, Dudek<br>Noise Analysis for the Nelson-Sloan Quarry Restoration Project - Scenario Evaluation October 24, 2022<br>Josh Saunders, Dudek<br>Figure 1 - Locations of Studied Receptors and Roadway Segments A - Traffic Noise Prediction Worksheets<br>B - Outdoor Noise Prediction Results

The purpose of this study is to evaluate potential noise impacts associated with construction and operation of the proposed Nelson-Sloan Quarry Restoration and Beneficial Reuse of Sediment Project (project) located within San Diego County, California. Potential noise impacts are evaluated for their significance based on the criteria provided in the County of San Diego's Guidelines for Determining Significance and Report Format and Content Requirements - Noise (County of San Diego 2009) and the City of San Diego's Significance Determination Thresholds (City of San Diego 2016). These noise criteria may be found in Section 3.9-2 of the project EIR. Concise descriptions of acoustical terminology used herein to present and discuss noise impact assessment may be found in Section 3.91 of the project EIR.

Section 1 provides a description of the four (4) project scenarios studied herein. Section 2, Methodology, outlines the approach, techniques, and assumptions used in the prediction of project construction and operation noise. Section 3, Impact Discussion, summarizes the prediction results with respect to applicable noise criteria.

## 1 Project Description

The project would consist of the beneficial re-use of excess sediment deposited in flood control facilities and natural habitats in the Tijuana River Valley for the restoration of the previous Nelson Sloan Quarry site. More specifically, excess sediment extracted from flood control facilities maintained by the California Department of Parks and Recreation, City of San Diego (City), County of San Diego (County), and United States International Water and Boundary Commission that are currently hauled off site to area landfills or construction projects would instead be hauled to the project site for processing and placement to reclaim the quarry to natural landform and habitat. In addition, the project entails landform and habitat creation through sediment placement and compaction and revegetation efforts.

The approximately 40-acre project site is in the southwestern portion of the County on lands owned by the County's Department of Parks and Recreation but within the City's land use jurisdiction. The project site is within the City's Tijuana River Valley community plan area. Restoration activities would occur within a 20-acre area encompassing

Assessor's Parcel Number [APN] 664-011-05-00 and APN 664-011-04-00. The project site is located within the southeastern corner of Tijuana River Valley Regional Park and abuts Monument Road and the City's South Bay Water Reclamation Plant immediately on the east. The International Water and Boundary Commission's South Bay International Wastewater Treatment Plant is located to the immediate east of the City water reclamation plant, approximately 0.35 miles east of the project site. A new U.S. Customs and Border Protection station is currently being constructed between the two water treatment facilities on an approximate 30 -acre site. A portion of the station site (APN 665-010-41-00) located north of Monument Road is currently being used for construction parking and staging for the international border fence replacement project. The project site is bordered by federal lands managed by the U.S. Customs and Border Protection to the south and by County lands to the west and north.

The project site is vacant and is crossed by several dirt roads and paths. An aboveground water line and disturbance associated with previous staging and soil/sediment stockpile areas is visible in the eastern portion of the site. The site terrain consists of coastal highlands up to 425 feet in elevation, with finger canyons on APN 664-011-04-00 extending north to the Tijuana River Valley. The elevated vantage point provided by the mesa on APN 664-011-0400 is occasionally used by USCBP for visual surveillance of the border fence and surrounding area to the east. With the exception of descending slopes in the western portion, APN 664-011-05-00 is relatively flat and features a gradual slope. With the exception of overhead lights installed by USCBP atop the mesa on APN 664-011-04-00, there are no structures located on site.

The four project scenarios evaluated herein are as follows:

- Scenario 1A: TETRP II with Screening at Nelson Sloan Site
- Operations occur 6 months per year (applicable to two-year timeframe of TETRP and remaining Nelson Sloan Project timeline)
- During two-year duration of TETRP II, Nelson Sloan would accept 200,000 cubic yards (CY) of sediment per year
- Once TETRP is complete, Nelson Sloan operations would continue at 6 months per year frequency until site/project goal of 1 million CY of sediment (assumes annual available CY of sediment is 75,000 CY
- Total project duration $=10$ years


## - Scenario 1B: TETRP II with Screening at Nelson Sloan Site

- Operations occur 12 months per year (applicable to two-year timeframe of TETRP and remaining Nelson Sloan Project timeline)
- During two-year duration of TETRP II, Nelson Sloan would accept 325,000 CY of sediment per year
- Once TETRP is complete, Nelson Sloan operations would continue at 12 months per year frequency until site/project goal of 1 M CY of sediment (assumes annual available CY of sediment is 75,000 CY
- Total project duration = approximately 7 years


## - Scenario 2A: TETRP II with NO Screening at Nelson Sloan Site

- Operations occur 6 months per year (applicable to two-year timeframe of TETRP and remaining Nelson Sloan Project timeline)
- During two-year duration of TETRP II, Nelson Sloan would accept 200,000 CY of sediment per year
- Once TETRP is complete, Nelson Sloan operations would continue at 6 months per year frequency until site/project goal of 1 M CY of sediment (assumes annual available CY of sediment is 75,000 CY
- Total project duration $=10$ years
- Scenario 2B: TETRP II with NO Screening at Nelson Sloan Site
- Operations occur 12 months per year (applicable to two-year timeframe of TETRP and remaining Nelson Sloan Project timeline)
- During two-year duration of TETRP II, Nelson Sloan would accept 400,000 CY of sediment per year
- Once TETRP is complete, Nelson Sloan operations would continue at 6 months per year frequency until site/project goal of 1 M CY of sediment (assumes annual available CY of sediment is 75,000 CY
- Total project duration $=5$ years


## 2 Methodology

### 2.1 Construction Noise

The term "construction" herein refers to operation of mobile and stationary heavy construction equipment that are involved in a multi-phase process of handling imported sediment material (via haul trucks) from other sites and depositing it onto areas of the project site to effect the intended restoration of landscape. According to 80\% project design plans, there are six (6) successive phases, each with two distinct sets of sequential on-site operational activities and their associated equipment as follows:

- Processing Equipment and Earthmoving/Restoration (PEER) is anticipated to include operation of an onsite dump trucks, large bulldozers, a grader, a water truck, and front-end loaders, vibrating hoppers for a "dry screening" process, and radial stackers. With the radial stackers and dry screening operations tending to remain at fixed locations corresponding with the imported sediment stacks, on-site mobile constructiontype heavy equipment can be approximated as time-averaged geographic positions that reflect their activity focus on movement of material from the sediment stacks to the on-site areas of distribution that vary by project phase.
- Restoration and Revegetation (RandR) is anticipated to include a concrete truck, seeder truck, and employee truck. Like the PEER sub-phase, the locations of these mobile equipment can be approximated
geographically as fixed positions that are proximate to the sediment distribution areas and therefore vary by Project phase.

In addition to the consideration of changes to the on-site set and geographic arrangement of major noise producers unique to PEER and RandR activities assumed for each of the six phases, the modeling approach considers the potential for surrounding terrain to occlude direct sound paths between one or more of these on-site operation noise sources and three identified coastal California gnatcatcher observation sites (two pairs and one individual) that are much closer to the project site. The modeling technique accounts for these anticipated changes in the project site elevation based on the placement of sediment material-in other words, much of the project site grade increases in height with each successive completed phase, meaning the noise-producing equipment would correspondingly be located at elevated positions and thus diminish the sound-occluding effects of terrain.

With respect to distant representative community receptors R1 through R5, the modeling herein conservatively assumes that these elevation changes would have negligible effects on sound propagation. But for the nearby coastal California gnatcatcher receptors that may currently be located on the other side of a ridge or beyond the edge of an on-site ledge, an increase in source height over time could eventually diminish such early noise path occlusion and thus create conditions that may increase predicted noise level at those receptors.

Other important modeling parameters in the modeling approach include multiple attenuation factors as follows:

- geometric divergence (i.e., the "6 dB per doubling of distance" propagation rule of thumb for a point-type sound source);
- acoustical air absorption, which for "standard air" (i.e., about $70^{\circ}$ Fahrenheit and $50 \%$ relative humidity) can be approximated as -1 dBA per one thousand feet of distance traversed; and,
- acoustical ground absorption, which per equation 10 of International Organization of Standardization (ISO) 9613-2 can allow up to approximately 5 dBA of noise reduction due to sound traveling over a substantially porous surface (e.g., loose soils, grasses, fresh snow, etc.) (ISO 1996).

Typically neglected when source-to-receiver distances are less than 250 feet, the two latter attenuation terms in the above list help accurately predict noise exposure levels at a receptor when the distances traveled from the source are substantial. As for potential wind or other meteorological effects, usage of ISO 9613-2 methodology ensures that all modeled receptors are conservatively considered "downwind", meaning wind direction and sound propagation are assumed to be the same, regardless of actual wind direction that may vary with time. When the direction of sound from a source to a receiver location is traveling "upwind", there is the potential for sound to be diffracted and thus reduced.

### 2.2 Operation Traffic Noise

Using a Federal Highway Administration (FHWA) RD-77-108 traffic noise modeling technique that incorporates California Department of Transportation (Caltrans) "Calveno" curves for vehicle reference noise levels, roadway traffic noise levels were estimated on the following roadway segments that are in the vicinity of the nearest studied noise-sensitive receivers (NSR) and as shown in Figure 1:

- Monument Road between Hollister Street and Dairy Mart Road - this segment is located between intersections 7 and 8 as depicted in the Transportation Technical Memorandum ("TTM" [Dudek, September 2022]).
- Dairy Mart Road between Clearwater Way and Camino de la Plaza - this segment is located between intersections 5 and 6 as depicted in the TM (Dudek, September 2022).
- Camino de la Plaza (east of Dairy Mart Road) - this segment is located east of intersection 5 as depicted in the Transportation TTM (Dudek, September 2022).

As detailed in Attachment A, Traffic Noise Prediction Worksheets, the larger of morning or afternoon peak-hour traffic volumes for the above-listed studied roadway segments was used from quantities shown in Figures 12, 13, 14 , and 15 for the Opening Year 2024, 2024+project, 2026, and 2026+project cases, respectively. These cases are summarized as follows (and as described in the TTM):

- Year 2024 No Project Condition: The Year 2024 condition includes traffic volumes and operations within a short-term horizon period where the proposed project would be operational. An ambient annual growth factor generally based on the San Diego Association of Governments (SANDAG) Series 14 traffic volume forecasts in the study was applied to the Year 2022 traffic volumes over the course of two years to estimate baseline traffic volumes in the year 2024. Along with ambient growth, traffic generated by other approved and pending projects along with the traffic from the existing sediment management sites and Tijuana Estuary Restoration Program II (TERTP II) site in the study area was added to Year 2024 traffic volumes. The approved or pending projects are developments in the review process, but not fully approved; or, projects that have been approved, but not fully constructed or occupied. The truck traffic from TETRP II involving on-going sediment removal activities near the proposed project was added to the Year 2024 traffic conditions.
- Year 2024 plus Project Condition: This condition includes analysis of traffic operations under the Year 2024 condition (described above) with project traffic added to the AM and PM peak hour traffic volumes. It should be noted that under the Year 2024 plus Project conditions, all of haul trips would comprise of truck traffic from the TETRP II site which would travel to the proposed project instead of traveling to other construction sites or landfills in the San Diego County. Therefore, the proposed project would generate nominal new truck trips and divert most of the truck trips from the TETRP II site to the project site. The project effects to the roadway network under this condition were used as the basis for determining if any traffic improvements or control plan would be required.
- Year 2026 No Project Condition: The Year 2026 condition includes traffic volumes and operations within a short-term horizon period where the proposed project would be operational. An ambient annual growth factor based on the San Diego Association of Governments (SANDAG) traffic volume forecasts in the study was applied to the Year 2024 traffic volumes over the course of two years to estimate Year 2026 baseline traffic volumes. The traffic generated by other approved and pending projects, other sediment management sites and the worker and truck traffic from TETRP II site was also included in the Year 2026 traffic conditions.
- Year 2026 plus Project Condition: This condition includes analysis of traffic operations under the Year 2026 condition (described above) with project traffic added to the AM and PM peak hour traffic volumes. It should
be noted that under the Year 2026 plus Project conditions a majority of truck traffic from the existing sediment management sites would travel to the proposed project instead of traveling to other construction sites or landfills in the San Diego County. Therefore, the proposed project would generate no new haul truck trips and divert most of the existing truck trips from the sediment management sites to the project site. The project effects to the roadway network under this condition were used as the basis for determining if any traffic improvements or control plan would be required.

For purposes of this noise assessment, average daily traffic (ADT) was assumed to be ten times these peak hour values. From these inputs estimated traffic noise was calculated for the A-weighted peak-hour energy-averaged sound level (Leq1h) and community noise equivalent level (CNEL) metrics.

### 2.3 Prediction Results Combination

Due to the anticipated schedules of each of the four project scenarios and the on-site geographic limitations with respect to the six successive onsite phases of sediment importation, processing, and deposit, with each followed by restoration activities, the total noise exposure at a studied residential receptor will be a combination of acoustical emission from both onsite major noise-producing activities and the contribution of roadway traffic noise attributable to the project haul trucks. Hence, this assessment evaluates each of these two acoustical contributions and their combined noise level estimate.

## 3 Impact Discussion

### 3.1 Onsite Construction Noise

Table 1 below presents, in terms of hourly Lea, the project onsite aggregate noise emission for each of the six phases and their corresponding PEER and RandR activities. For cases without the dry screening operations (i.e., radial stackers and vibrating hopper are not present), the "screening?" column indicates an " N " value. Only during the sixth phase, and when dry screening operations are included onsite, is when the WR1 gnatcatcher receptor location may experience an hourly noise level that exceeds 60 dBA Leq1h. This finding of potential impact is consistent with that of the project EIR, in which an hourly noise level higher than 60 dBA at this location was also predicted.

| NSQ Phase | Activity | Screening? | Daytime Peak Hour Leq at Receiver |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | R1 | R2 | R3 | R4 | R5 | WR1 | WR2 | WR3 |
| 1 | PEER | Y | 36.5 | 48.9 | 43.6 | 53.5 | 37.4 | 55.5 | 50.3 | 43.9 |
| 1 | PEER | $N$ | 33.3 | 45.7 | 41 | 49.6 | 34 | 44.9 | 48.3 | 41.4 |
| 1 | RandR | $\mathrm{n} / \mathrm{a}$ | 25 | 37.5 | 32.9 | 41 | 25.7 | 36.7 | 40.7 | 33.4 |
| 2 | PEER | Y | 36.6 | 48.8 | 43.5 | 53.5 | 37.5 | 56.6 | 50.5 | 43.9 |
| 2 | PEER | $N$ | 33.4 | 45.6 | 40.8 | 49.6 | 34.1 | 51.1 | 48.5 | 41.4 |
| 2 | RandR | n/a | 25.2 | 37.3 | 32.6 | 41 | 25.9 | 42.8 | 41.7 | 33.7 |
| 3 | PEER | Y | 36.7 | 48.9 | 43.5 | 53.6 | 37.6 | 56.9 | 50.4 | 43.8 |
| 3 | PEER | $N$ | 33.5 | 45.9 | 40.8 | 50 | 34.3 | 52.7 | 48.7 | 41.4 |
| 3 | RandR | $\mathrm{n} / \mathrm{a}$ | 25.5 | 38.4 | 32.7 | 43.3 | 26.6 | 43.7 | 41.8 | 34 |
| 4 | PEER | Y | 36.9 | 49 | 43.3 | 54 | 37.8 | 58.3 | 50.5 | 44 |
| 4 | PEER | $N$ | 33.7 | 45.9 | 40.7 | 50.4 | 34.6 | 53.8 | 48.7 | 41.2 |
| 4 | RandR | $\mathrm{n} / \mathrm{a}$ | 25.6 | 38.2 | 32.5 | 43.1 | 26.6 | 44.1 | 40.9 | 33.7 |
| 5 | PEER | Y | 37 | 48.7 | 43.1 | 53.5 | 37.9 | 57.1 | 49.2 | 43.6 |
| 5 | PEER | $N$ | 33.7 | 45.9 | 40.7 | 50.4 | 34.6 | 55.3 | 47.7 | 41.8 |
| 5 | RandR | n/a | 25.7 | 38.9 | 32.6 | 44.6 | 27 | 47.4 | 40 | 33.7 |
| 6 | PEER | Y | 37.1 | 49.1 | 43.2 | 54.3 | 38.1 | 61.2 | 49.7 | 49 |
| 6 | PEER | $N$ | 33.9 | 46.9 | 40.8 | 52.2 | 35.2 | 60.1 | 48.4 | 48.5 |
| 6 | RandR | n/a | 26.1 | 38.2 | 32.1 | 43.8 | 27.3 | 53.2 | 38.6 | 36.7 |

### 3.2 Roadway Traffic Noise

Table 2 below presents, in terms of A-weighted hourly Leq and CNEL, predicted roadway traffic noise level exposures associated with four studied opening year conditions. Note that predicted levels at four of the five receptor locations are already expected to be in excess of 60 dBA CNEL due to the combination of traffic demand from cumulative projects in the project vicinity at these future years. Note also that the changes due to contribution of project-related traffic make no more than a 0.2 dB change, which would be considered less than significant.

| Table 2. Roadway Traffic Noise Prediction Results |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Opening Year | Peak Hour Leq (dBA) at Receiver |  |  |  |  |  |  |  |
|  | R1 | R2 | R3 | R4 | R5 | WR1 | WR2 | WR3 |
| 2024 | 65.9 | 65.9 | 62.8 | 55.9 | 60 | 48.7 | 41.8 | 41.4 |
| 2024+Project | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 |
| 2026 | 65.9 | 66.8 | 63.8 | 56.8 | 60.7 | 49.6 | 42.8 | 42.3 |
| 2026+Project | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | 43 | 42.5 |
| CNEL (dBA) at Receiver |  |  |  |  |  |  |  |  |
| Opening Year | R1 | R2 | R3 | R4 | R5 | WR1 | WR2 | WR3 |
| 2024 | 65.6 | 65.7 | 62.6 | 55.6 | 59.8 | 48.5 | 41.6 | 41.1 |
| 2024+Project | 65.6 | 65.7 | 62.7 | 55.7 | 59.9 | 48.5 | 41.6 | 41.2 |
| 2026 | 65.7 | 66.6 | 63.6 | 56.6 | 60.5 | 49.4 | 42.5 | 42.1 |
| 2026+Project | 65.7 | 66.8 | 63.8 | 56.8 | 60.6 | 49.6 | 42.7 | 42.3 |

### 3.3 Combined Onsite Operations and Traffic Noise

The reader is invited to view Attachment B, Outdoor Noise Prediction Results, which depicts the project onsite aggregate noise levels, roadway traffic noise levels, and their combined (i.e., the logarithmic sum) noise levels for each of the four studied project scenarios. The predicted levels appear in chronological order, associated with the indicated onsite project phase and expected activity that could occur within the displayed annual or semi-annual period. The expected importation of sediment material, in cubic yards (CY), is also shown for reader reference.

In all cases, the combined CNEL values are dominated by the predicted roadway traffic noise contribution, and comparison with Table 2 demonstrates that where noise levels at the studied receptors are already in excess of 60 dBA CNEL, the project is not causing more than a 0.2 dB change. Furthermore, where the CNEL is less than 60 dBA , the project influence does not cause net noise levels to exceed 60 dBA . Thus, on these bases, the project would be expected to have a less than significant noise impact.

Figure 1
Locations of Studied Receptors and Roadway
Segments


DUDEK ©

## Attachment A

 Traffic Noise Prediction WorksheetsDudek Transportation Tech Memo (Sept. 2022) reference:

## Intersection

Intersection 8 (Monument Road and Hollister Street)

Intersection 7 (Monument Road and Dairy Mart Road)

Intersection 6 (Clearwater Way and Dairy Mart Road)

Intersection 5 (Dairy Mart Road and Camino De La Plaza)

Monument Road (Intersections 7 to 8) Dairy Mart Road (Intersections 5 to 6) Camino De La Plaza (east of Intersection 5)

| Fig. 12 | Fig. 13 | Fig. 14 | Fig. 15 |
| :--- | :--- | :--- | :--- |
| 2024 Peak Hour | 2024+Project Peak | 2026 Peak Hour | 2026+Proj Peak |
| (AM) | Hour (AM) | (AM) | Hour (AM) |

Fig. $12 \quad$ Fig. 13
Fig. 13
2024 Peak Hour PM $\begin{aligned} & \text { 2024+Proje } \\ & \text { Hour PM }\end{aligned}$
Fig. 14
Fig. $14 \quad$ Fig. 1
0

| SB | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: |
| SBL | 6 | 10 | 6 | 10 |
| SBR | 43 | 43 | 43 | 43 |
| WB | 187 | 187 | 187 | 187 |
| WBL | 0 | 0 | 0 | 0 |
| WBR | 5 | 5 | 5 | 5 |
| NB | 0 | 0 | 0 | 0 |
| NBL | 0 | 0 | 0 | 0 |
| NBR | 0 | 0 | 0 | 0 |
| EB | 49 | 49 | 49 | 61 |
| EBL | 13 | 13 | 13 | 13 |
| EBR | 0 | 0 | 0 | 0 |
| SB | 0 | 0 | 0 | 0 |
| SBL | 0 | 0 | 0 | 0 |
| SBR | 0 | 0 | 0 | 0 |
| WB | 201 | 156 | 201 | 201 |
| WBL | 18 | 28 | 19 | 29 |
| WBR | 0 | 0 | 0 | 0 |
| NB | 0 | 0 | 0 | 0 |
| NBL | 2 | 47 | 2 | 2 |
| NBR | 6 | 6 | 6 | 6 |
| EB | 58 | 27 | 58 | 58 |
| EBL | 0 | 0 | 0 | 0 |
| EBR | 0 | 35 | 0 | 16 |
| SB | 0 | 0 | 0 | 0 |
| SBL | 0 | 0 | 0 | 0 |
| SBR | 0 | 0 | 0 | 0 |
| WB | 217 | 227 | 217 | 227 |
| WBL | 26 | 26 | 26 | 26 |
| WBR | 0 | 0 | 0 | 0 |
| NB | 0 | 0 | 0 | 0 |
| NBL | 7 | 7 | 7 | 7 |
| NBR | 8 | 8 | 8 | 8 |
| EB | 65 | 65 | 66 | 66 |
| EBL | 0 | 0 | 0 | 0 |
| EBR | 6 | 6 | 6 | 6 |
| SB | 222 | 232 | 222 | 232 |
| SBL | 170 | 170 | 171 | 171 |
| SBR | 0 | 0 | 0 | 0 |
| WB | 1 | 1 | 1 | 1 |
| WBL | 7 | 8 | 7 | 8 |
| WBR | 321 | 321 | 322 | 322 |
| NB | 62 | 62 | 62 | 62 |
| NBL | 0 | 0 | 0 | 0 |
| NBR | 6 | 6 | 6 | 6 |
| EB | 0 | 0 | 0 | 0 |
| EBL | 0 | 0 | 0 | 0 |
| EBR | 0 | 0 | 0 | 0 |


| 017 |  |
| :---: | :---: |
|  |  |
|  | 21 |
|  | 44 |
|  | 0 |
|  | 22 |
|  | 0 |
|  | 0 |
|  | 0 |
|  | 151 |
|  | 49 |
| 0 |  |
|  | 0 |
|  | 0 |
|  | 0 |
| 70 |  |
| 2 |  |
| 0 |  |
| 0 |  |
| 2 |  |
| 15 |  |
| 173 |  |
| 0 |  |
| 1 |  |
|  |  |
| 0 | 0 |
| 0 |  |
| 74 |  |
| 0 |  |
|  |  |
| 0 |  |
|  |  |
| 23 |  |
| 185 |  |
| 0 |  |
|  |  |
| 50 |  |
| 470 |  |
| 0 |  |
|  |  |
|  |  |
| 351 |  |
| 351200 |  |
| 20 | 0 |
| 17 |  |
|  | 0 |
|  | 0 |
|  | 0 |


| 0 | 0 | 0 |
| :---: | :---: | :---: |
| 17 | 17 | 17 |
| 21 | 21 | 21 |
| 44 | 75 | 87 |
| 0 | 0 | 0 |
| 26 | 22 | 26 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 151 | 196 | 196 |
| 49 | 49 | 49 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 39 | 101 | 101 |
| 2 | 2 | 2 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 37 | 2 | 18 |
| 25 | 15 | 25 |
| 128 | 218 | 218 |
| 0 | 0 | 0 |
| 46 | 1 | 1 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 74 | 105 | 105 |
| 4 | 4 | 4 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 3 | 3 | 3 |
| 23 | 23 | 23 |
| 195 | 230 | 240 |
| 0 | 0 | 0 |
| 2 | 2 | 2 |
| 50 | 81 | 81 |
| 470 | 472 | 472 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 16 | 16 | 16 |
| 351 | 353 | 353 |
| 210 | 245 | 255 |
| 0 | 0 | 0 |
| 18 | 17 | 18 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 0 | 0 | 0 |
| 488 | 632 | 664 |
| 590 | 721 | 742 |
| 855 | 858 | 859 |



| 0 |
| ---: |
| 17 |
| 21 |
| 87 |
| 0 |
| 26 |
| 0 |
| 0 |
| 0 |
| 196 |
| 49 |
| 0 |
|  |
| 0 |
| 0 |
| 0 |
| 101 |
| 2 |
| 0 |
| 0 |
| 18 |
| 25 |
| 218 |
| 0 |
| 1 |
| 0 |
| 0 |
| 0 |


| 508 | 516 | 508 | 540 |
| :--- | :--- | :--- | :--- |
| 613 | 634 | 614 | 635 |

480
569
854
855
858





## Attachment B Outdoor Noise Prediction Results

## Scenario 1A: TETRP II with Screening at Nelson Sloan Site

Operations occur 6 molvear (applicable to to two-vear timeframe of TETRP and remaining Nelson Sloan Project timeline)



## Scenario 1B: TETRP I with Screening at Nelson Sloan Site

Operations occur 12 mo/vear (applicable to two-year timeframe of TETPP and remaining Nelson Sloan Project timeline
During two-vear duration of TTETP 11 , Nelson Sloan would accept 325,000 CY of sediment per year
Once TETRP is complete, Nelson Sloan operations would continue at 12 molvear frequency unti sit

| Year | Cubic Yards <br> 325000 | Cumul. C <br> 325000 | Start Date <br> 1-Jan-23 | End Date 31-Dec-23 | nsQ Phase | Activity | w/Screening? | NsQ Onsite Ops only, Daytime Peak Hour Leq at Receiver |  |  |  |  |  |  |  | Trafic only, Daytime Peak Hour Leq at Receiver |  |  |  |  |  |  |  | Snsite + Trafic, Peak Hour Leq at Recieiver |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | R1 | R2 | R3 | ${ }^{\text {R4 }}$ | ${ }^{2} 5$ | WR1 | WR2 | WR3 | R1 | R2 | ${ }^{\text {R3 }}$ | ${ }^{\text {R4 }}$ | ${ }^{\text {R } 5}$ | wR1 | WR2 | wR3 | R1 | R2 | R3 | R4 | R5 | wR1 | WR2 | ${ }_{\text {WR3 }}$ |
|  |  |  |  |  | 1 | PeER | r | 36.5 | 48.9 | 43.6 | 53.5 | 37.4 | 55.5 | 50.3 | 43.9 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.1 | 63.0 | 57.9 | 60.2 | 56.3 | 50.9 | 45.8 |
|  |  |  |  |  | 1 | ${ }_{\text {RandR }}$ | n/a | 25 | 37.5 | 32.9 | ${ }^{41}$ | 25.7 | ${ }_{36.7}^{36.7}$ | 40.7 | 33.4 | ${ }^{65.9}$ | ${ }_{66}^{66}$ | ${ }^{62.9}$ | 55.9 | ${ }_{60.2}$ | 48.8 | 41.9 | ${ }^{41.4}$ | 65.9 | ${ }_{66.0}^{66.1}$ | ${ }^{62.9}$ | 55.0 | ${ }_{60.2}$ | ${ }^{49.1}$ | 45.4 | ${ }^{42.0}$ |
|  |  |  |  |  | 2 | PeER | r | 36.6 | 48.8 | 43.5 | 53.5 | 37.5 | 56.6 | 50.5 | 43.9 | 65.9 | ${ }_{6} 6$ | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.1 | 62.9 | 57.9 | 60.2 | 57.3 | 51.1 | 45.8 |
|  |  |  |  |  | 2 | RandR | n/a | 25.2 | 37.3 | 32.6 | 41 | 25.9 | 42.8 | 41.7 | 33.7 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.0 | 62.9 | 56.0 | 60.2 | 49.8 | 44.8 | 42.1 |
|  |  |  |  |  | 3 | peEr | $r$ | 36.7 | 48.9 | 43.5 | 53.6 | 37.6 | 56.9 | 50.4 | 43.8 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.1 | 62.9 | 57.9 | 60.2 | 57.5 | 51.0 | 45.8 |
|  |  |  |  |  | 3 | ${ }_{\substack{\text { RandR } \\ \text { PEES }}}$ | n/2 | 25.5 369 | 38.4 <br> 4. <br> 8. | 32.7 <br> 433 <br> 185 | 43.3 54 | 26.6 378 | 43.7 58. | 41.8 50.5 | 34 44 | 65.9 65.9 | 66 66 | 62.9 62.9 | 55.9 55.9 | 60.2 60.2 | 48.8 | 41.9 41.9 | 41.4 41.4 | 65.9 65.9 | 66.0 | 62.9 | 56.1 | 60.2 | $50.0$ | 44.9 51.1 | 42.1 45.9 |
|  |  |  |  |  | 4 | ${ }_{\substack{\text { PeER } \\ \text { RandR }}}$ | r n/a | 36.9 256 | $\begin{array}{r}49 \\ 382 \\ \hline\end{array}$ | 43.3 325 | 54 431 | 37.8 <br> 26.6 | 58.3 44.1 | 50.5 409 | - 43 | 65.9 659 | 66 66 | 62.9 62.9 | 55.9 55.9 | 60.2 60.2 | 48.8 48.8 | 41.9 41.9 | 41.4 41.4 | 65.9 65.9 | ${ }^{66.1}$ | $\begin{aligned} & 6.929 \\ & 62.9 \end{aligned}$ | 58.1 | 60.2 | 58.8 | 51.1 44.4 | 4.9 42.1 |
| 2 | 325000 | 650000 | 1-Jan-24 | 31-Dec-24 | 4 | ${ }_{\text {cter }}^{\substack{\text { Randr } \\ \text { PER }}}$ | $r$ | ${ }_{36.9}^{55.9}$ | 38.2 49 | 43.3 | 43.1 54 | 26.6 37.8 | ${ }_{58.3}^{44.1}$ | 50.5 | ${ }_{44}$ | 65.9 | ${ }_{66}$ | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | ${ }_{41.4}^{4.4}$ | 65.9 | 66.1 | 62.9 | ${ }_{58.1}^{55.1}$ | 60.2 | 58.8 | 551.1 | 42.1 45.9 |
|  |  |  |  |  | 4 | RandR | n/a | 25.6 | 38.2 | 32.5 | 43.1 | 26.6 | 44.1 | 40.9 | 33.7 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.0 | 62.9 | 56.1 | 60.2 | 50.1 | 44.4 | 42.1 |
|  |  |  |  |  | 5 | PeER | $r$ | 37 | 48.7 | 43.1 | 53.5 | 37.9 | 57.1 | 49.2 | 43.6 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.1 | 62.9 | 57.9 | 60.2 | 57.7 | 49.9 | 45.6 |
|  |  |  |  |  | 5 | RandR | n/a | 25.7 | 38.9 | 32.6 | 44.6 | 27 | 47.4 | 40 | 33.7 | 65.9 | 66 | 62.9 | 55.9 | 60.2 | 48.8 | 41.9 | 41.4 | 65.9 | 66.0 | 62.9 | 56.2 | 60.2 | 51.2 | 44.1 | 42.1 |
| ${ }_{4}^{3}$ | 75000 | 725000 | 1-Jan-25 | 31-Dec-25 | 5 | PeER | $r$ | 37 | 48.7 | 43.1 | 53.5 | 37.9 | 57.1 | 49.2 | 43.6 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.2 | 64.0 | 58.6 | 60.8 | 57.9 | 50.1 | 46.1 |
|  |  |  |  |  | 5 | RandR | n/a | 25.7 | 38.9 | 32.6 | 44.6 | 27 | 47.4 | 40 | 33.7 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.1 | 64.0 | 57.2 | 60.8 | 51.8 | 44.8 |  |
|  | 75000 | 800000 | 1-Jan-26 | 31-Dec-26 | 5 | PEER | $r$ | 37 | 48.7 | 43.1 | 53.5 | 37.9 | 57.1 | 49.2 | 43.6 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | 43 | 42.5 | 65.9 | 67.2 | 64.0 | 58.6 | 60.8 | 57.9 | 50.1 | 46.1 |
|  |  |  |  |  | 5 | RandR | n/a | 25.7 | 38.9 | 32.6 | 44.6 | 27 | 47.4 | 40 | 33.7 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.1 | 64.0 | 57.2 | 60.8 | 51.8 | 44.8 | 43.0 |
|  |  |  |  |  | 6 | PEER | $r$ | 37.1 | 49.1 | 43.2 | 54.3 | 38.1 | 61.2 | 49.7 | 49 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.2 | 64.0 | 58.9 | 60.8 | ${ }^{61.5}$ | 50.5 |  |
| 5 |  |  |  |  | 6 | RandR | n/a | 26.1 | 38.2 | 32.1 | 43.8 | 27.3 | 53.2 | 38.6 | 36.7 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | 43 | 42.5 | 65.9 | 67.1 | 64.0 | 57.2 | 60.8 | 54.9 | 44.3 | 43.5 |
|  | 75000 | 875000 | 1-Jan-27 | 31-Dec-27 | 6 | PEER | $r$ | 37.1 | 49.1 | 43.2 | 54.3 | 38.1 | 61.2 | 49.7 | 49 | 65.9 | ${ }^{67.1}$ | ${ }_{6} 6$ | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.2 | 64.0 | 58.9 | 60.8 | ${ }^{61.5}$ | 50.5 | 49.9 |
|  |  |  |  |  | 6 | RandR | n/a | 26.1 | 38.2 | 32.1 | 43.8 | 27.3 | 53.2 | 38.6 | 36.7 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | 43 | 42.5 | 65.9 | 67.1 | 64.0 | 57.2 | 60.8 | 54.9 | 44.3 | 43.5 |
| ${ }_{7}$ | 75000 | 950000 | 1-Jan-28 | 31-Dec-28 | 6 | ${ }_{\text {PeER }}$ |  | ${ }^{37.1}$ | 49.1 <br> 38.2 <br> 8.1 | 43.2 | 54.3 <br> 438 <br> 18 | 38.1 273 | 51.2 <br> 532 <br> 1.2 | 49.7 38.6 | 49 36.7 | 65.9 65.9 | 67.1 67.1 | 64 64 | 57 57 |  |  | ${ }_{43}^{43}$ | 42.5 42.5 | 65.9 659 | 67.2 67.1 |  |  |  |  | 50.5 44.3 |  |
|  | 50000 | 1000000 | 1-Jan-29 | 31-Dec-29 | ${ }_{6}^{6}$ | $\underbrace{\text { cen }}_{\substack{\text { RandR } \\ \text { PeER }}}$ | n/a | 26.1 37.1 | 38.2 49.1 | 32.1 43.2 | 43.8 54.3 | 27.3 38.1 | 53.2 61.2 | 38.6 49.7 | 36.7 49 | 65.9 65.9 | 67.1 67.1 | 64 64 | 57 57 | 60.8 60.8 | 49.9 49.9 | 43 43 | 42.5 42.5 | 65.9 65.9 | 67.1 67.2 | 64.0 64.0 | 57.2 58.9 | 60.8 60.8 | 54.9 61.5 | 44.3 50.5 | 43.5 49.9 |
|  |  |  |  |  | 6 | RandR | n/a | 26.1 | 38.2 | 32.1 | 43.8 | 27.3 | 53.2 | 38.6 | 36.7 | 65.9 | 67.1 | 64 | 57 | 60.8 | 49.9 | ${ }^{43}$ | 42.5 | 65.9 | 67.1 | 64.0 | 57.2 | 60.8 | 54.9 | 44.3 | 43.5 |

## Scenario 2A: TETRP II with no Screening at Nelson Sloan Site

Operations occur 6 molyear (applicable to two-vear timeframe of terrp and remaining Nelson Sloan Project timeline)
During two-vear duration of TTETR PII , Nelson Sloan would dacept $200,000 \mathrm{CY}$ of sediment per year
Once TETRP is complete, Nelson Sloan operations would continue at 6 mo/vear frequency unti 1 ite/p


Scenario 2B: TETRP II with no Screening at Nelson Sloan Site
Operations occur 12 mo/vear (applicable to two-vear timeframe of TETRP and remaining Nelson Sloan Project timeline)



## Scenario 1A: TETRP II with Screening at Nelson Sloan Site Operation

Perations occur 6 molvear (applicable tot wo-vear timeframe of TETRP and remaining Nelson Sloan Project timeline)
During two-vear duration of TTETP II, Nelson Sloan would accept 200,000 Cr o f sediment per year



Scenario 18: TETRP II with Screening at Nelson Sloan Site
Operations occur 12 molvear (applicable to two-vear timeframe of TTTRP and remaining Nelson Sloan Project timeline)
During two year duration of TTTRPP



## Scenario 2A: TETRP II with no Screening at Nelson Sloan Site

Operatins sccur molyear (applicable to two-year timeframe of TETRP and remaining Nelson Sloan Project timeline)



Scenario 2B: TETRP II with no Screening at Nelson Sloan Site
Operations occur 12 mo/vear (applicable to two-vear timeframe of TETRP and remaining Nelson Sloan Project timeline)



