

PRELIMINARY ENGINEERING NOISE ANALYSIS REPORT



Pennsylvania Turnpike Interstate 476 – Scranton Beltway Project, Clarks Summit Interchange

Lackawanna County, Pennsylvania

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Scranton Beltway – Clarks Summit Interchange
Pennsylvania Turnpike, I-476 MP A128 to Ramp K
Lackawanna County
PELIMINARY ENGINEERING NOISE ANALYSIS
January 2023

Executive Summary

The Pennsylvania Turnpike Scranton Beltway Project (MP A114 to MP A117 and MP A128 to Ramp K) includes the construction of connectors between I-476 and I-81 in the areas of Wyoming Valley and Clarks Summit. The goal is to optimize the utilization of both corridors, and to effectively create a beltway system around Scranton. This noise analysis report will be limited to the Clarks Summit interchange only. Due to the distance between Wyoming Valley and Clarks Summit it was decided that the noise analysis for each location would be completed separately and contained in their own report.

For analysis purposes, the Clarks Summit project study area was divided into seven (7) Noise Study Areas (NSAs) as shown in Figure 2.1-2.3. Noise measurements and concurrent traffic counts were conducted in all NSAs, as reported in Figure 2.1-2.3 and Table 2. Based on the evaluation of existing and future noise levels and the noise abatement criteria (NAC) described in Table 1, project-related noise impacts were identified in NSAs 5, 7, 8, 9, and 10.

Based on the evaluation of the noise levels associated with the preliminary engineering plans for the project developed to date, noise abatement features were determined to be feasible and reasonable for NSA 5, NSA 8, and NSA 10. Various noise barrier options were considered and evaluated in terms of abatement feature lengths, heights, and costs. This process resulted in the development of the following warranted, feasible and reasonable noise barriers along the project alignment:

- NSA 5 – A noise barrier 10-13 feet in height and with a length of 787 feet running parallel to Briar Hill Cir and adjacent I-476 Southbound as shown in Figure 3.1.
- NSA 8 – A noise barrier 14-16 feet in height and with a length of 3,009 feet running parallel to I-81 northbound, starting approximately 380 feet west of Hilltop Lane and ending at Simerell Road as shown in Figures 3.1 and 3.2.
- NSA 10 – A noise barrier 10-16 feet in height and with a length of 2,305 feet running parallel to I-81 southbound, starting approximately 162 feet west of Edella Road and ending approximately 2,143 feet east of Edella Road as shown in Figures 3.1.

Introduction

The Pennsylvania Turnpike Scranton Beltway Project (MP A114 to MP A117 and MP A128 to Ramp K) is the construction of northbound and southbound highway-speed connections at both the Wyoming Valley and Clarks Summit areas, and the reconstruction of two existing ramps at the Clarks Summit interchange. The project aims to improve the utilization of both the I-476 and I-81 corridors, to effectively create a beltway system around Scranton. I-476 provides an alternative route to I-81 from Wyoming Valley (Interchange 115) to Clarks Summit (Interchange 131) but is often under-utilized while I-81 frequently operates at or near capacity. I-476 is a tolled roadway but is three miles shorter in distance and posted at 15 mph higher compared to I-81. Adequate connections at the Wyoming Valley and Clarks Summit interchanges, particularly north to north and south to south, will be essential to increasing the utilization of I-476 and relieving congestion on I-81. Connections that currently exist between I-81 and I-476 in these locations are not direct. This noise analysis report is limited to the proposed Clarks Summit interchange only.

The Clarks Summit area of study is located in South Abington Township in Lackawanna County, Pennsylvania. The proposed construction includes a two-lane northbound flyover connection from northbound I-476 to northbound I-81, and a single-lane surface connection from southbound I-81 to southbound I-476. The project is considered a Type I project as the addition of the new traffic lanes will cause a substantial horizontal Alteration, as the project will halve the distance between the traffic noise source and the closest receptor between the existing condition to the future build conditions. The proposed design also includes modifications to the existing northbound and southbound ramps and improved merge areas.

Noise abatement has been evaluated for the noise study areas which meet the Pennsylvania Department of Transportation (PennDOT) and Federal Highway Administration (FHWA) criteria for a Type I project. This report focuses on the noise analysis and mitigation related to the 2045 design year Build Alternative.

PennDOT Noise Abatement Criteria (NAC), described in Table 1, for specific land use activities were used in the evaluation of traffic noise impacts. These criteria are based on criteria established in Title 23 Code of Federal Regulations, Part 772, U.S. Department of Transportation, Federal Highway Administration (FHWA), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, and guidelines for "increase over existing" noise levels as set forth in PennDOT Publication *Project Level Highway Traffic Noise Handbook Publication No.24*, dated May 2019. Predicted noise levels were determined using Version 2.5 of the FHWA Traffic Noise Model (FHWA TNM).

The noise level descriptor used for this project was the hourly equivalent noise level ($L_{eq}(h)$). $L_{eq}(h)$ is the steady state, A-weighted sound level, which contains the same amount of acoustic energy as the actual time-varying A-weighted noise level over a one-

hour period. The FHWA and PennDOT define noise impact based upon seven activity categories, as identified in Table 1. Individual sites located within a given activity category are designated as noise sensitive receptors.

Noise impacts were also evaluated by comparing the predicted noise levels with existing noise levels. A noise impact was identified if the future (year 2045) noise level was predicted to be approach or exceed the NAC of 67 dB(A), or if future noise levels within the project were predicted to cause a substantial noise increase (≥ 10 dB(A)) as compared to existing noise levels (year 2018). PennDOT defines approach as one dB(A) below the NAC.

Noise Study Areas

The project study area extends from South Abington Road to Simerell Road. The project study area was divided into the following noise study areas (NSAs) as shown in Figures 2.1 through 2.3, the project was setup to start numbering with NSA 4:

NSA 4: Activity Category B land uses are located east of Abington Rd (SR-407) and north of Sunnyside Ave, adjacent to I-476 northbound and consists of forty single-family residences and four multi-family properties. See Figure 2.1.

NSA 5: Activity Category B land uses are located on Old Colony Rd and Briar Hill Circle, north of and adjacent to I-476 southbound. This NSA consists of twenty-one single-family residences. See Figure 2.2.

NSA 6: Activity Category B land uses are located on Willowbrook Rd, between the existing I-476 and I-81 mainlines. Four single-family residences are property acquisitions; therefore, this NSA consists of six remaining single-family residences. See Figure 2.1.

NSA 7: Activity Category B land uses are located east of I-81 northbound and west of Edella Rd. This NSA consists of thirty-five single-family residences. See Figure 2.1.

NSA 8: Activity Category B land uses are located adjacent to I-81 northbound, north of Edella Rd and south of Simerell Rd. This NSA consists of ninety-three single-family residences. See Figure 2.1.

NSA 9: Activity Category B land uses are eight single-family homes located adjacent to I-81 southbound on Pauline Dr, and one single-family residence within Clarks Summit University. Activity Categories B and C land uses are located within Clarks Summit University and consists of 12 student dorm units and one classroom unit. See Figure 2.1.

NSA 10: Activity Category B land uses are located adjacent to I-81 southbound along White Birch Rd and Edella Dr. This NSA consists of thirty-five single-family residences and one multi-family residence. See Figure 2.1.

Noise Measurements and Model Validation

Ambient noise measurements were conducted throughout the project study area as shown in Figure 2.1-2.3. Within each of the above NSAs, short-term (20-minute duration) noise measurements were taken along with concurrent traffic counts at 42 locations using American National Standards Institute (ANSI) Type I noise meters. See Appendix A for field data sheets. Calibration certificates related to noise meters and calibrators are in Appendix B. Traffic volume figures are located in Appendix C.

Short-term measurements were taken at various times of the day between July 8 and 9 of 2019 and do not necessarily represent the noisiest condition at any measurement site. Long-term noise measurements were taken at L2-01, L2-02, L3-01 and L3-02 to observe typical loudest-hour conditions. Measurement sites were positioned to enable validation of the noise prediction model and to assist in defining existing noise levels for second-row residences and for receivers located approximately 500 feet from the proposed edge of pavement. As such, in certain locations, noise measurement sites do not exactly correspond with noise analysis sites. Measurements were used primarily for purposes of noise model validation, with year 2018 peak hour traffic volumes assumed in the prediction of worst-case existing noise levels. Measured existing L_{eq} noise levels at short-term measurement sites (receptors) ranged from 49 to 72 dB(A).

Using the traffic data obtained concurrently with the short-term noise measurements, noise levels were modeled and compared to measured noise levels. Existing short-term measured noise levels and hourly traffic data based on concurrent traffic counts are summarized in Table 2, with field measurement data sheets contained in Appendix A. Validation results are shown in Table 3, with FHWA TNM validation data files included with this report. Measured versus modeled noise levels were within the acceptable 3 dB(A) range for all sites except for M8-07 and M10-04. It was observed that both sites M8-07 and M10-04 received excessive localized shielding from dump truck passby, brakes and door slamming as well as AC units and loud birds noise as shown in Appendix A. The results of the validation process were used to “build” the FHWA TNM used for purposes of modeling existing and future year noise levels, determining future year impacts, and evaluating potential noise abatement options.

Noise Modeling

The model used to predict worst case existing and future noise levels and to evaluate noise abatement options was the FHWA’s TNM, Version 2.5. The FHWA TNM predicts noise levels at selected locations based on traffic data, roadway design, topographic features, and the relationship of the analysis site (receiver) to nearby roadways. Traffic data used for prediction of existing (year 2018) and future (year 2045) noise levels for both no-barrier and barrier conditions is contained in Appendix C. The percentages of automobiles, medium trucks, and heavy trucks volumes used in the FHWA TNM modeling process were

obtained from the Pennsylvania Turnpike Commission and Urban Engineers.

In addition, a parallel barrier analysis was conducted using FHWA TNM 2.5 Parallel Barrier Analysis Tool at locations where proposed barriers are opposite to one another. This analysis predicts degradation in barrier performance resulting from noise reflecting between the barriers and helps to determine if the use of absorptive materials is warranted. Results from the parallel barrier analysis can be found in Table 11.

Evaluation of Noise Impacts

Consideration of noise abatement is required in Pennsylvania if noise levels approach the NAC (approach is defined as 1 dB(A) below the noise abatement criteria) or create a substantial noise “increase over existing” (IOE) (10 dB(A)). The future year noise levels were compared to the NAC approach levels (66 dB(A)) for land use Categories B and C and to the increases over existing year noise levels using PennDOT’s NAC to determine if there would be any noise impacts. These comparisons are contained in the noise summary tables for each NSA, with the noise measurement sites and analysis sites (receivers) indicated within each NSA. Noise impacts were identified in each NSA based on predicted exterior noise levels exceeding the 66 dB(A) approach criteria level for Activity Category land uses B and C. “Increase over existing” (IOE) noise levels are primarily the result of the proposed project.

In addition to their use in evaluating noise impacts, noise analysis sites were used in the consideration of noise abatement for noise sensitive receptors within each NSA. Abatement measures such as traffic management devices and roadway realignment were determined not to be feasible. In addition, the topography and development in the area does not lend itself to the use of noise berms as an effective noise abatement technique. Therefore, noise abatement evaluations focused on the design of noise barrier walls.

Consideration of noise abatement was required in NSAs 5, 7, 8, 9, and 10 due to future noise levels approaching or exceeding the NAC. Under PennDOT noise criteria, feasible noise barriers are those that provide at least 5 dB(A) of noise reduction for at least 50% of impacted receptors, while posing no safety, engineering, maintenance, constructability, drainage, or utility impacts, or access restrictions. If determined to be feasible, a barrier was then evaluated for reasonableness. For a barrier to be reasonable based on PennDOT noise criteria, it must be cost-effective (square footage per benefited residential receptor (SF/BR) must be less than or equal to 2000), and the desires of the affected property owners and residents must be considered. Receptors are considered to be benefited if they receive 5 dB(A) or more noise reduction (insertion loss) from a barrier. To meet PennDOT’s reasonableness criteria, a barrier must also achieve at least a 7 dB(A) noise reduction at one receptor.

A summary of abatement considerations within each NSA follows. See referenced tables for more details related to all barrier options considered.

NSA 4 (See Figure 3.1 and Table 4): Zero of the forty-four receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels or increase over existing noise levels that are at or above 10 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was not warranted.

NSA 5 (See Figure 3.1 and Table 5): Five of the twenty-one receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels or increase over existing noise levels that are at or above 10 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following five abatement options were considered for NSA 5:

- Case 1 consisted of a 10 feet high wall, 1,776 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 20% of impacted receptors).
- Case 2 consisted of a 12 feet high wall, 787 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 60% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 2,361 > 2000, which exceeds PennDOT requirements).
- Case 3 consisted of a 14 feet high wall, 787 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 60% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 3,673 > 2000, which exceeds PennDOT requirements).
- Case 4 consisted of a 16 feet high wall, 787 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 80% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 3,148 > 2000, which exceeds PennDOT requirements).
- Case 5 consisted of an optimized 10-13 feet high wall, 787 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 80% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,830 < 2000, which meets PennDOT requirements).

NSA 6 (See Figure 3.1 and Table 6): Zero of the five receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels or increase over existing noise levels that are at or above 10 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was not warranted.

NSA 7 (See Figure 3.2 and Table 7): three of the thirty-five receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels or increase over existing noise levels that are at or above 10 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following six abatement options were considered for NSA 7:

- Case 1 consisted of two 10 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 0% of impacted receptors).
- Case 2 consisted of two 12 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 0% of impacted receptors).
- Case 3 consisted of two 14 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 0% of impacted receptors).
- Case 4 consisted of two 16 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 0% of impacted receptors).
- Case 5 consisted of two 18 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 33% of impacted receptors).
- Case 6 consisted of two 20 feet high walls, totaling 1,984 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss provided for 33% of impacted receptors).

NSA 8 (See Figure 3.2-3.3 and Table 8): twenty-four of the ninety-two receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following seven abatement options were considered for NSA 8:

- Case 1 consisted of a 10 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 83% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 898 < 2000, which meets PennDOT requirements).

- Case 2 consisted of a 12 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 92% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,165 < 2000, which meets PennDOT requirements).
- Case 3 consisted of a 14 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 860 < 2000, which meets PennDOT requirements).
- Case 4 consisted of a 16 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 830 < 2000, which meets PennDOT requirements).
- Case 5 consisted of a 18 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 833 < 2000, which meets PennDOT requirements).
- Case 6 consisted of a 20 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 912 < 2000, which meets PennDOT requirements).
- Case 7 consisted of an optimized 14-16 feet high wall, 3,009 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 863 < 2000, which meets PennDOT requirements).

NSA 9 (See Figure 3.2 and Table 9): One receptor (R9-01) of the twenty-one receptors evaluated within this NSA was predicted to approach or exceed 67 dB(A) noise levels while no other receptors were predicted to approach or exceed 67 dB(A) noise levels or increase over existing noise levels that are at or above 10 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was not warranted. The abatement for receptor R9-01 is discussed within NSA 10 and sound level for receptor R9-01 are shown in Table 10.

NSA 10 (See Figure 3.2-3.3 and Table 10): Twelve of the forty receptors evaluated within this NSA were predicted to approach or exceed 67 dB(A) noise levels with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted. It was observed that the NSA 10 barrier had a potential to benefit the singular impacted receptor in NSA 9 (R9-01) while simultaneously providing coverage from flanking noise in NSA 10; therefore R9-01 was added to the NSA 10 Barrier Analysis (Table 10) for consideration.

The following seven abatement options were considered for NSA 10:

- Case 1 consisted of a 10 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 83% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was not achieved).
- Case 2 consisted of a 12 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 92% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,106 < 2000, which meets PennDOT requirements).
- Case 3 consisted of a 14 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,113 < 2000, which meets PennDOT requirements).
- Case 4 consisted of a 16 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,272 < 2000, which meets PennDOT requirements).
- Case 5 consisted of a 18 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,431 < 2000, which meets PennDOT requirements).
- Case 6 consisted of a 20 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,587 < 2000, which meets PennDOT requirements).

PennDOT requirements).

- Case 7 consisted of an optimized 10-16 feet high wall, 2,305 feet long and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR $1,141 < 2000$, which meets PennDOT requirements).

Undeveloped Lands

Two (2) areas of “representative” undeveloped land were assessed for this study. There are no undeveloped lands within NSAs 4, 6, 7, 8 and 10 boundaries. Noise modeling at these two areas indicate that future design year Build Alternative noise levels are projected to approach the Activity Category B (residential) NAC of 66 dBA and Activity Category E (Commercial/Industrial) NAC of 71 dBA at a distance extending approximately 139 feet and 90 feet respectively between NSAs 5 and 9 from the proposed edge-of-shoulder of the roadway alignment.

Construction Noise Considerations

It is recognized that construction, while temporary in nature, will result in increased noise levels during certain periods and at certain locations. If required during the final design noise analysis, a more detailed consideration of construction noise and associated abatement/mitigation will be undertaken, consistent with the availability and detail of anticipated construction scheduling and operations. The early construction of permanent noise barriers will be considered as will the possibility of developing construction noise specifications and/or special provisions related to construction time periods, duration of construction activities, types of construction equipment, and/or equipment noise levels.

Public Involvement

For projects requiring the consideration of highway traffic noise, public involvement activities are required to discuss highway traffic noise levels and impacts related to the Type I projects. Discussions of highway traffic noise levels, highway traffic noise-related impacts and highway traffic noise abatement options that are feasible and reasonable will be included in the report. The viewpoints of residents and property owners will be solicited as part of the public involvement process. Both property owners and renters of the receptor units that are benefited by highway traffic noise may vote on whether they are in favor of the proposed noise wall as well as the color and texture of the noise walls facing the community. The owner of each benefited receptor unit shall receive one vote of equal value for each benefited receptor unit owned. The renter shall receive one vote for the unit in which they reside. Of all the votes tallied, 50% or greater must be in favor of the proposed noise barrier in order for the noise barrier to be considered

reasonable. Final design noise abatement public meetings will be conducted after the draft version of the Final Design Highway Traffic Noise Report is approved by PTC, PennDOT and FHWA.

Conclusion

Based on the analysis of noise reported herein, noise impacts exist within NSAs 5, 7, 8, 9, and 10. Based on the evaluation of the noise levels associated with the engineering plans developed to date, noise barriers were determined to be warranted, feasible and reasonable for NSA 5, NSA 8 and NSA 10. Additionally, results from the parallel barrier analysis (Table 11), and distance to height ratio of 9.375:1 to 10:1, suggest that the use of absorptive barrier treatments is warranted and recommended where NSA 8 and NSA 10 barriers are parallel to one another.

During the final design phase, further optimization of barrier length, height, cost, and location will be coordinated with the final design engineering process to insure compatibility and the most cost-effective and efficient barrier design. This process may result in barrier height, length, and location changing from those discussed in this document.

The ownership and maintenance for the I-476 SB Connector and I-476 NB Connector is split between PennDOT and the Commission according to the following delineation. For the I-476 SB Connector, PennDOT will own and maintain this connector from I-81 Southbound up to the connector gore (approx. STA 233+00). The Commission will own and maintain the I-476 SB Connector from the connector gore through the southern work limits of the project where this connector becomes the right lane on I-476 Mainline Southbound. For the I-476 NB Connector, the Commission will own and maintain this connector from the southern work limits of the project up to the bridge over I-81 SB/NB (approx. STA 125+50). PennDOT will own and maintain the I-476 NB Connector from this point to I-81 Northbound.

Pennsylvania Turnpike Commission is committed to construction of the warranted, feasible and reasonable noise abatement measures discussed above contingent upon the following conditions:

- PennDOT will own and maintain all recommended noise barriers; the Pennsylvania Turnpike Commission will own and maintain the noise barrier along the southbound connector adjacent to NSA 5
- Detailed noise analyses during the final design process;
- Analysis and determination of the feasibility and reasonableness of noise abatement measures, methodology, and criteria;

- Community input regarding whether or not they want a noise barrier, types, height, and location, as well as aesthetic considerations on the community side of the noise barrier;
- Preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses;
- Safety, utilities, drainage and engineering aspects as related to the roadway user and the adjacent property owner

It is likely that the noise abatement measures for the identified noise impacted areas will be constructed if found to be feasible and reasonable based on the contingencies listed above.

TABLES

<p>Table 1</p> <p>Hourly Weighted Sound Levels dB(A) For Various Land Use Activity Categories*</p>		
Land Use Activity Category	Leq(h)	Description of Land Use Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A – D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

* PennDOT has chosen to use Leq(h) [not L10(h)] on all of its transportation improvement projects.

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Total	Measured Leq
M4-01	339 Edella Rd, South Abington Township, PA (center unit)	7/8/2019	2:09 - 2:29 pm	I-476 EB	201	6	2	3	0	212	57.5
				I-476 WB	318	15	30	0	0	363	
				I-81 NB	993	21	201	6	12	1233	
				I-81 SB	1125	18	183	3	3	1332	
				Edella NB	105	0	0	0	0	105	
				Edella SB	81	0	0	0	0	81	
M4-02	339 Edella rd, South Abington Townsip, PA (rear unit)	7/8/2019		I-476 EB	201	6	2	3	0	212	56.4
				I-476 WB	318	15	30	0	0	363	
				I-81 NB	993	21	201	6	12	1233	
				I-81 SB	1125	18	183	3	3	1332	
				Edella NB	105	0	0	0	0	105	
				Edella SB	81	0	0	0	0	81	
M4-03	311 Montrose Ave, South Abington Township, PA	7/8/2019	3:33 - 3:53 pm	I-476 EB	282	12	66	0	0	360	53.0
				I-476 WB	288	18	42	0	0	348	
				I-81 NB	1128	24	189	6	0	1347	
				I-81 SB	1386	39	213	12	0	1650	
				Edella NB	126	0	0	0	0	126	
				Edella SB	96	3	0	0	0	99	
M4-04	402 Motrose Ave, South Abington Township, PA	7/8/2019		I-476 EB	282	12	66	0	0	360	54.8
				I-476 WB	288	18	42	0	0	348	
				I-81 NB	1128	24	189	6	0	1347	
				I-81 SB	1386	39	213	12	0	1650	
				Edella NB	126	0	0	0	0	126	
				Edella SB	96	3	0	0	0	99	
M4-05	101 Sunnyside Ave, South Abington Township, PA	7/8/2019	2:52 - 3:12 pm	I-476 EB	309	9	48	0	0	366	50.2
				I-476 WB	321	15	63	0	0	399	
				I-81 NB	1152	36	186	0	3	1377	
				I-81 SB	1338	33	282	6	3	1662	
				S. Abington NB	105	0	0	0	0	105	
				S. Abington SB	93	0	0	0	0	93	
M4-06	207 Adams Ave, South Abington Township, PA	7/8/2019		I-476 EB	309	9	48	0	0	366	56.0
				I-476 WB	321	15	63	0	0	399	
				I-81 NB	1152	36	186	0	3	1377	
				I-81 SB	1338	33	282	6	3	1662	
				S. Abington NB	105	0	0	0	0	105	
				S. Abington SB	93	0	0	0	0	93	
M5-01	522 Briar Hill Cir, South Abington Township, PA	7/8/2019	5:43 - 6:03 pm	I-476 EB	435	3	63	0	0	501	57.1
				I-476 WB	195	3	30	0	0	228	
				I-81 NB	936	18	237	3	0	1194	
				I-81 SB	783	27	186	3	3	1002	
				Edella NB	81	0	0	0	0	81	
				Edella SB	87	0	0	0	0	87	
M5-02	518 Briar Hill Cir, South Abington Township, PA	7/8/2019		I-476 EB	435	3	63	0	0	501	55.1
				I-476 WB	195	3	30	0	0	228	
				I-81 NB	936	18	237	3	0	1194	
				I-81 SB	783	27	186	3	3	1002	
				Edella NB	81	0	0	0	0	81	
				Edella SB	87	0	0	0	0	87	

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Total	Measured Leq
M5-03	510 Briar Hill Cir, South Abington Township, PA	7/8/2019	5:08 - 5:28 pm	I-476 EB	585	15	90	3	0	693	57.9
				I-476 WB	279	21	39	0	0	339	
				I-81 NB	1068	18	204	3	0	1293	
				I-81 SB	960	33	222	15	3	1233	
										0	
										0	
M5-04	500 Briar Hill Cir, South Abington Township, PA	7/8/2019		I-476 EB	585	15	90	3	0	693	54.7
				I-476 WB	279	21	39	0	0	339	
				I-81 NB	1068	18	204	3	0	1293	
				I-81 SB	960	33	222	15	3	1233	
										0	
										0	
M5-05	1102 S Abington Rd, South Abington Township, PA	7/8/2019	4:23 - 4:43 pm	I-476 EB	420	9	39	0	0	468	58.5
				I-476 WB	276	0	39	0	3	318	
				S. Abington NB	498	0	0	3	6	507	
				S. Abington SB	282	6	0	0	0	288	
										0	
										0	
M5-06	1106 S Abington Rd, South Abington Township, PA	7/8/2019		I-476 EB	420	9	39	0	0	468	64.3
				I-476 WB	276	0	39	0	3	318	
				S. Abington NB	498	0	0	3	6	507	
				S. Abington SB	282	6	0	0	0	288	
										0	
										0	
M6-01	402 Willowbrook Rd, South Abington Township, PA	7/8/2019	6:25 - 6:45 pm	I-476 EB	261	12	36	0	0	309	62.6
				I-476 WB	186	9	27	0	0	222	
				I-81 NB	708	36	192	3	0	939	
				I-81 SB	783	27	186	3	3	1002	
				Edella NB	81	0	0	0	0	81	
				Edella SB	87	0	0	0	0	87	
M6-02	420 Willowbrook Rd, South Abington Township, PA	7/8/2019	7:03 - 7:23 pm	I-476 EB	162	3	39	0	0	204	61.9
				I-476 WB	102	6	30	0	0	138	
				I-81 NB	543	24	189	9	0	765	
				I-81 SB	654	24	201	12	0	891	
				Edella NB	105	0	0	0	3	108	
				Edella SB	66	0	0	0	3	69	
M6-03	PA American Water, Willowbrook Rd, South Abington Township, PA (commercial)	7/8/2019	6:25 - 6:45 pm	I-476 EB	261	12	36	0	0	309	55.3
				I-476 WB	186	9	27	0	0	222	
				I-81 NB	708	36	192	3	0	939	
				I-81 SB	783	27	186	3	3	1002	
				Edella NB	81	0	0	0	0	81	
				Edella SB	87	0	0	0	0	87	
M7-01	435 Edella Rd, South Abington Township, PA	7/8/2019	7:03 - 7:23 pm	I-476 EB	162	3	39	0	0	204	64.9
				I-476 WB	102	6	30	0	0	138	
				I-81 NB	543	24	189	9	0	765	
				I-81 SB	654	24	201	12	0	891	
				Edella NB	105	0	0	0	3	108	
				Edella SB	66	0	0	0	3	69	

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Total	Measured Leq
M7-02	449 Edella Rd, South Abington Township, PA	7/9/02019	9:35 - 9:55 am	I-81 NB	465	33	150	15	0	663	56.8
				I-81 SB	717	27	216	3	3	966	
				Edella NB	45	0	0	0	0	45	
				Edella SB	120	0	0	0	0	120	
										0	
										0	
M7-03	442 Willowbrook Rd, South Abington Township, PA	7/9/02019		I-81 NB	465	33	150	15	0	663	64.1
				I-81 SB	717	27	216	3	3	966	
				Edella NB	45	0	0	0	0	45	
				Edella SB	120	0	0	0	0	120	
										0	
										0	
M7-04	460 Willowbrook Rd, South Abington Township, PA	7/9/02019	10:07 - 10:27 am	I-81 NB	513	48	171	12	0	744	61.2
				I-81 SB	861	24	207	0	3	1095	
										0	
										0	
										0	
										0	
M7-05	501 Brian Dr, South Abington Township, PA	7/9/02019		I-81 NB	513	48	171	12	0	744	60.4
				I-81 SB	861	24	207	0	3	1095	
										0	
										0	
										0	
										0	
M8-01	530 Edella Rd, South Abington Township, PA	7/9/02019	10:58 - 11:18 am	I-81 NB	684	21	186	12	3	906	57.5
				I-81 SB	801	39	246	3	9	1098	
				Edella (underpass) WB	60	0	3	0	0	63	
				Edella (underpass) EB	54	3	0	0	0	57	
										0	
										0	
M8-02	111 / 113 Echo Dr, South Abington Township, PA	7/9/02019		I-81 NB	684	21	186	12	3	906	58.6
				I-81 SB	801	39	246	3	9	1098	
				Edella (underpass) WB	60	0	3	0	0	63	
				Edella (underpass) EB	54	3	0	0	0	57	
										0	
										0	
M8-03	530 Hilltop Ln, South Abington Township, PA	7/9/02019	11:33 - 11:53 am	I-81 NB	729	30	210	0	0	969	71.7
				I-81 SB	825	42	201	3	6	1077	
										0	
										0	
										0	
										0	
M8-04	121 Echo Dr, South Abington Township, PA	7/9/02019		I-81 NB	729	30	210	0	0	969	56.8
				I-81 SB	825	42	201	3	6	1077	
										0	
										0	
										0	
										0	

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Total	Measured Leq
M8-05	207 Willow Ln, South Abington Township, PA	7/9/02019	12:06 - 12:26 pm	I-81 NB	672	30	234	6	0	942	64.8
				I-81 SB	777	39	234	3	0	1053	
										0	
										0	
										0	
										0	
M8-06	201 Appletree, South Abington Township, PA	7/9/02019		I-81 NB	672	30	234	6	0	942	54.2
				I-81 SB	777	39	234	3	0	1053	
										0	
										0	
										0	
										0	
M8-07	501 Willow Ln, South Abington Township, PA	7/9/02019	1:46 - 2:06 pm	I-81 NB	843	39	219	9	0	1110	63.7
				I-81 SB	873	42	243	9	0	1167	
				Willow(tree) Ln	3	3	0	0	0	6	
				Longwood	9	6	0	0	0	15	
										0	
										0	
M8-08	1102 E Longwood Dr, South Abington Township, PA	7/9/02019		I-81 NB	843	39	219	9	0	1110	52.9
				I-81 SB	873	42	243	9	0	1167	
				Willow(tree) Ln	3	3	0	0	0	6	
				Longwood	9	6	0	0	0	15	
										0	
										0	
M8-09	212 Simerell Rd, South Abington Township, PA	7/9/02019	12:48 - 1:08 pm	I-81 NB	837	21	231	0	3	1092	66.1
				I-81 SB	918	42	228	9	9	1206	
				Simerell NB	18	0	0	0	0	18	
				Simerell SB	27	0	0	0	0	27	
										0	
										0	
M8-10	204 Simerell Rd, South Abington Township, PA	7/9/02019		I-81 NB	837	21	231	0	3	1092	56.9
				I-81 SB	918	42	228	9	9	1206	
				Simerell NB	18	0	0	0	0	18	
				Simerell SB	27	0	0	0	0	27	
										0	
										0	
M9-01	640 Vernard Rd, South Abington Township, PA	7/9/02019	5:40 - 6:00 pm	I-81 NB	744	27	213	0	0	984	65.3
				I-81 SB	807	33	258	3	0	1101	
				Edella (underpass) WB	126	0	0	0	0	126	
				Edella (underpass) EB	81	0	0	0	0	81	
				Vernard WB	75	0	0	0	0	75	
				Vernard EB	66	0	0	0	0	66	

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Total	Measured Leq
M9-02	1 Pauline Dr, South Abington Township, PA	7/9/02019	4:05 - 4:25 pm	I-81 NB	984	36	234	9	0	1263	56.5
				I-81 SB	891	39	171	0	0	1101	
				Edella (underpass) WB	117	0	0	0	0	117	
				Edella (underpass) EB	120	0	0	0	3	123	
				Vernard WB	-	-	-	-	-	0	
				Vernard EB	-	-	-	-	-	0	
M9-03	Barndollar Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/02019	4:35 - 4:55 pm	I-81 NB	984	21	219	6	0	1230	49.3
				I-81 SB	1002	48	243	3	0	1296	
										0	
										0	
										0	
										0	
										0	
M9-04	Christen Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/02019	4:35 - 4:55 pm	I-81 NB	984	21	219	6	0	1230	50.0
				I-81 SB	1002	48	243	3	0	1296	
										0	
										0	
										0	
										0	
										0	
M9-05	Shaffer Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/02019	4:05 - 4:25 pm	I-81 NB	984	36	234	9	0	1263	49.1
				I-81 SB	891	39	171	0	0	1101	
				Edella (underpass) WB	117	0	0	0	0	117	
				Edella (underpass) EB	120	0	0	0	3	123	
				Vernard WB	-	-	-	-	-	0	
				Vernard EB	-	-	-	-	-	0	
M10-01	617 Edella Rd, South Abigton Township, PA	7/9/02019	5:40 - 6:00 pm	I-81 NB	744	27	213	0	0	984	65.6
				I-81 SB	807	33	258	6	0	1104	
				Edella (underpass) WB	126	0	0	0	0	126	
				Edella (underpass) EB	81	0	0	0	0	81	
				Vernard WB	75	0	0	0	0	75	
				Vernard EB	66	0	0	0	0	66	
M10-02	628 White Birch Rd, South Abington Township, PA	7/9/02019	6:15 - 6:35 pm	I-81 NB	714	39	180	3	0	936	62.5
				I-81 SB	693	30	219	0	0	942	
				Edella NB	78	0	0	0	0	78	
				Edella SB	75	0	0	0	0	75	
										0	
										0	
										0	
M10-03	641 Edella Rd, South Abigton Township, PA	7/9/02019	6:15 - 6:35 pm	I-81 NB	714	39	180	3	0	936	68.5
				I-81 SB	693	30	219	0	0	942	
				Edella NB	78	0	0	0	0	78	
				Edella SB	75	0	0	0	0	75	
										0	
										0	
										0	

Table 2: Sound Level Measurement Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dBA
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Total	Measured Leq
M10-04	638 Edella Rd, South Abigton Township, PA	7/9/02019	6:46 - 7:06 pm	I-81 NB	468	18	165	3	6	660	58.1
				I-81 SB	630	27	213	3	0	873	
				Edella NB	66	3	0	0	0	69	
				Edella SB	45	0	0	0	0	45	
										0	
										0	
M10-05	653 Edella Rd, South Abington Township, PA	7/9/02019		I-81 NB	468	18	165	3	6	660	64.5
				I-81 SB	630	27	213	3	0	873	
				Edella NB	66	3	0	0	0	69	
				Edella SB	45	0	0	0	0	45	
										0	
										0	
M10-06	653 Edella Rd, South Abigton Township, PA	7/9/02019	7:18 - 7:38 pm	I-81 NB	384	20	104	0	4	512	61.9
				I-81 SB	597	27	204	12	0	840	
				Edella NB + SB	66	0	0	0	0	66	
										0	
										0	
										0	
M10-07	812 Edella Rd, South Abigton Township, PA	7/9/02019		I-81 NB	384	20	104	0	4	512	55.8
				I-81 SB	597	27	204	12	0	840	
				Edella NB	66	0	0	0	0	66	
				Edella SB						0	
										0	
										0	

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Difference Leq(h)
M4-01	339 Edella Rd, South Abington Township, PA (center unit)	7/8/2019	2:09 - 2:29 pm	58.9	57.5	1.4
M4-02	339 Edella rd, South Abington Township, PA (rear unit)	7/8/2019		57.9	56.4	1.5
M4-03	311 Montrose Ave, South Abington Township, PA	7/8/2019	3:33 - 3:53 pm	51.0	53.0	-2.0
M4-04	402 Motrose Ave, South Abington Township, PA	7/8/2019		55.4	54.8	0.6
M4-05	101 Sunnyside Ave, South Abington Township, PA	7/8/2019	2:52 - 3:12 pm	49.2	50.2	-1.0
M4-06	207 Adams Ave, South Abington Township, PA	7/8/2019		58.9	56.0	2.9
M5-01	522 Briar Hill Cir, South Abington Township, PA	7/8/2019	5:43 - 6:03 pm	58.8	57.1	1.7
M5-02	518 Briar Hill Cir, South Abington Township, PA	7/8/2019		57.6	55.1	2.5

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Measured Leq(h)
M5-03	510 Briar Hill Cir, South Abington Township, PA	7/8/2019	5:08 - 5:28 pm	58.9	57.9	1.0
M5-04	500 Briar Hill Cir, South Abington Township, PA	7/8/2019		56.5	54.7	1.8
M5-05	1102 S Abington Rd, South Abington Township, PA	7/8/2019	4:23 - 4:43 pm	59.2	58.5	0.7
M5-06	1106 S Abington Rd, South Abington Township, PA	7/8/2019		64.5	64.3	0.2
M6-01	402 Willowbrook Rd, South Abington Township, PA	7/8/2019	6:25 - 6:45 pm	63.1	62.6	0.5
M6-02	420 Willowbrook Rd, South Abington Township, PA	7/8/2019	7:03 - 7:23 pm	62.1	61.9	0.2
M6-03	PA American Water, Willowbrook Rd, South Abington Township, PA (commercial)	7/8/2019	6:25 - 6:45 pm	56.4	55.3	1.1
M7-01	435 Edella Rd, South Abington Township, PA	7/8/2019	7:03 - 7:23 pm	64.8	64.9	-0.1

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Measured Leq(h)
M7-02	449 Edella Rd, South Abington Township, PA	7/9/2019	9:35 - 9:55 am	58.9	56.8	2.1
M7-03	442 Willowbrook Rd, South Abington Township, PA	7/9/2019		66.0	64.1	1.9
M7-04	460 Willowbrook Rd, South Abington Township, PA	7/9/2019	10:07 - 10:27 am	62.5	61.2	1.3
M7-05	501 Brian Dr, South Abington Township, PA	7/9/2019		61.8	60.4	1.4
M8-01	530 Edella Rd, South Abington Township, PA	7/9/2019	10:58 - 11:18 am	59.4	57.5	1.9
M8-02	111 / 113 Echo Dr, South Abington Township, PA	7/9/2019		57.3	58.6	-1.3
M8-03	530 Hilltop Ln, South Abington Township, PA	7/9/2019	11:33 - 11:53 am	72.1	71.7	0.4
M8-04	121 Echo Dr, South Abington Township, PA	7/9/2019		58.1	56.8	1.3

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Measured Leq(h)
M8-05	207 Willow Ln, South Abington Township, PA	7/9/2019	12:06 - 12:26 pm	67.5	64.8	2.7
M8-06	201 Appletree, South Abington Township, PA	7/9/2019		54.7	54.2	0.5
M8-07	501 Willow Ln, South Abington Township, PA	7/9/2019	1:46 - 2:06 pm	68.1	63.7	4.4
M8-08	1102 E Longwood Dr, South Abington Township, PA	7/9/2019		54.8	52.9	1.9
M8-09	212 Simerell Rd, South Abington Township, PA	7/9/2019	12:48 - 1:08 pm	68.3	66.1	2.2
M8-10	204 Simerell Rd, South Abington Township, PA	7/9/2019		57.0	56.9	0.1
M9-01	640 Vernard Rd, South Abington Township, PA	7/9/2019	5:40 - 6:00 pm	65.4	65.3	0.1

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Measured Leq(h)
M9-02	1 Pauline Dr, South Abington Township, PA	7/9/2019	4:05 - 4:25 pm	58.0	56.5	1.5
M9-03	Barndollar Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/2019	4:35 - 4:55 pm	51.2	49.3	1.9
M9-04	Christen Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/2019		52.1	50.0	2.1
M9-05	Shaffer Hall - Clark's Summit University, 538 Vernard Rd, Clarks Summit, PA	7/9/2019	4:05 - 4:25 pm	50.1	49.1	1.0
M10-01	617 Edella Rd, South Abigton Township, PA	7/9/2019	5:40 - 6:00 pm	67.1	65.6	1.5
M10-02	628 White Birch Rd, South Abington Township, PA	7/9/2019	6:15 - 6:35 pm	62.9	62.5	0.4
M10-03	641 Edella Rd, South Abigton Township, PA	7/9/2019		68.0	68.5	-0.5

Table 3: Validation Results
Pennsylvania Turnpike - Scranton Beltway Project
Clarks Summit Interchange

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dBA		
				Modeled Leq(h)	Measured Leq(h)	Measured Leq(h)
M10-04	638 Edella Rd, South Abigton Township, PA	7/9/2019	6:46 - 7:06 pm	63.2	58.1	5.1
M10-05	653 Edella Rd, South Abigton Township, PA	7/9/2019		62.1	64.5	-2.4
M10-06	653 Edella Rd, South Abigton Township, PA	7/9/2019	7:18 - 7:38 pm	64.9	61.9	3.0
M10-07	812 Edella Rd, South Abigton Township, PA	7/9/2019		55.5	55.8	-0.3

Table 4 - NSA 4
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)	
						Noise Level dB(A)	I.O.E dB
NSA 4	R4-01	B	1	56	59	65	9
	R4-02	B	1	54	57	62	8
	R4-03	B	1	52	56	60	7
	R4-04	B	1	50	53	57	7
	R4-05 (M4-05)	B	1	47	50	53	7
	R4-06 (M4-06)	B	1	58	61	65	7
	R4-07	B	1	53	57	60	7
	R4-08	B	1	53	56	60	7
	R4-09	B	1	52	56	59	7
	R4-10	B	1	49	54	56	6
	R4-11	B	1	50	53	57	7
	R4-12	B	1	50	53	56	7
	R4-13	B	1	49	52	55	6
	R4-14	B	1	49	52	55	6
	R4-15	B	1	48	53	54	6
	R4-16	B	1	48	53	54	6
	R4-17	B	1	48	53	54	6
	R4-18 (M4-03)	B	1	48	53	54	6
	R4-19	B	1	46	53	52	6
	R4-20	B	1	49	53	54	5
	R4-21	B	1	48	52	52	4
	R4-22	B	1	47	52	52	5
	R4-23	B	1	47	50	51	4
	R4-24 (M4-04)	B	1	54	57	61	7
	R4-25	B	1	52	55	55	3
	R4-26	B	1	55	58	60	5
	R4-27	B	1	58	62	62	4
	R4-28	B	1	60	63	64	5
	R4-29	B	1	51	56	56	5
	R4-30	B	1	50	53	53	3
	R4-31	B	1	50	55	54	4
	R4-32	B	1	52	57	56	4
	R4-33	B	1	53	58	57	4
	R4-34	B	1	42	46	46	3
	R4-35	B	1	41	46	46	5
	R4-36	B	1	53	59	57	4
	R4-37	B	4	52	59	56	4
	R4-38 (M4-02)	B	4	55	60	58	3
	R4-39 (M4-01)	B	4	58	62	60	2
	R4-40	B	4	61	65	61	0
	R4-41	B	1	57	62	60	4
	R4-42	B	1	57	61	60	4
	R4-43	B	1	59	61	60	2
	R4-44	B	1	59	63	60	1

Table 5 - NSA 5
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)											
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: Optimized Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 5	R5-01 (M5-06)	B	1	57	60	66	10	66	0	66	0	66	0	66	0	66	0
	R5-02 (M5-05)	B	1	56	59	65	9	65	0	65	0	65	0	65	0	65	0
	R5-03 (M5-04)	B	1	53	56	60	7	60	0	60	0	60	0	60	0	60	0
	R5-04	B	1	51	54	57	6	57	0	57	0	57	0	57	0	57	0
	R5-05	B	1	52	55	58	6	58	0	58	0	58	0	58	0	58	0
	R5-06	B	1	51	54	56	6	56	0	56	0	56	0	56	0	56	0
	R5-07	B	1	51	54	57	6	57	0	57	0	57	0	57	0	57	0
	R5-08	B	1	52	55	58	7	56	2	56	2	56	2	56	2	56	2
	R5-09 (M5-03)	B	1	57	60	63	6	58	5	58	5	57	6	57	6	58	5
	R5-10	B	1	58	62	66	7	60	6	59	7	58	8	58	8	59	7
	R5-11 (M5-02)	B	1	58	62	66	7	62	4	60	5	59	6	59	7	61	5
	R5-12	B	1	59	62	67	8	63	4	62	5	61	6	60	7	62	5
	R5-13 (M5-01)	B	1	58	62	66	8	63	3	62	4	61	5	60	6	62	4
	R5-14	B	1	49	52	55	6	55	0	55	0	55	0	55	0	55	0
	R5-15	B	1	48	52	53	5	53	0	53	0	53	0	53	0	53	0
	R5-16	B	1	49	53	55	5	54	0	54	0	54	0	54	0	54	0
	R5-17	B	1	48	52	53	5	53	0	53	0	52	1	52	1	53	0
	R5-18	B	1	50	53	55	5	54	1	54	1	53	1	53	1	54	1
	R5-19	B	1	52	55	57	5	55	2	55	2	55	2	54	2	55	2
	R5-20	B	1	53	57	59	6	57	2	57	2	57	2	57	2	57	2
	R5-21	B	1	54	57	59	6	58	1	58	1	58	1	58	1	58	1
Number of Impacted Receptors						5	5	5	5	5	5	5	5	5	5	5	5
Feasibility Evaluation																	
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)																	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.																	
Is this percentage $\geq 50\%$? If yes, barrier is feasible.																	
Reasonableness Evaluation																	
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)																	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)																	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)																	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?																	
Barrier Height (feet)																	
Barrier Length (feet)																	
Barrier square footage (SQft)																	
Barrier square footage per benefited receptor (SF/BR)																	
Is SF/BR $\leq 2,000$? If yes, barrier is reasonable																	
Average I.L. per Benefited Receptor (dB)																	

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receptors receiving ≥ 5 dB(A)

Non-Impacted Receptors receiving ≥ 5 dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 6 - NSA 6
Scranton Beltway - Clarks Summit Interchange
Summary of Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)	
						Noise Level dB(A)	I.O.E dB
NSA 6	R6-01 (M6-01)	B	1	60	63	62	2
	R6-02	B	1	59	62	62	3
	R6-03	B	1	58	61	62	3
	R6-04	B	1	58	61	62	4
	R6-05 (M6-02)	B	1	62	64	64	2

Table 7 - NSA 7
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)													
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 7	R7-01	B	1	65	68	67	1	64	3.1	63	3.4	63	4	62	4	61	6	60	7
	R7-02	B	1	60	62	63	3	62	0.4	62	0.7	62	1	61	2	60	2	60	3
	R7-03	B	1	57	59	61	4	61	-0.4	61	-0.3	61	0	61	0	60	0	60	1
	R7-04 (M7-02)	B	1	58	60	62	3	62	-0.2	61	0.1	61	0	61	1	61	1	61	1
	R7-05	B	1	57	59	60	3	61	-0.7	61	-0.5	61	0	60	0	60	0	60	0
	R7-06	B	1	59	61	61	3	62	-0.4	62	-0.2	61	0	61	0	61	0	61	0
	R7-07 (M7-03)	B	1	66	68	67	1	66	0.9	66	1.1	66	1	65	2	65	2	65	2
	R7-08	B	1	65	67	66	1	65	0.4	65	0.7	65	1	65	1	65	1	65	1
	R7-09	B	1	65	67	65	0	64	0.5	64	1.2	63	2	63	2	63	2	63	2
	R7-10	B	1	64	66	64	-1	63	1.1	62	2.3	61	3	61	3	61	3	61	3
	R7-11	B	1	63	65	62	-1	60	2.3	59	3.2	59	4	59	4	59	4	58	4
	R7-12	B	1	61	63	63	2	63	0.2	62	0.5	62	1	62	1	62	1	61	1
	R7-13	B	1	62	64	63	1	62	0.9	62	1.1	61	2	60	2	60	3	60	3
	R7-14	B	1	62	64	63	1	62	1.1	62	1.4	61	2	61	3	60	3	60	3
	R7-15	B	1	63	65	64	1	63	1.3	62	1.6	61	3	61	3	61	3	60	4
	R7-16	B	1	55	57	59	4	59	-0.4	59	-0.2	59	0	59	0	59	0	58	0
	R7-17	B	1	57	59	60	3	60	0.2	60	0.4	59	1	59	1	59	1	59	2
	R7-18	B	1	58	60	61	3	61	0.4	61	0.6	60	1	60	2	59	2	59	2
	R7-19	B	1	59	61	61	3	61	0.7	61	0.9	60	2	59	2	59	2	59	3
	R7-20	B	1	59	61	61	2	60	0.9	60	1.2	59	2	59	3	58	3	58	3
	R7-21	B	1	63	65	64	1	63	1.6	62	2.1	61	3	60	4	60	4	59	5
	R7-22	B	1	64	66	64	1	62	2.0	61	3.2	60	4	60	5	59	5	59	6
	R7-23	B	1	63	65	64	1	62	2.2	61	3.3	60	4	59	5	59	5	59	6
	R7-24	B	1	62	64	63	0	61	1.8	59	3.3	59	4	58	5	58	5	58	5
	R7-25	B	1	62	64	63	0	61	1.6	59	3.2	59	4	58	4	58	4	58	5
	R7-26	B	1	61	63	62	1	60	1.6	58	3.2	58	4	58	4	57	4	57	4
	R7-27	B	1	61	62	61	1	60	1.3	59	2.6	58	3	58	3	58	4	58	4
	R7-28	B	1	59	61	62	2	61	1.0	60	1.3	59	2	59	3	58	3	58	4
	R7-29	B	1	59	61	62	2	61	1.1	60	1.4	59	3	59	3	58	4	58	4
	R7-30	B	1	60	62	62	2	60	1.6	60	2.1	58	4	58	4	58	4	57	5
	R7-31	B	1	60	62	62	2	60	1.8	58	3.1	58	4	57	4	57	5	57	5
	R7-32	B	1	62	64	62	0	58	4.4	57	5.1	56	6	56	6	56	6	55	7
	R7-33	B	1	61	63	62	0	58	3.9	57	4.7	56	5	56	6	56	6	56	6
	R7-34 (M7-04)	B	1	62	64	62	0	58	3.5	58	4.4	57	5	57	5	56	6	56	6
	R7-35	B	1	61	63	62	1	59	3.0	58	3.8	58	4	57	4	57	5	57	5
Number of Impacted Receptors						3	3		3		3		3		3		3		
Feasibility Evaluation																			
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)						0		0		0		0		1		1			
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.						0%		0%		0%		0%		33%		33%			
Is this percentage ≥ 50%?; If yes, barrier is feasible.						No		No		No		No		No		No			
Reasonableness Evaluation																			
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)																			
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)																			
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)																			
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?																			
Barrier Height (feet)																			
Barrier Length (feet)																			
Barrier square footage (SQft)																			
Barrier square footage per benefited receptor (SF/BR)																			
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable																			
Average I.L. per Benefited Receptor (dB)																			

- Impacted (66 dB(A) or 10 dB increase over existing)
- Impacted Receivers receiving ≥ 5dB(A)
- Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 8 - NSA 8
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)															
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: Optimized Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 8	R8-01	B	1	64	66	65	1	66	-1	66	-1	66	-1	66	-1	66	-1	66	-1	66	-1
	R8-02 (M8-01)	B	1	60	62	61	2	62	-1	62	-1	62	-1	62	-1	62	-1	62	-1	62	-1
	R8-03	B	1	59	60	60	2	61	-1	61	-1	61	-1	61	-1	61	-1	61	-1	61	-1
	R8-04	B	1	58	60	60	2	60	-1	60	-1	60	-1	60	-1	60	-1	60	-1	60	-1
	R8-05	B	1	58	60	60	2	61	-1	61	-1	61	-1	61	-1	61	0	61	0	61	-1
	R8-06	B	1	59	61	61	2	62	-1	61	-1	61	-1	61	-1	61	-1	61	-1	61	-1
	R8-07	B	1	59	61	61	2	62	0	62	0	62	0	62	0	62	0	62	0	62	0
	R8-08	B	1	59	61	61	2	62	0	62	0	62	0	62	0	62	0	62	0	62	0
	R8-09	B	1	60	62	62	2	62	-1	62	-1	62	-1	62	-1	62	-1	62	-1	62	-1
	R8-10	B	1	59	61	62	2	62	0	62	0	62	0	62	0	62	0	62	0	62	0
	R8-11 (M8-02)	B	1	59	61	61	2	61	0	61	0	61	0	61	0	61	0	61	0	61	0
	R8-12	B	1	58	60	61	2	61	0	60	0	60	0	60	0	60	0	60	0	60	0
	R8-13	B	1	58	60	60	2	60	1	59	1	59	1	59	1	59	1	59	1	59	1
	R8-14 (M8-04)	B	1	58	60	60	3	60	1	60	1	59	1	59	1	59	1	59	1	59	1
	R8-15	B	1	57	59	60	3	59	1	59	1	59	1	58	2	58	2	58	2	58	2
	R8-16	B	1	60	62	63	3	62	2	61	2	61	3	61	3	61	3	60	3	61	3
	R8-17	B	1	65	67	68	3	65	3	63	5	63	5	62	6	62	6	62	6	62	6
	R8-19 (M8-03)	B	1	70	72	73	3	65	8	62	11	61	12	60	13	59	14	59	14	60	13
	R8-20	B	1	63	65	66	3	62	4	60	6	58	8	57	9	56	10	56	10	57	9
	R8-21	B	1	60	62	63	3	60	3	60	3	57	6	56	7	55	8	55	8	56	7
	R8-22	B	1	56	58	59	3	57	2	57	2	54	5	54	5	53	5	53	6	54	5
	R8-23	B	1	56	58	59	3	58	1	58	1	56	2	56	3	56	3	56	3	56	3
	R8-24	B	1	57	59	59	3	58	1	58	1	57	3	56	3	56	4	55	4	56	3
	R8-25	B	1	58	60	61	3	60	2	59	2	58	3	57	4	56	5	56	5	57	4
	R8-26	B	1	61	63	64	3	62	2	62	2	60	4	59	5	58	6	58	7	59	5
	R8-27	B	1	65	67	68	3	65	3	64	4	63	5	61	7	59	9	59	9	61	7
	R8-28	B	1	69	71	71	2	68	3	67	4	66	6	63	8	62	9	60	11	63	8
	R8-29	B	1	70	72	71	2	66	5	65	6	63	8	62	10	60	11	59	12	62	10
	R8-30	B	1	70	72	71	1	64	7	63	8	62	9	60	10	59	12	59	12	60	10
	R8-31	B	1	69	71	70	1	63	7	62	8	61	9	60	10	59	11	58	12	60	10
	R8-32 (M8-05)	B	1	66	68	68	2	62	7	61	7	60	8	59	9	59	10	58	10	59	9
	R8-33	B	1	65	67	67	2	60	7	60	8	59	8	58	9	57	10	57	10	58	9
	R8-34	B	1	65	67	66	1	60	6	59	7	58	8	58	9	57	9	57	10	58	9
	R8-35	B	1	68	70	69	1	61	8	60	9	59	10	58	11	58	11	57	12	58	11
	R8-36	B	1	68	70	68	0	60	8	59	9	59	10	58	10	58	11	57	11	58	10
	R8-37	B	1	59	61	62	3	60	2	60	2	59	3	58	4	57	5	56	6	58	4
	R8-38	B	1	59	61	61	2	59	2	59	2	58	3	57	4	56	5	55	6	57	4
	R8-39	B	1	58	61	61	2	58	3	58	3	57	4	56	4	56	5	55	5	56	4
	R8-40	B	1	48	50	49	2	47	2	47	3	46	4	45	4	44	5	44	6	45	4
	R8-41	B	1	58	60	60	2	56	4	56	4	55	4	55	5	54	6	53	7	55	5
	R8-42	B	1	54	56	55	1	52	3	51	4	51	4	50	5	49	6	49	6	50	4
	R8-43	B	1	48	50	50	2	48	3	47	3	46	4	46	5	45	5	45	6	46	4
	R8-44	B	1	51	53	53	2	49	4	48	4	48	5	47	6	46	6	46	7	47	5
	R8-45	B	1	56	58	59	2	58	1	58	1	57	2	56	3	55	3	55	4	56	3
	R8-46 (M8-06)	B	1	54	56	56	3	56	1	55	1	55	2	54	2	53	3	53	3	54	2
	R8-47	B	1	55	57	57	3	57	1	57	1	56	1	56	2	55	2	55	2	56	2

Table 8 - NSA 8
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)															
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: Optimized Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 8	R8-48	B	1	55	57	57	3	56	1	56	1	56	1	56	2	55	2	55	2	56	1
	R8-49	B	1	46	48	48	2	46	2	45	2	45	3	45	3	44	4	44	4	45	3
	R8-50	B	1	46	48	48	2	46	2	46	3	45	3	45	3	44	4	44	4	45	3
	R8-51	B	1	46	48	48	2	46	2	46	3	45	3	45	4	45	4	44	4	45	3
	R8-52	B	1	46	49	49	2	46	3	46	3	45	3	45	4	44	4	44	5	45	4
	R8-53	B	1	47	50	50	3	47	3	47	3	46	4	46	4	45	5	45	5	46	4
	R8-54	B	1	48	50	50	2	47	3	47	4	46	4	46	5	45	5	45	6	46	4
	R8-55	B	1	50	53	53	3	49	4	49	4	48	5	47	6	47	6	46	7	47	6
	R8-56	B	1	68	70	67	0	60	8	59	8	59	9	58	9	57	10	57	10	58	9
	R8-57	B	1	68	70	67	0	60	7	60	8	59	8	58	9	58	10	57	10	59	9
	R8-58	B	1	71	73	69	-2	60	9	60	9	59	10	58	11	58	11	57	12	59	11
	R8-59	B	1	68	69	68	0	61	7	60	8	59	9	58	10	57	11	57	11	59	9
	R8-60	B	1	68	70	69	1	63	6	61	7	60	9	58	10	58	11	57	12	60	9
	R8-61	B	1	60	62	62	2	57	5	56	6	55	7	54	8	53	9	52	9	55	7
	R8-62	B	1	53	55	55	2	52	4	51	4	50	5	50	6	49	6	48	7	50	5
	R8-63	B	1	51	53	53	2	49	3	49	4	48	5	47	6	47	6	46	6	48	5
	R8-64	B	1	52	54	54	2	51	3	50	4	49	5	48	6	48	6	47	7	49	5
	R8-65	B	1	55	57	56	1	52	5	51	5	50	6	49	7	49	8	48	8	50	6
	R8-66	B	1	60	62	61	1	58	4	57	5	56	6	54	7	54	8	53	9	56	6
	R8-67	B	1	60	62	62	2	59	3	58	4	56	6	55	7	54	8	53	9	56	6
	R8-68	B	1	56	58	57	2	55	3	54	4	52	6	50	7	50	8	49	9	51	6
	R8-69 (M8-08)	B	1	52	55	54	2	51	3	51	3	50	4	48	6	48	6	47	7	50	5
	R8-70	B	1	58	60	59	2	57	2	57	3	54	6	52	7	51	8	50	9	53	6
	R8-71	B	1	61	63	62	2	59	3	59	4	56	6	55	8	54	8	53	9	56	7
	R8-72	B	1	58	60	59	2	56	3	56	3	54	5	52	8	51	8	50	9	54	5
	R8-73	B	1	56	58	58	2	55	3	54	3	53	4	51	7	50	8	49	9	53	5
	R8-74 (M8-07)	B	1	69	71	71	2	65	6	63	8	60	11	59	12	58	13	57	13	60	11
	R8-75	B	1	70	72	72	2	65	7	63	9	62	10	60	12	58	13	57	14	62	10
	R8-76	B	1	71	73	73	2	66	7	64	9	63	10	62	11	60	13	59	14	63	10
	R8-77	B	1	69	71	71	2	61	10	60	11	59	11	58	12	57	14	56	14	59	11
	R8-78	B	1	65	67	67	2	60	8	59	8	58	9	57	10	56	11	56	11	58	9
	R8-79	B	1	61	63	63	2	58	5	57	6	56	6	55	7	54	9	53	10	56	6
	R8-80	B	1	62	64	63	2	57	7	56	8	55	8	55	9	54	9	54	10	55	8
	R8-81	B	1	59	61	61	2	57	3	57	4	55	5	54	7	53	7	52	9	55	6
	R8-82	B	1	58	60	59	2	55	4	55	4	54	5	54	6	53	6	52	7	54	5
	R8-83	B	1	56	58	58	2	55	3	54	4	53	5	52	6	51	7	50	8	53	5
	R8-84	B	1	55	57	57	2	54	3	53	3	53	4	52	5	51	6	50	7	52	4
	R8-85	B	1	55	57	56	2	53	3	53	3	53	4	52	4	52	5	51	5	53	4
	R8-86	B	1	56	58	58	2	54	4	54	4	53	5	53	5	53	5	52	6	53	5
	R8-87	B	1	58	60	59	2	55	5	54	5	54	5	54	6	53	6	53	6	54	5
	R8-88	B	1	59	61	61	2	57	4	56	5	56	6	55	6	55	7	54	7	56	6

Table 8 - NSA 8
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)															
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: Optimized Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 8	R8-89 (M8-09)	B	1	67	69	69	2	60	9	59	10	59	10	58	11	58	11	57	12	59	10
	R8-90	B	1	62	64	64	2	58	6	57	7	57	7	56	8	56	8	56	8	57	7
	R8-91	B	1	58	60	60	2	55	4	55	5	55	5	54	5	54	6	54	6	55	5
	R8-92	B	1	56	58	57	2	54	3	54	4	53	4	53	5	53	5	52	5	53	4
	R8-93 (M8-10)	B	1	54	56	56	2	53	3	53	3	52	4	52	4	52	4	52	4	52	4
Number of Impacted Receptors						24		24		24		24		24		24		24		24	
Feasibility Evaluation																					
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)								20		22		24		24		24		24		24	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.								83%		92%		100%		100%		100%		100%		100%	
Is this percentage $\geq 50\%$? If yes, barrier is feasible.								Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Reasonableness Evaluation																					
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								6		9		25		34		41		42		29	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								26		31		49		58		65		66		53	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)								17		21		24		37		39		48		26	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?								Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Barrier Height (feet)								10		12		14		16		18		20		14 - 16	
Barrier Length (feet)								3009		3009		3009		3009		3009		3009		3009	
Barrier square footage (SQft)								23343		36111		42131		48150		54169		60187		45731	
Barrier square footage per benefited receptor (SF/BR)								898		1165		860		830		833		912		863	
Is SF/BR $\leq 2,000$? If yes, barrier is reasonable								Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Average I.L. per Benefited Receptor (dB)								7		7		7		8		8		9		7	

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receptors receiving ≥ 5 dB(A)


Non-Impacted Receptors receiving ≥ 5 dB(A)


All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)


With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 9 - NSA 9
Scranton Beltway - Clarks Summt Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)	
						Future Build No-Barrier	
						Noise Level dB(A)	I.O.E dB
NSA 9	R9-02	B	1	61	63	64	3
	R9-03 (M9-02)	B	1	59	61	62	3
	R9-04	B	1	58	60	60	3
	R9-05	B	1	59	61	61	2
	R9-06	B	1	57	59	60	3
	R9-07	B	1	56	58	59	3
	R9-08	B	1	55	57	58	3
	R9-09	B	1	53	55	56	3
	R9-10	B	1	52	55	55	3
	R9-11 (M9-05)	B	1	51	54	54	3
	R9-12	C	1	50	53	53	3
	R9-13	B	1	52	55	56	3
	R9-14	B	1	53	56	56	3
	R9-15 (M9-04)	B	1	53	56	56	3
	R9-16	B	1	54	56	57	3
	R9-17	B	1	53	56	56	4
	R9-18	B	1	53	55	56	4
	R9-19 (M9-03)	B	1	52	55	56	4
	R9-20	B	1	52	55	55	4
	R9-21	B	1	51	54	54	3
	R9-22	B	1	51	54	54	3
	Number of Impacted Receptors						0
Feasibility Evaluation							
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)							
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							
Is this percentage ≥ 50%?; If yes, barrier is feasible.							
Reasonableness Evaluation							
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)							
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?							
Barrier Height (feet)							
Barrier Length (feet)							
Barrier square footage (SQft)							
Barrier square footage per benefited receptor (SF/BR)							
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable							
Average I.L. per Benefited Receptor (dB)							

 Impacted (66 dB(A) or 10 dB increase over existing)

 Impacted Receivers receiving ≥ 5 dB(A)

 Non-Impacted Receivers receiving ≥ 5 dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

Table 10 - NSA 10
Scranton Beltway - Clarks Summit Interchange
Summary of Barrier Noise Analysis

NSA	Receiver ID	Land Use Category	No. of Receptors	Existing Noise Level (2018)	Future No-Build (2045)	Future Build (2045)															
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: Optimized Barrier	
						Noise Level dB(A)	L.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 9	R9-01	B	1	65	67	67	2	64	3	64	4	62	5	62	6	62	6	62	6	63	5
NSA 10	R10-01	B	1	64	66	67	2	63	4	61	5	60	6	60	7	59	7	59	7	60	6
	R10-02 (M10-01)	B	2	64	66	67	3	62	5	60	7	59	8	58	9	58	9	57	9	59	8
	R10-03	B	1	64	66	67	3	62	5	59	7	58	8	58	9	57	9	57	10	59	8
	R10-04	B	1	63	65	66	3	61	5	58	8	57	9	57	9	56	10	56	10	57	9
	R10-05	B	1	63	65	65	3	60	5	58	8	57	9	56	10	55	10	55	11	57	9
	R10-06	B	1	63	65	65	2	58	7	57	8	56	9	56	9	55	10	55	10	56	9
	R10-07	B	1	63	65	65	2	59	6	57	8	56	9	56	9	55	10	55	10	56	9
	R10-08	B	1	60	62	63	3	60	4	59	4	57	6	56	7	56	8	55	8	57	6
	R10-09	B	1	61	63	64	3	60	4	59	5	56	8	55	9	54	10	54	10	56	8
	R10-10	B	1	62	64	64	3	60	5	57	7	56	9	55	10	54	10	54	11	56	9
	R10-11	B	1	62	64	65	2	60	5	57	7	56	9	55	10	54	10	54	11	56	9
	R10-12 (M10-02)	B	1	63	65	66	3	61	5	58	8	56	10	56	10	55	11	54	12	56	10
	R10-13	B	1	63	65	66	2	61	5	58	8	56	9	55	10	55	11	54	12	56	9
	R10-14 (M10-03)	B	1	62	64	64	2	58	6	57	7	57	8	56	9	55	9	55	10	56	8
	R10-15	B	1	64	66	66	2	61	5	58	8	56	10	56	10	55	11	54	12	56	10
	R10-16	B	1	63	65	65	2	59	6	58	7	57	8	56	9	56	9	55	10	57	8
	R10-17	B	1	63	65	65	2	59	6	58	8	57	9	56	9	55	10	55	11	56	9
	R10-18	B	1	64	66	66	2	60	5	58	8	57	9	56	10	55	10	55	11	56	9
	R10-19	B	1	62	64	64	2	59	5	57	7	56	8	56	9	55	9	54	10	56	8
	R10-20	B	1	59	61	62	2	58	3	57	4	57	5	56	5	56	6	56	6	56	5
	R10-21	B	1	64	65	66	2	60	5	57	9	56	10	55	11	54	12	54	12	55	10
	R10-22 (M10-04)	B	1	64	65	66	2	60	5	58	8	56	9	55	10	55	11	54	12	56	10
	R10-23	B	1	62	64	64	2	60	5	58	7	56	9	55	9	55	10	54	10	55	9
	R10-24	B	1	62	63	64	2	59	4	58	6	56	7	55	8	55	9	55	9	56	8
	R10-25	B	1	61	63	63	2	59	4	58	6	56	7	55	8	55	8	55	9	56	8
	R10-26	B	1	58	60	61	2	57	4	56	5	55	6	55	6	54	7	54	7	55	6
	R10-27 (M10-06)	B	1	63	65	65	2	65	1	65	1	65	1	65	1	64	1	64	1	65	1
	R10-28	B	1	63	65	65	2	64	0	64	0	64	0	64	0	64	0	64	1	64	0
	R10-29	B	1	59	61	61	2	61	1	61	1	61	1	61	1	61	1	60	1	61	1
	R10-30	B	1	58	60	60	2	60	1	60	1	60	1	60	1	60	1	59	1	60	1
	R10-31 (M10-07)	B	1	58	60	60	2	60	1	60	1	60	1	59	1	59	1	59	1	59	1
	R10-32	B	1	58	60	60	2	59	1	59	1	59	1	59	1	59	1	59	1	59	1
	R10-33	B	1	58	60	60	2	59	1	59	1	59	1	59	1	59	1	59	1	59	1
	R10-34	B	1	61	63	63	2	61	1	61	1	61	1	61	1	61	1	61	1	61	1
	R10-35	B	1	63	65	65	2	65	0	65	0	65	0	65	0	65	0	65	0	65	0
	R10-36	B	1	62	64	64	2	64	0	64	0	64	0	64	0	64	0	64	0	64	0
	R10-37	B	1	60	62	63	2	59	0	59	0	57	0	55	0	55	0	54	0	57	0
	R10-38	B	1	62	64	64	2	60	0	58	0	56	0	55	0	54	0	54	0	56	0
	R10-39	B	1	59	61	62	2	59	3	58	3	57	5	56	5	55	6	55	7	57	5
Number of Impacted Receptors						12		12		12		12		12		12		12		12	
Feasibility Evaluation																					
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)								10		11		12		12		12		12		12	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.								83%		92%		100%		100%		100%		100%		100%	
Is this percentage ≥ 50%?; If yes, barrier is feasible.								Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Reason																					
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								10		14		17		17		17		17		17	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								20		25		29		29		29		29		29	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)								0		19		22		24		25		26		22	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?								No		Yes		Yes		Yes		Yes		Yes		Yes	
Barrier Height (feet)								10		12		14		16		18		20		10 - 16	
Barrier Length (feet)								2305		2305		2305		2305		2305		2305		2305	
Barrier square footage (SQft)								23051		27661		32271		36880		41491		46011		33080	
Barrier square footage per benefited receptor (SF/BR)										1106		1113		1272		1431		1587		1141	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable								Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Average I.L. per Benefited Receptor (dB)										7		8		9		9		10		8	

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receptors receiving ≥ 5dB(A)

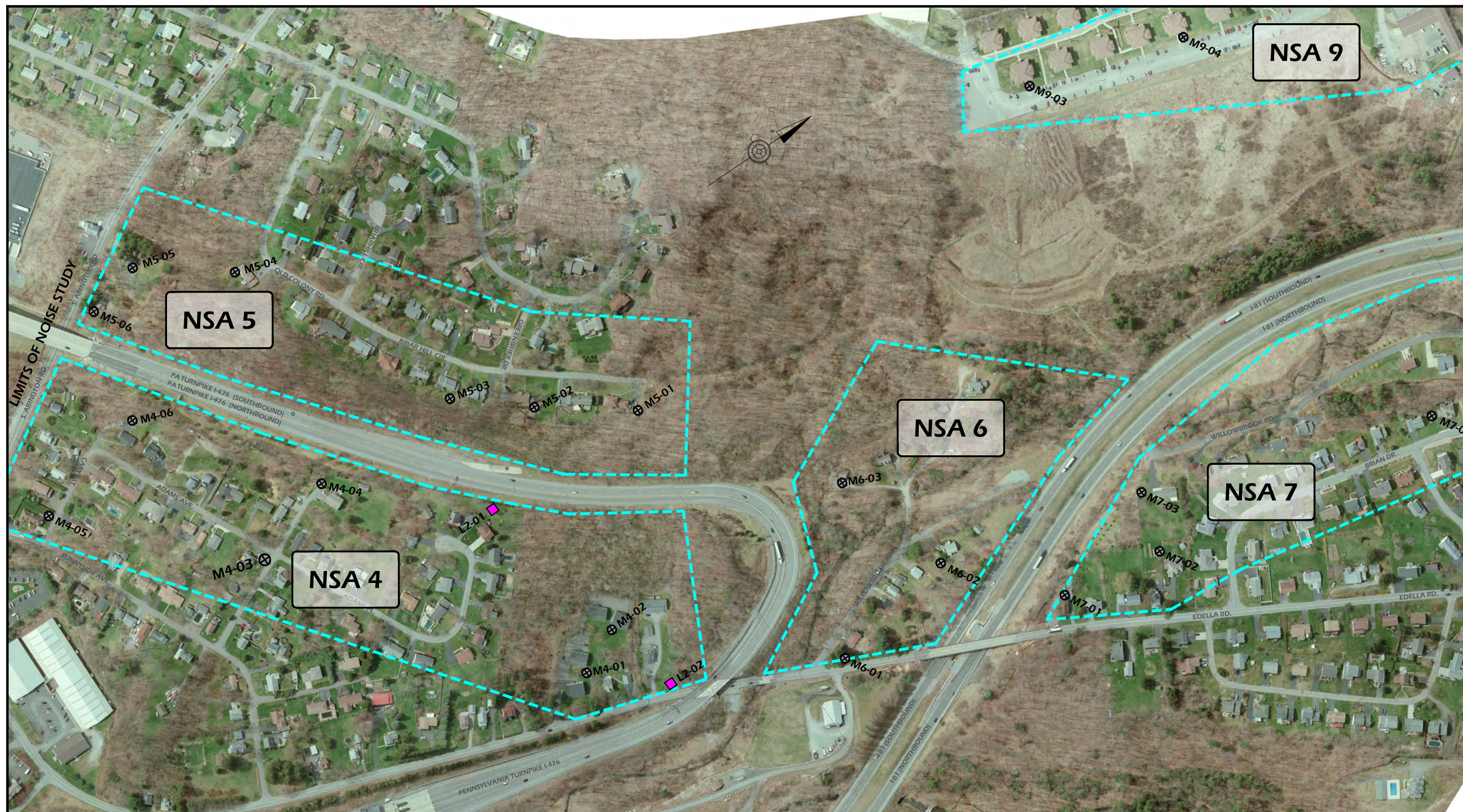
Non-Impacted Receptors receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 11: Parallel Barrier Analysis Results	
Site ID:	Delta (dB)
R8-09	2.4
R8-17	3.4
R8-19	2.4
R8-28	3.7
R8-33	2.2
R8-35	2.0
R8-37	3.9
R8-42	3.9
R10-01	4.5
R10-05	2.9
R10-06	1.8
R10-10	3.4
R10-11	3.7
R10-14	1.8
R10-16	1.3

FIGURES





⊗ Measurement Site

■ Long-term Noise Measurement

— NSA Boundary

Scale (Feet)

300

150

0

300

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Pennsylvania Turnpike Commission & PENNDOT

Scranton Beltway Project

Clark's Summit Interchange Area (MP A-131)

Interstate 81 and Interstate 476 - Lackawanna County, PA

Figure 2.2

Measurement Sites

Revised 11.28.2022

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⊗ Measurement Site

■ Long-term Noise Measurement

— NSA Boundary

Scale (Feet)

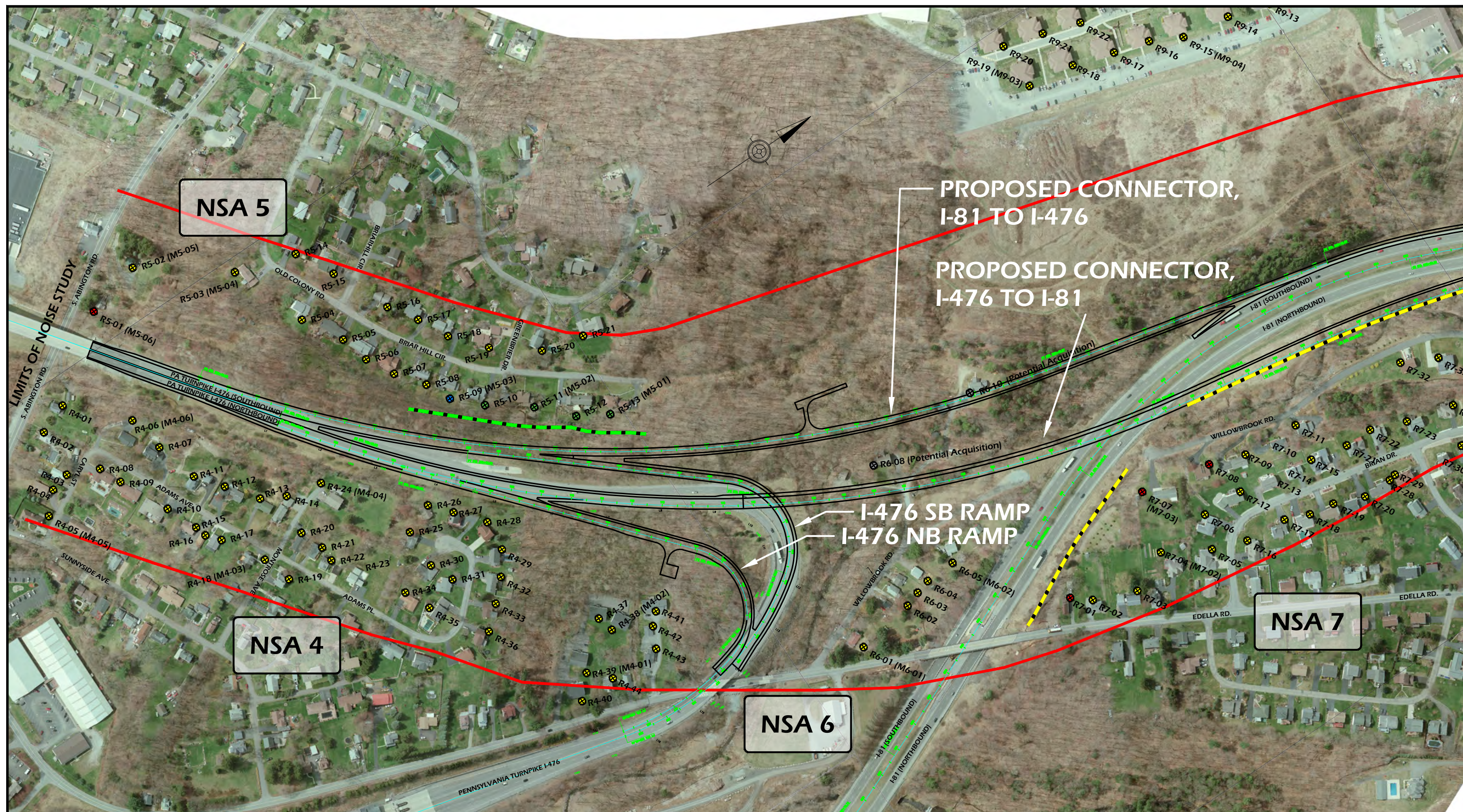
300 150 0 300

Pennsylvania Turnpike Commission & PENNDOT
Scranton Beltway Project
Clark's Summit Interchange Area (MP A-131)
Interstate 81 and Interstate 476 - Lackawanna County, PA

Figure 2.3
Measurement Sites
Revised 11.28.2022

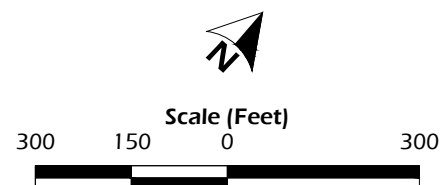
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Modeled Receivers

● Impacted, Benefitted	— Feasible and Reasonable Barrier
● Impacted, Not Benefitted	— Feasible and Not Reasonable Barrier
● Not Impacted, Benefitted	— Not Feasible Barrier
● Not Impacted, Not Benefitted	— 500' Boundary
● Potential Acquisition	



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Scranton Beltway Project
Clark's Summit Interchange Area (MP A-131)
Interstate 81 and Interstate 476 - Lackawanna County, PA

Figure 3.1

Barrier Analysis Results
Revised 11.28.2022



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Modeled Receivers

● Impacted, Benefitted	— Feasible and Reasonable Barrier
● Impacted, Not Benefitted	— Feasible and Not Reasonable Barrier
● Not Impacted, Benefitted	— Not Feasible Barrier
● Not Impacted, Not Benefitted	— 500' Boundary
● Potential Acquisition	

Scale (Feet)

300 150 0 300

Pennsylvania Turnpike Commission & PENNDOT
Scranton Beltway Project
Clark's Summit Interchange Area (MP A-131)
Interstate 81 and Interstate 476 - Lackawanna County, PA

Figure 3.3
Barrier Analysis Results
Revised 11.28.2022

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Appendix A

Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: Scranton Bay
 JOB #: 1
 SITE ID: M4-01



ADDRESS: 339 Edella Rd

 Meter Storage # 55

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.48693 N
75.68204 W

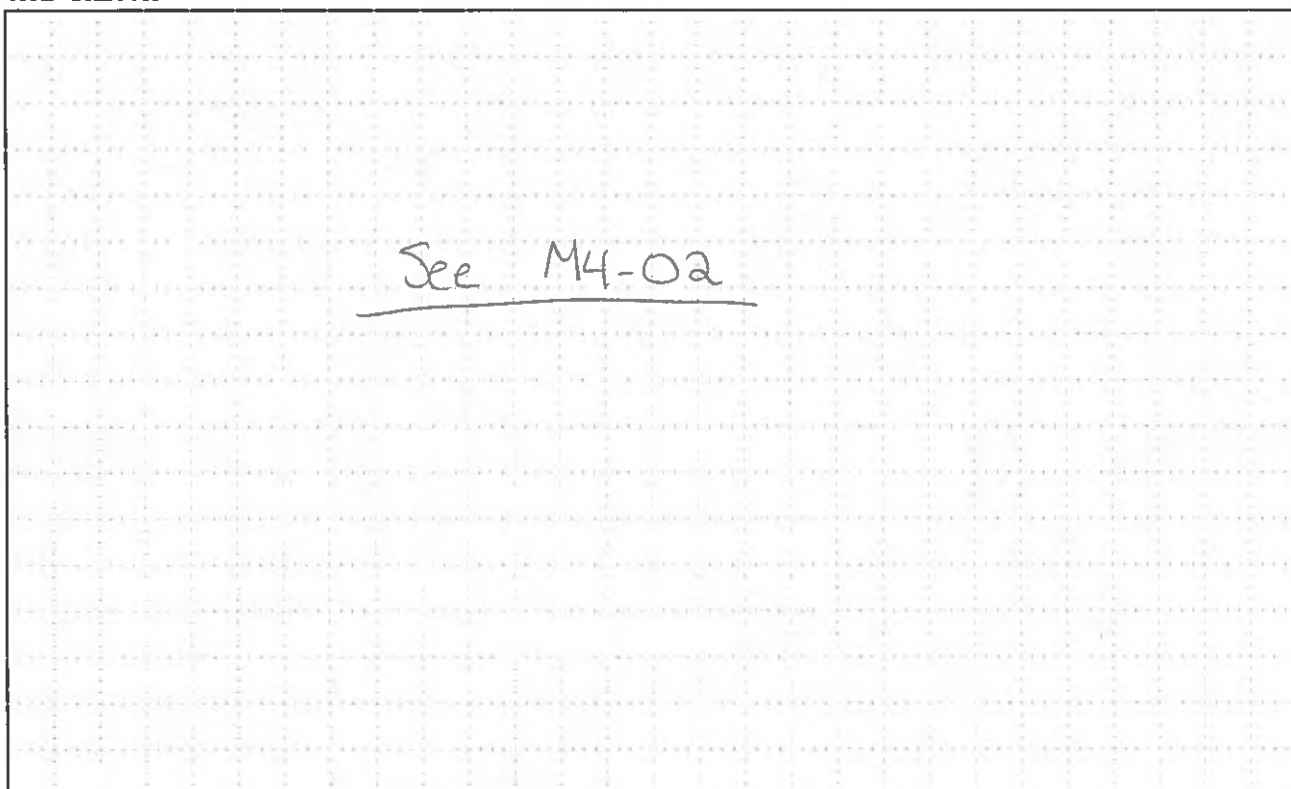
Weather: temperature 106 wind speed _____ cloud cover cloudy
 Time: 1st start 2:09 stop 2:29 total 20 min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 57.5 Lmax 68.9 Lmin 50.5 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	<u>Edella</u>		Roadway#2	<u>I-476</u>		Roadway#3			Roadway#4		
Direction	NB	SB	Direction	WB	EB	Direction			Direction		
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	<u>33</u>	<u>30</u>	auto	<u>106</u>	<u>67</u>	auto			auto		
med. trk.	<u>0</u>	<u>0</u>	med. trk.	<u>5</u>	<u>2</u>	med. trk.			med. trk.		
hvy trk.	<u>1</u>	<u>1</u>	hvy trk.	<u>10</u>	<u>14</u>	hvy trk.			hvy trk.		
bus	<u>0</u>	<u>0</u>	bus	<u>0</u>	<u>1</u>	bus			bus		
motorcycle	<u>0</u>	<u>0</u>	motorcycle	<u>0</u>	<u>0</u>	motorcycle			motorcycle		

NOTES: Very faint hum from transformer box.
Date brake @ 2:04:30

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019

PROJECT: _____

JOB # 1SITE ID M4-02Gannett
Fleming, Inc.ADDRESS: 339 Edellard.back unitsMeter Storage # 032TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s DoneSLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT 41.48734N
75.08225W

Weather: temperature _____ wind speed _____ cloud cover _____

Time: 1st start 2:09 stop 2:29 total 20 min.

2nd start _____ stop _____ total _____

Data: 1st Leq 56.4 Lmax 63.6dB Lmin 50.4dB SEL _____

2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-476</u>	<u>WB</u> <u>EB</u>														
auto		<u>106</u>	<u>67</u>	auto				auto				auto			
med. trk.		<u>5</u>	<u>2</u>	med. trk.				med. trk.				med. trk.			
hvy trk.		<u>10</u>	<u>14</u>	hvy trk.				hvy trk.				hvy trk.			
bus		<u>0</u>	<u>1</u>	bus				bus				bus			
motorcycle		<u>0</u>	<u>0</u>	motorcycle				motorcycle				motorcycle			

NOTES: Some noise (continuous) from AC window unit. Expanding plate noise
from I-81 throughout msrmt. Bird noise. Pomeroy noise see
traffic. Trash can lid slammed @ 2:10/2:19. Chat w/neighbor
around 2:19 pm. Lid garbage slam around 2:22 pm.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: _____
 JOB # 2
 SITE ID M4-3



ADDRESS: 311 Montrose

 Meter Storage # 57

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s done

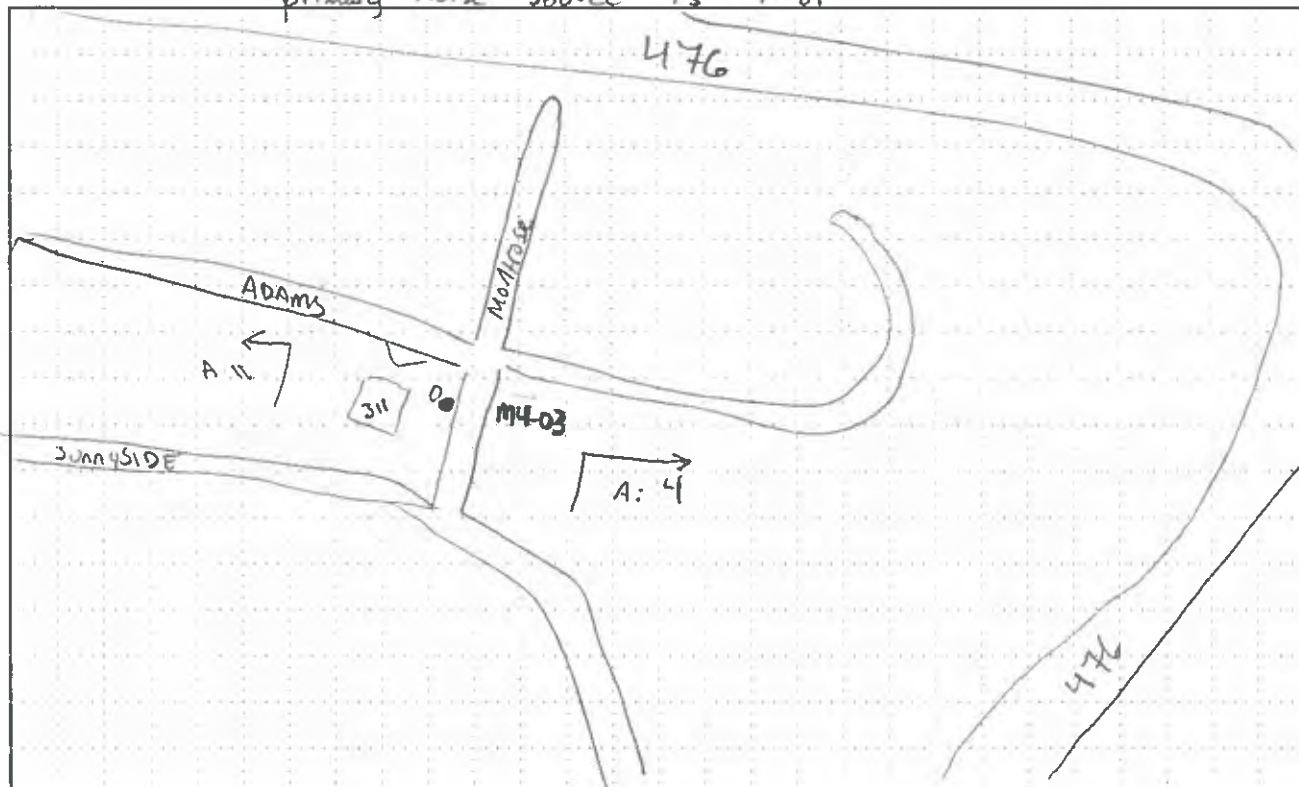
SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.48518 N
76.68535

Weather: temperature 67 wind speed _____ cloud cover mostly
 Time: 1st start 3:33 stop 3:53:00 total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 53.0 Lmax 67.1 Lmin 47.0 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Adams Ave</u>	<u>Montrose</u>	<u>I-476</u>	
Direction	Direction	Direction	Direction
	<u>Both</u>	<u>WB EB</u>	
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: 3:32 - 3:33:30: Chat w/ vehicle in passing 3:38:10 = Vacuum cleaner
3:36:05: Door slam @ 311 Montrose to 3:39:40 (1 min)
3:40:35 - Dog Bark 3:50:25 - car door slam, talking 3:53:45 - 3x hammer taps
 SITE SKETCH primary noise source is I-81



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 2
 SITE ID M4-04



ADDRESS: 402 Montrose
Ave.
 Meter Storage # 034

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Dave

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT 41.486032°N
75.685712°W

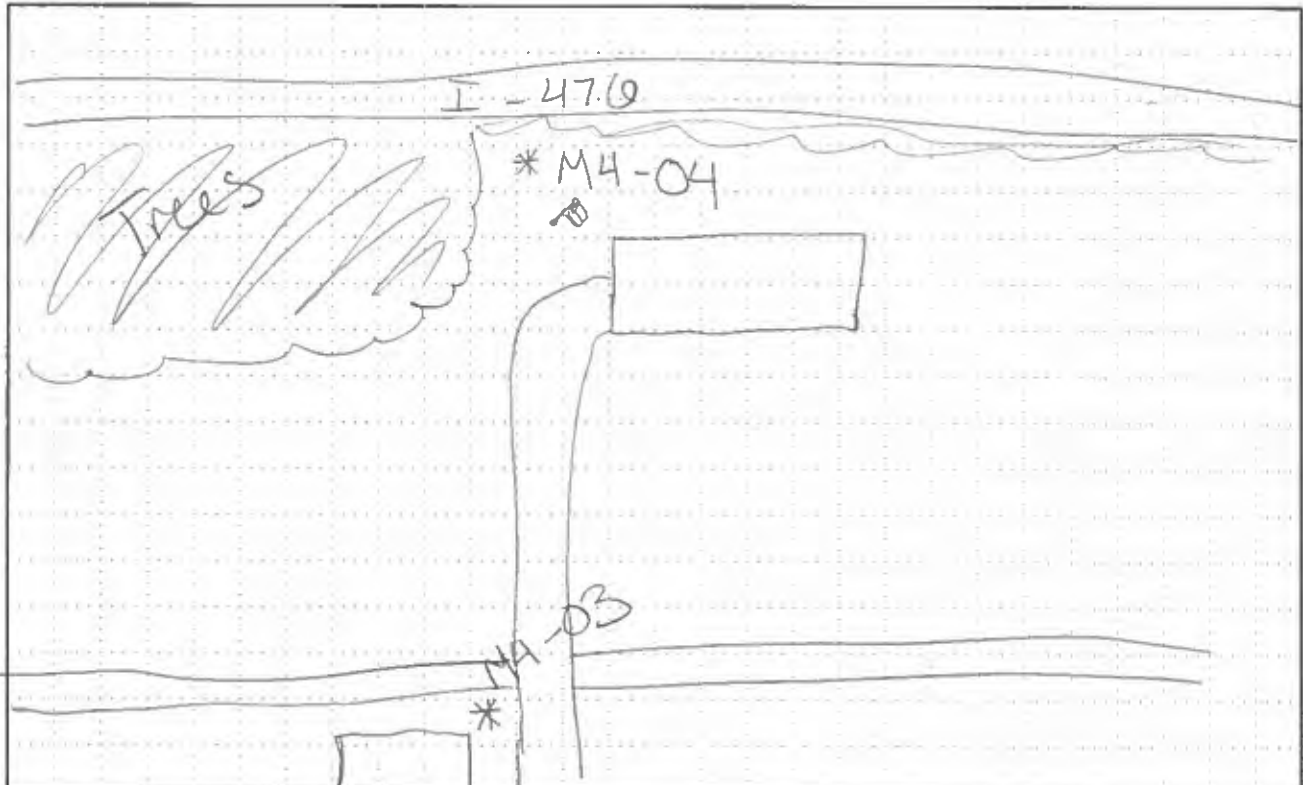
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 3:33 stop 3:53 total 20 min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 54.8 Lmax 105.60dB Lmin 40.9dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	I-476	Roadway#2		Roadway#3		Roadway#4	
Direction	WB EB	Direction		Direction		Direction	
	1st 2nd		1st 2nd		1st 2nd		1st 2nd
auto	96 94	auto		auto		auto	
med. trk.	6 4	med. trk.		med. trk.		med. trk.	
hvy trk.	14 22	hvy trk.		hvy trk.		hvy trk.	
bus	0 0	bus		bus		bus	
motorcycle	0 0	motorcycle		motorcycle		motorcycle	

NOTES: Some bird noise 2. Big bump from semi @ 3:38 pm.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: Scranton Gap
 JOB #: 3
 SITE ID: M4-05



ADDRESS: 311 Montrose Ave
 Meter Storage #: 56

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT _____

Weather: temperature 67 wind speed none cloud cover cloudy
 Time: 1st start 2:52 stop 3:12 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 50.2 Lmax 63.8 Lmin 45.7 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>S. Abington</u>	<u>NB SB</u>			<u>Sunshine Ave</u>	<u>Both</u>			<u>I-476</u>	<u>WB EB</u>						
auto		<u>103</u>	<u>71</u>	auto		<u>2</u>		auto		<u>107</u>	<u>103</u>	auto			
med. trk.		<u>1</u>	<u>1</u>	med. trk.		<u>0</u>		med. trk.		<u>5</u>	<u>3</u>	med. trk.			
hvy trk.		<u>0</u>	<u>1</u>	hvy trk.		<u>0</u>		hvy trk.		<u>21</u>	<u>16</u>	hvy trk.			
bus		<u>0</u>	<u>0</u>	bus		<u>0</u>		bus		<u>0</u>	<u>0</u>	bus			
motorcycle		<u>0</u>	<u>0</u>	motorcycle		<u>0</u>		motorcycle		<u>0</u>	<u>0</u>	motorcycle			

NOTES:

SITE SKETCH

See M4-06

Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 3
 SITE ID M4-06



ADDRESS: 207 Adams
Ave.
 Meter Storage # 033

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT 41.484882°N
75.687681°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 2:52 stop 3:12 total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 56.0 Lmax 71.0dB Lmin 47.7dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	<u>I-476</u>		Roadway#2	_____		Roadway#3	_____		Roadway#4	_____	
Direction	<u>WB</u>	<u>EB</u>	Direction	_____		Direction	_____		Direction	_____	
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	<u>107</u>	<u>103</u>	auto			auto			auto		
med. trk.	<u>5</u>	<u>3</u>	med. trk.			med. trk.			med. trk.		
hvy trk.	<u>21</u>	<u>16</u>	hvy trk.			hvy trk.			hvy trk.		
bus	<u>0</u>	<u>0</u>	bus			bus			bus		
motorcycle	<u>0</u>	<u>0</u>	motorcycle			motorcycle			motorcycle		

NOTES: Dog barking around 3pm, primary noise from traffic on I-476.
Some bird noise thru measurement. Meter saw around 3:04pm.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: Scranton Byp
 JOB #: 6
 SITE ID: MS-01



ADDRESS: 522 Old Colony Rd
 Meter Storage #: 60

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s ✓

SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.48866 N
75.68423 W

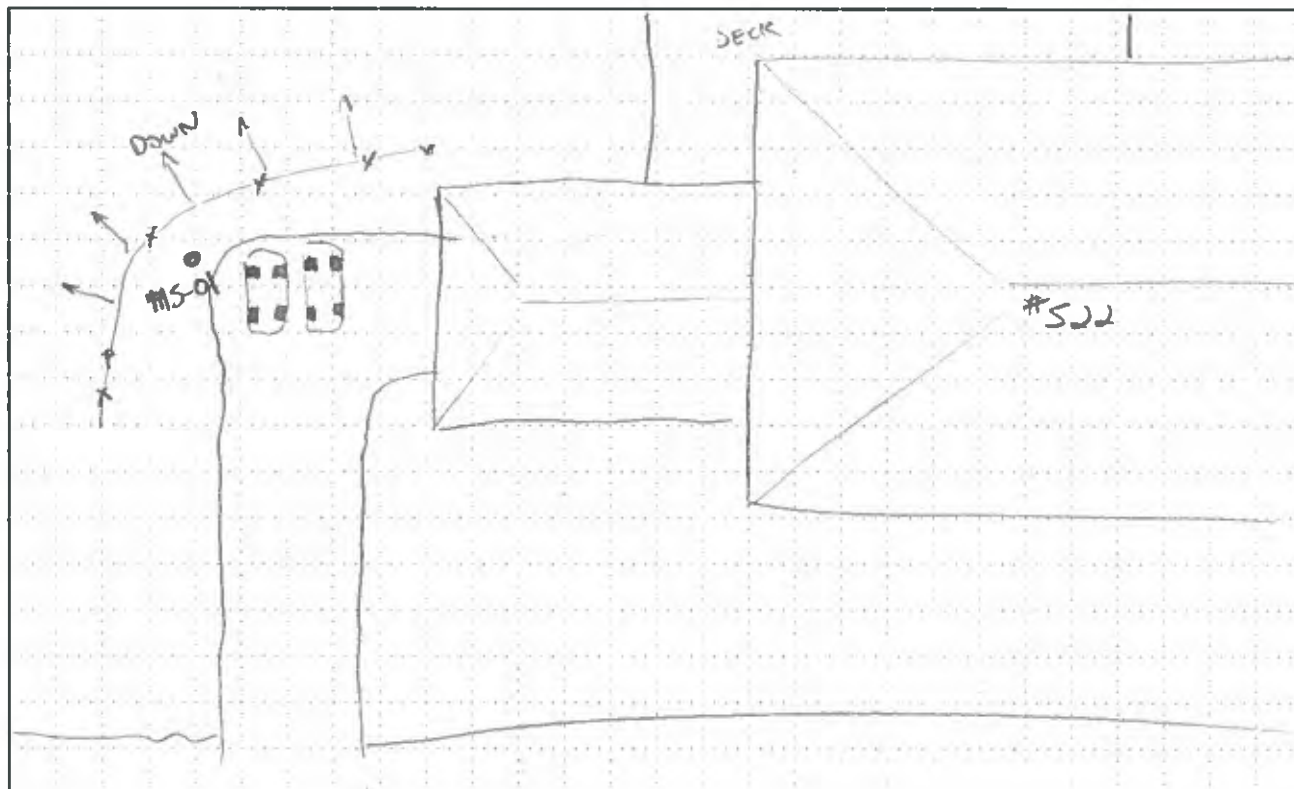
Weather: temperature 73 wind speed - cloud cover partly
 Time: 1st start 5:43 stop 6:03 total 20m
 2nd start stop total
 Data: 1st Leq 57.1 Lmax 66.8 Lmin 50.4 SEL
 2nd Leq Lmax Lmin SEL

Traffic Data

Roadway#1	I-476	Roadway#2		Roadway#3		Roadway#4	
Direction	WB EB	Direction		Direction		Direction	
	1st 2nd		1st 2nd		1st 2nd		1st 2nd
auto	65 145	auto		auto		auto	
med. trk.	1 1	med. trk.		med. trk.		med. trk.	
hvy trk.	10 21	hvy trk.		hvy trk.		hvy trk.	
bus	0 0	bus		bus		bus	
motorcycle	0 0	motorcycle		motorcycle		motorcycle	

NOTES: Siren @ 5:59.50 - 6:00:15

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 6
 SITE ID M5-02



ADDRESS: 518 Old Money Rd.
 Meter Storage # 037

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT 41.488037°N
75.684904°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 5:43 stop 6:03 total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 55.1dB Lmax 69.8dB Lmin 48.9dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-476</u>			
Direction <u>WB</u> <u>EB</u>	Direction _____	Direction _____	Direction _____
1st <u>65</u> 2nd <u>145</u>	1st _____ 2nd _____	1st _____ 2nd _____	1st _____ 2nd _____
auto _____	auto _____	auto _____	auto _____
med. trk. _____	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>10</u> <u>21</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>0</u> <u>0</u>	bus _____	bus _____	bus _____
motorcycle <u>0</u> <u>0</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Door opening around 5:49 PM. Car honk at 5:56 PM.
Siren (fire truck) @ 6:01 PM. quick

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 5
 SITE ID M5-03



ADDRESS: 514 Old Colony Rd
 Meter Storage # 059

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

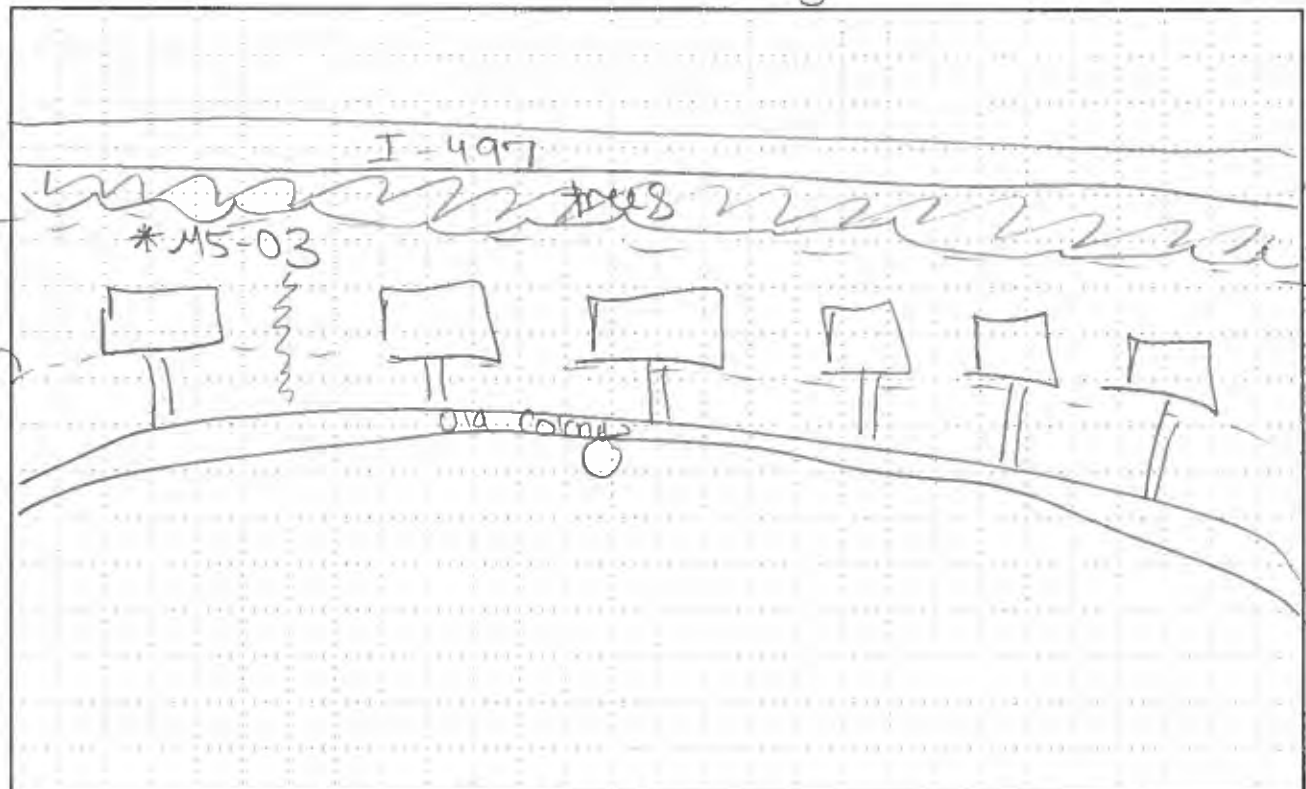
SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.487344°N
75.085705°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 5:08pm stop 5:28pm total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 57.9 Lmax 70.5dB Lmin 50.7dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	<u>I-476</u>		Roadway#2	_____		Roadway#3	_____		Roadway#4	_____	
Direction	<u>WB</u>	<u>EB</u>	Direction	_____		Direction	_____		Direction	_____	
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	<u>93</u>	<u>195</u>	auto	_____	_____	auto	_____	_____	auto	_____	_____
med. trk.	<u>7</u>	<u>5</u>	med. trk.	_____	_____	med. trk.	_____	_____	med. trk.	_____	_____
hvy trk.	<u>13</u>	<u>30</u>	hvy trk.	_____	_____	hvy trk.	_____	_____	hvy trk.	_____	_____
bus	<u>0</u>	<u>1</u>	bus	_____	_____	bus	_____	_____	bus	_____	_____
motorcycle	<u>0</u>	<u>0</u>	motorcycle	_____	_____	motorcycle	_____	_____	motorcycle	_____	_____

NOTES: Bird noise at 5:10pm, low rumble AC from house
3 doors down. Few door slams around 5:18pm.
Land bird at 5:25pm. Birds throughout msrmt. G approx.
 SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/18
 PROJECT: Scranton
 JOB #: _____
 SITE ID: MS-04



ADDRESS: 500 Old Colony Dr

 Meter Storage # 312

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s ✓

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT _____

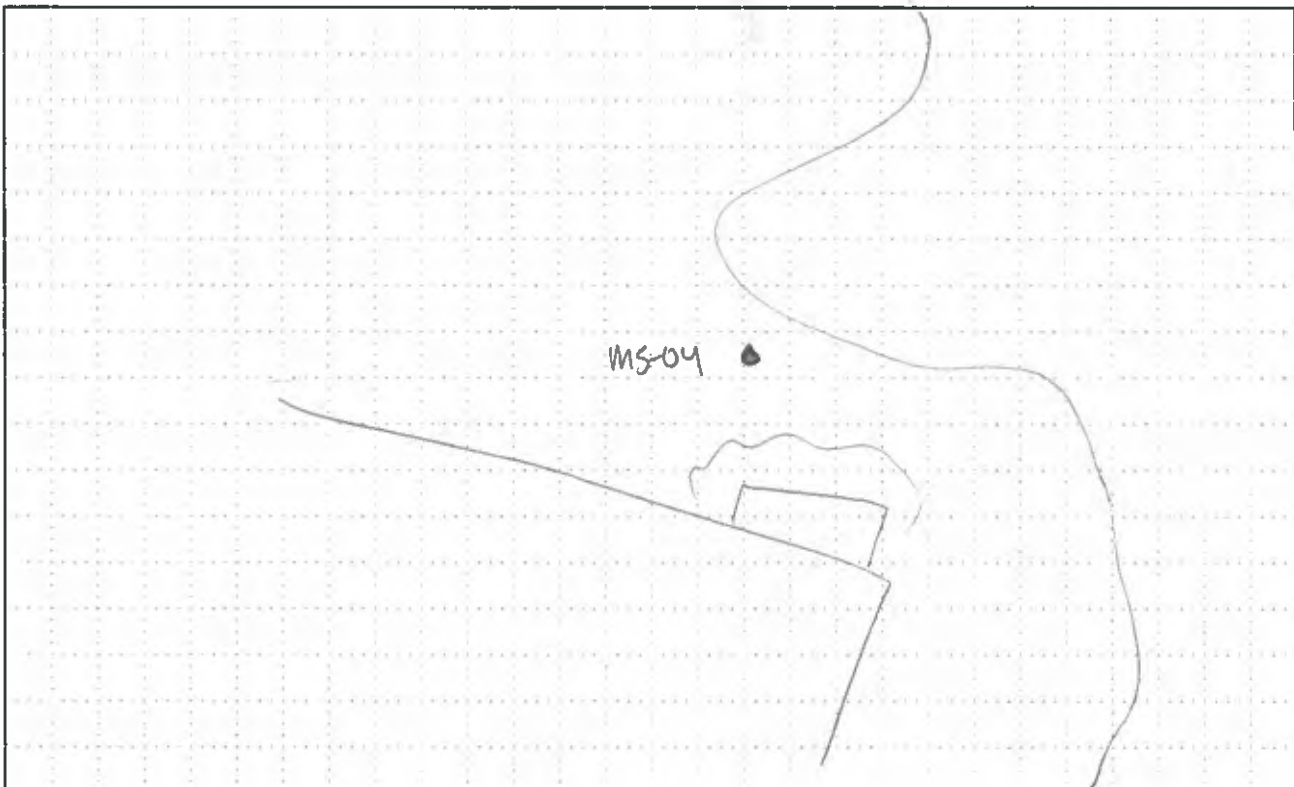
Weather: temperature 74 wind speed - cloud cover none
 Time: 1st start 5:08 stop 5:28 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 54.7 Lmax 61.9 Lmin 49.0 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-476</u>	<u>WB</u>	<u>93</u>	<u>195</u>												
	<u>EB</u>	<u>7</u>	<u>5</u>												
auto				auto				auto				auto			
med. trk.				med. trk.				med. trk.				med. trk.			
hvy trk.				hvy trk.				hvy trk.				hvy trk.			
bus				bus				bus				bus			
motorcycle				motorcycle				motorcycle				motorcycle			

NOTES: Landscaping noise @ 5:08 from 1008 Colony Ln Mail truck @ 5:20

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 4
 SITE ID M5-05



ADDRESS: 1102 S
Arlington Rd.
0
 Meter Storage # 058

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT 41.485740°N
75.688917°W

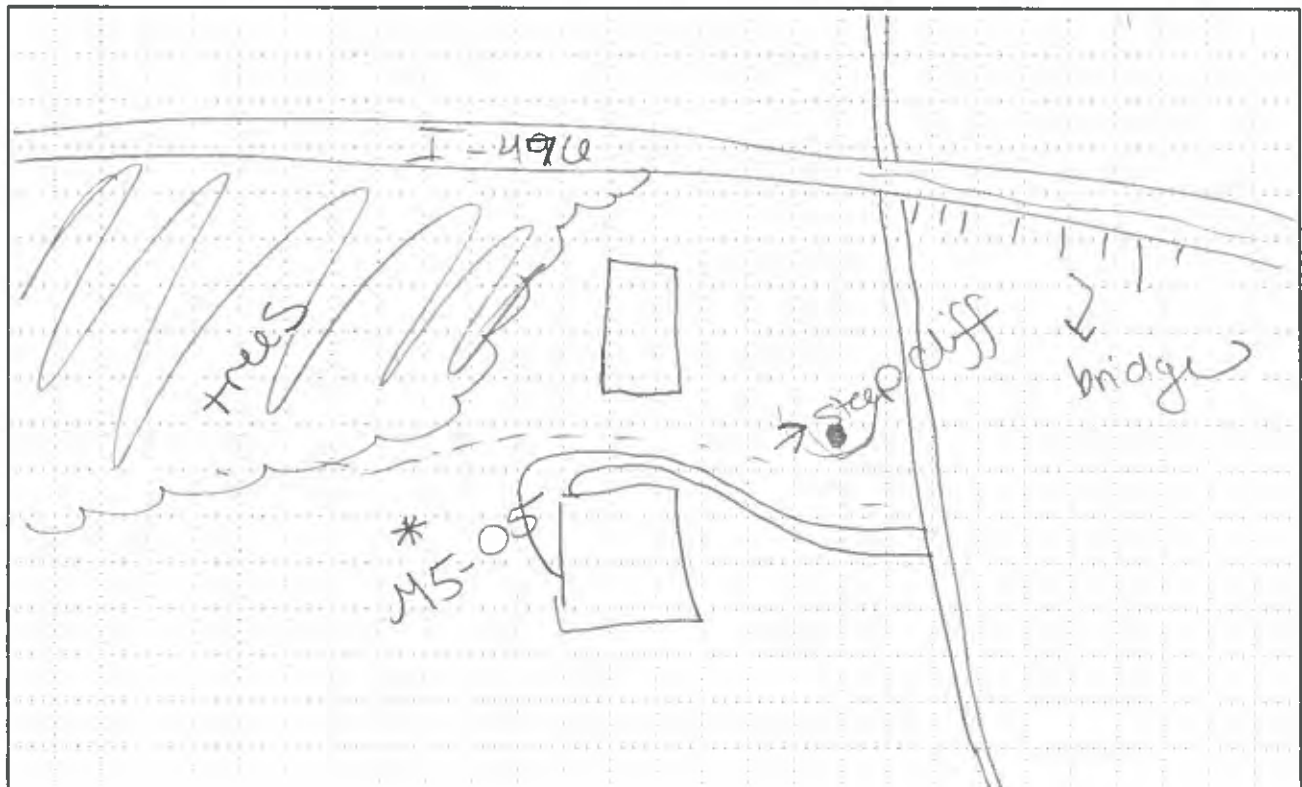
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 4:23pm stop 4:43pm total 80min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 58.5dB Lmax 73.9dB Lmin 49.3dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	<u>I-476</u>		Roadway#2	_____		Roadway#3	_____		Roadway#4	_____	
Direction	<u>WB</u>	<u>EB</u>	Direction	_____	_____	Direction	_____	_____	Direction	_____	_____
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	<u>92</u>	<u>140</u>	auto	<u>110</u>	_____	auto	_____	_____	auto	_____	_____
med. trk.	<u>0</u>	<u>3</u>	med. trk.	_____	_____	med. trk.	_____	_____	med. trk.	_____	_____
hvy trk.	<u>13</u>	<u>13</u>	hvy trk.	_____	_____	hvy trk.	_____	_____	hvy trk.	_____	_____
bus	<u>0</u>	<u>0</u>	bus	_____	_____	bus	_____	_____	bus	_____	_____
motorcycle	<u>1</u>	<u>0</u>	motorcycle	_____	_____	motorcycle	_____	_____	motorcycle	_____	_____

NOTES: hmk at 4:24pm. Some very quiet bird noises +
wind chimes. Traffic main noise source. Thud at 4:38pm.
Quiet owl hooting around 4:39pm. Hmk on I-476 at 4:41pm

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: Scranton Byp
 JOB #: 4
 SITE ID: MS-06



ADDRESS: 1106 S. Abington Rd
 Meter Storage #: 35

TYPE: ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s: yes

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT

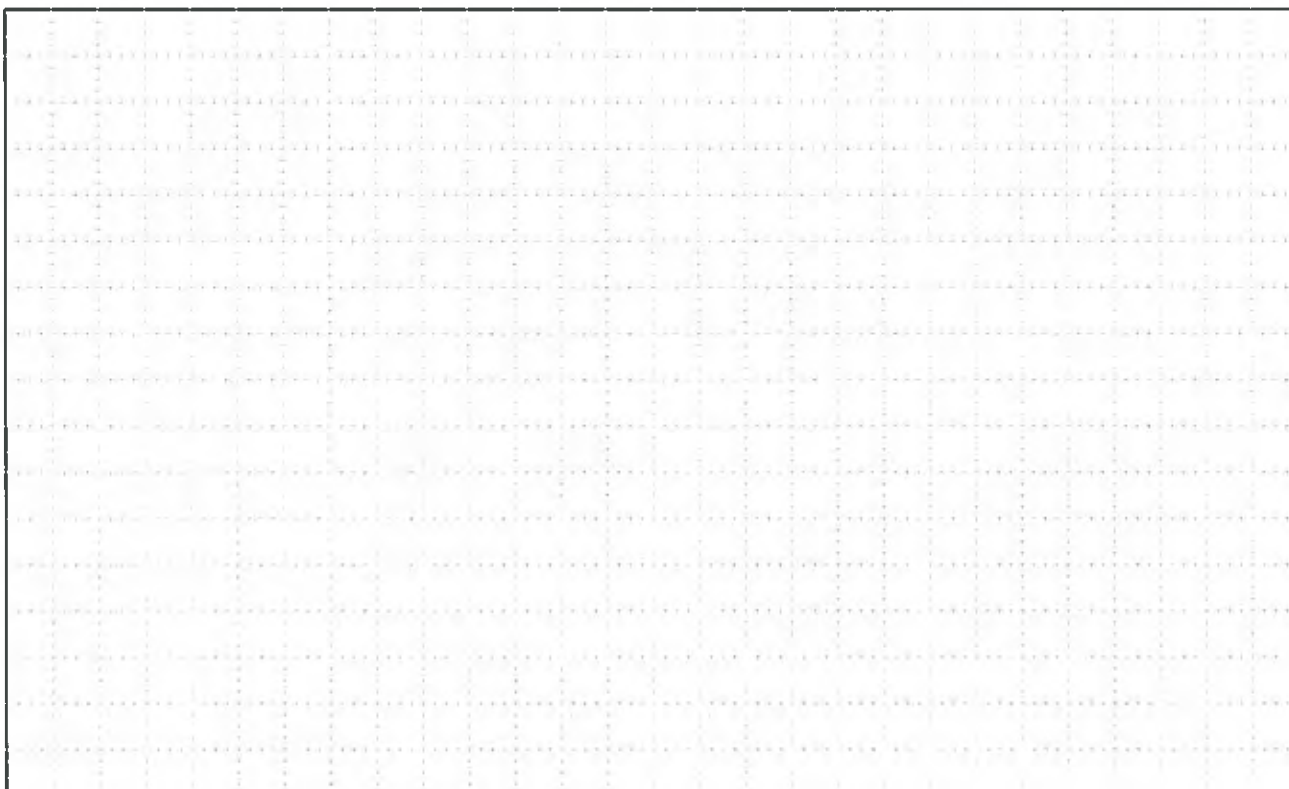
Weather: temperature 73 wind speed - cloud cover partly
 Time: 1st start 4:23 stop 4:43 total 20m
 2nd start stop total
 Data: 1st Leq 64.3 Lmax 77.0 Lmin 52.7 SEL
 2nd Leq Lmax Lmin SEL

Traffic Data

Roadway#1	<u>S Abington Rd</u>		Roadway#2	<u>I-476</u>		Roadway#3			Roadway#4		
Direction	NB	SB	Direction	WB	EB	Direction			Direction		
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	1610	94	auto	92	140	auto			auto		
med. trk.	0	2	med. trk.	0	3	med. trk.			med. trk.		
hvy trk.	0	0	hvy trk.	13	13	hvy trk.			hvy trk.		
bus	1	0	bus	0	0	bus			bus		
motorcycle	2	0	motorcycle	1	0	motorcycle			motorcycle		

NOTES:

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB #: _____
 SITE ID: M6-01



ADDRESS: 402 Willowbrook Rd.

 Meter Storage # 061

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other BnH

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.488851°N
75.680467°W

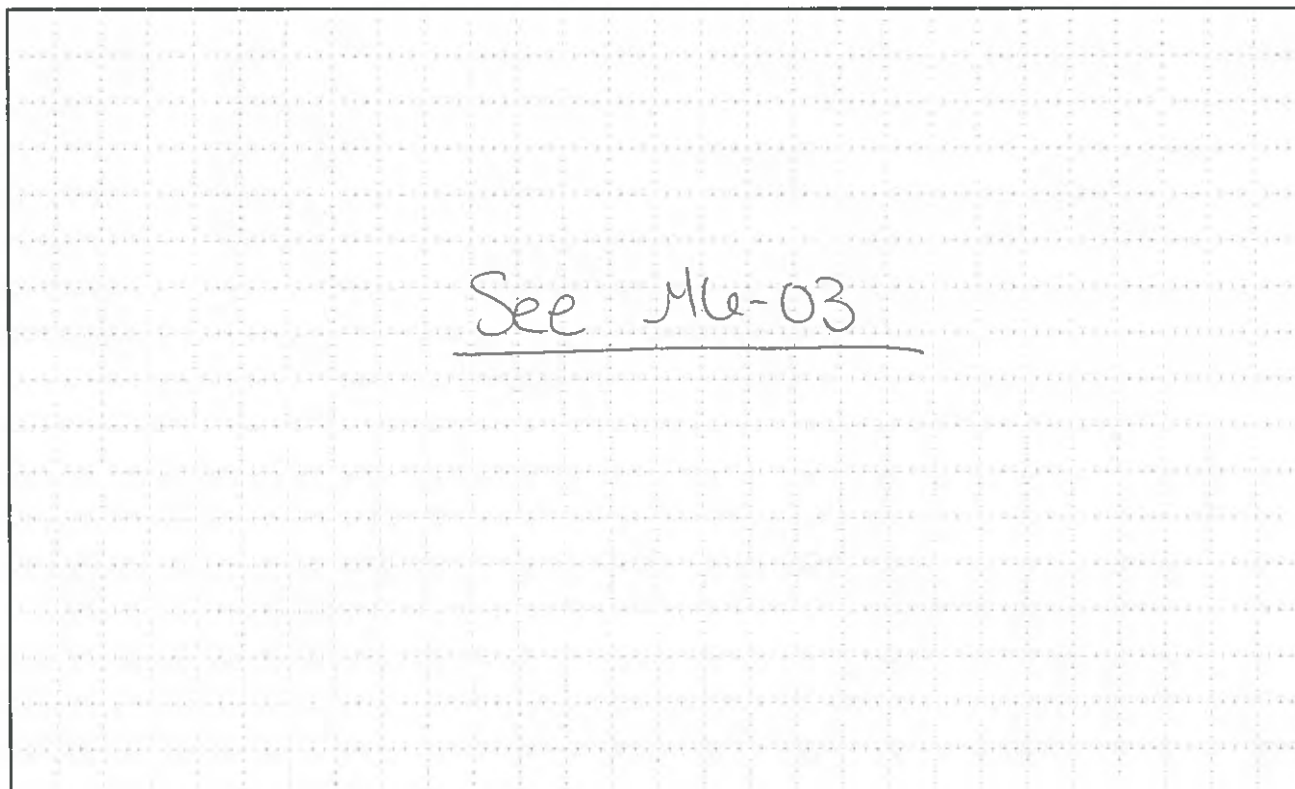
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 6:25 PM stop 12:45 PM total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 62.1 Lmax 73.0 dB Lmin 52.4 dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Edulla Rd.</u>	<u>Willowbrook Rd.</u>	<u>I-476</u>	
Direction <u>SB</u> <u>NB</u>	Direction <u>BnH</u>	Direction <u>WB</u> <u>EB</u>	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>29</u> <u>32</u>	auto <u>2</u> _____	auto <u>62</u> <u>72</u>	auto _____
med. trk. <u>1</u> <u>1</u>	med. trk. <u>1</u> _____	med. trk. <u>3</u> <u>4</u>	med. trk. _____
hvy trk. <u>1</u> <u>1</u>	hvy trk. <u>1</u> _____	hvy trk. <u>9</u> <u>12</u>	hvy trk. _____
bus <u>1</u> <u>1</u>	bus <u>1</u> _____	bus <u>0</u> <u>0</u>	bus _____
motorcycle <u>1</u> <u>1</u>	motorcycle <u>1</u> _____	motorcycle <u>0</u> <u>0</u>	motorcycle _____

NOTES:

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: Scranton Byp
 JOB #: 8
 SITE ID: M6-02



ADDRESS: 420 Willowbrook
 Meter Storage # 39

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s ✓

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT

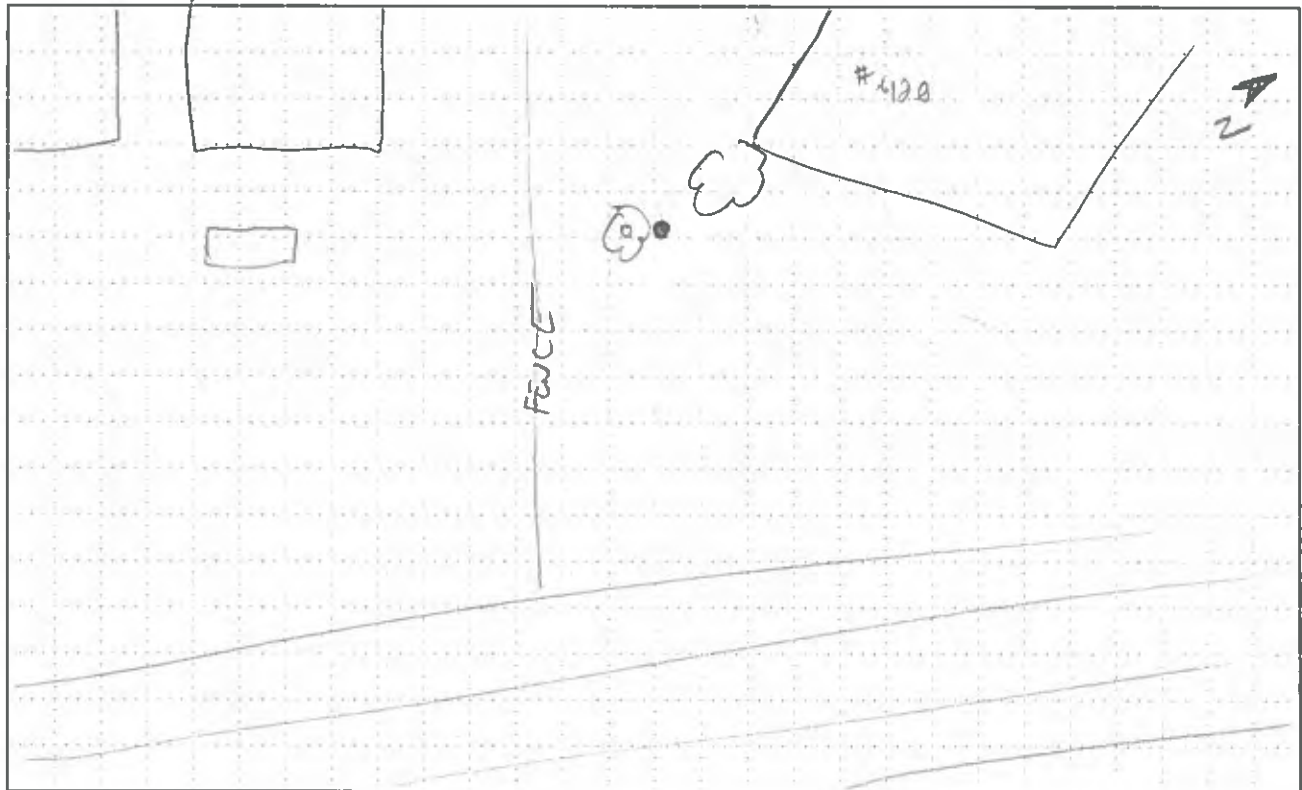
Weather: temperature 74 wind speed - cloud cover None
 Time: 1st start 7:03 stop 7:23 total 20m
 2nd start stop total
 Data: 1st Leq 61.9 Lmax 73.0 Lmin 51.5 SEL
 2nd Leq Lmax Lmin SEL

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-476</u>			
Direction <u>WB</u> <u>EB</u>	Direction	Direction	Direction
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>43</u> <u>54</u>	auto	auto	auto
med. trk. <u>2</u> <u>1</u>	med. trk.	med. trk.	med. trk.
hvy trk. <u>10</u> <u>13</u>	hvy trk.	hvy trk.	hvy trk.
bus <u>0</u> <u>0</u>	bus	bus	bus
motorcycle <u>0</u> <u>0</u>	motorcycle	motorcycle	motorcycle

NOTES: 7:14-7:16 Dog BARK

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/8/19
 PROJECT: _____
 JOB #: 7
 SITE ID: MG-03



ADDRESS: PA American Wtr
Willowbrook Rd
 Meter Storage # 38

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 93.87 after 93.94 GPS PT _____

Weather: temperature 73 wind speed _____ cloud cover none

Time: 1st start 6:25 stop 6:45 total 20m

2nd start _____ stop _____ total _____

Data: 1st Leq 55.3 Lmax 66.1 Lmin 41.6 SEL _____

2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1 I-476

Direction WB EB

	1st	2nd
auto	<u>62</u>	<u>72</u>
med. trk.	<u>3</u>	<u>4</u>
hvy trk.	<u>9</u>	<u>12</u>
bus	<u>0</u>	<u>0</u>
motorcycle	<u>0</u>	<u>0</u>

Roadway#2 _____

Direction _____

	1st	2nd
auto		
med. trk.		
hvy trk.		
bus		
motorcycle		

Roadway#3 _____

Direction _____

	1st	2nd
auto		
med. trk.		
hvy trk.		
bus		
motorcycle		

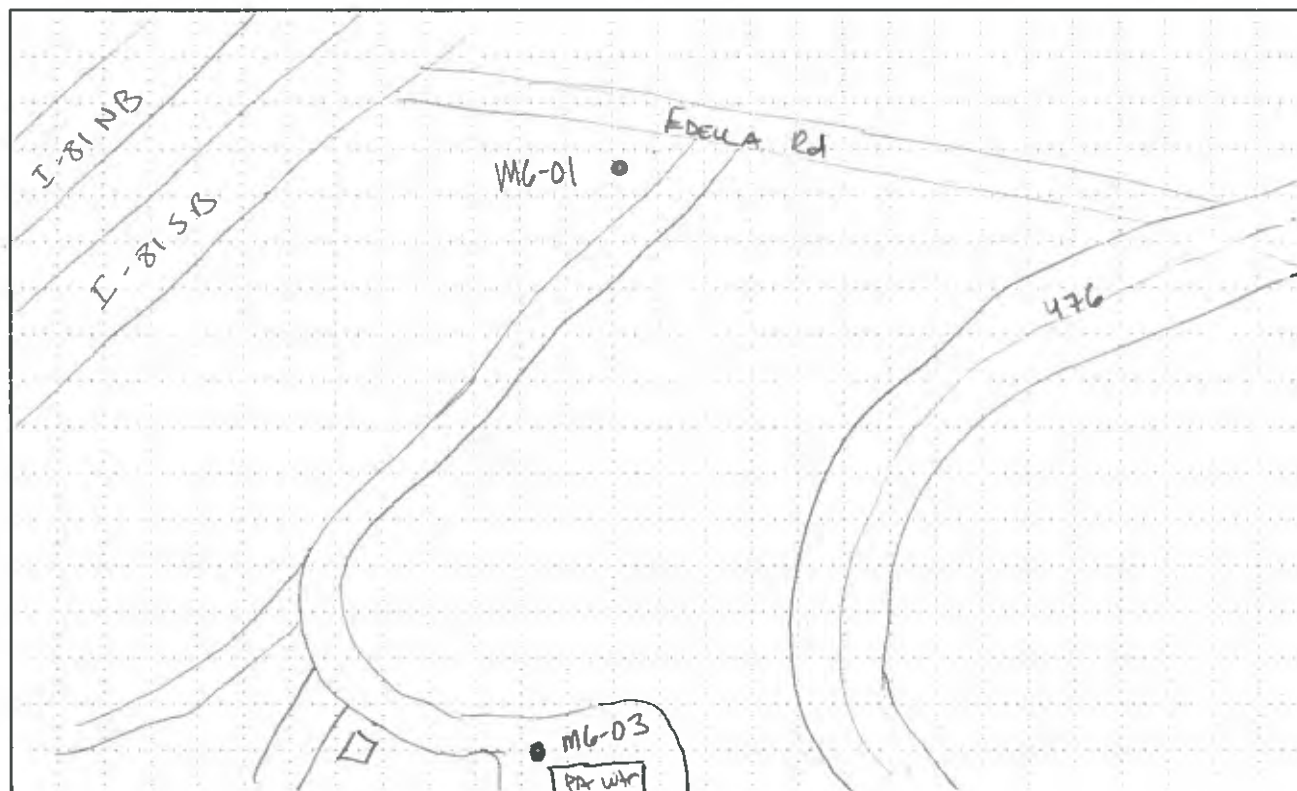
Roadway#4 _____

Direction _____

	1st	2nd
auto		
med. trk.		
hvy trk.		
bus		
motorcycle		

NOTES:

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/08/2019
 PROJECT: _____
 JOB # 8
 SITE ID M7-01



ADDRESS: 435 Edella Rd.

 Meter Storage # 062

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 93.89 after 93.95 GPS PT 41.490840°N
75.679191°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 7:03pm stop 7:03pm total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 64.9 Lmax 78.8 Lmin 53.8 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1 <u>Edella Rd.</u>					Roadway#2 <u>I-476</u>					Roadway#3 _____					Roadway#4 _____				
Direction <u>WB</u> <u>EB</u>					Direction <u>WB</u> <u>EB</u>					Direction _____					Direction _____				
auto	1st	2nd	med. trk.	hvy trk.	auto	1st	2nd	med. trk.	hvy trk.	auto	1st	2nd	med. trk.	hvy trk.	auto	1st	2nd	med. trk.	hvy trk.
1	21	34	0	0	43	54	1	1	10	0	0	0	0	0	0	0	0	0	0
motorcycle	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES: Neighbors talked at 7:17pm 7:18pm approx. Neighbors
leaving at 7:19pm. Talked b/w 7:21 + 7:22pm. Phone
alarmed at 7:23pm.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: SCRANTON Byp
 JOB #: 9
 SITE ID: M7-02



ADDRESS: 449 Edella Rd
 Meter Storage #: 64

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.49179 N
75.67921 W

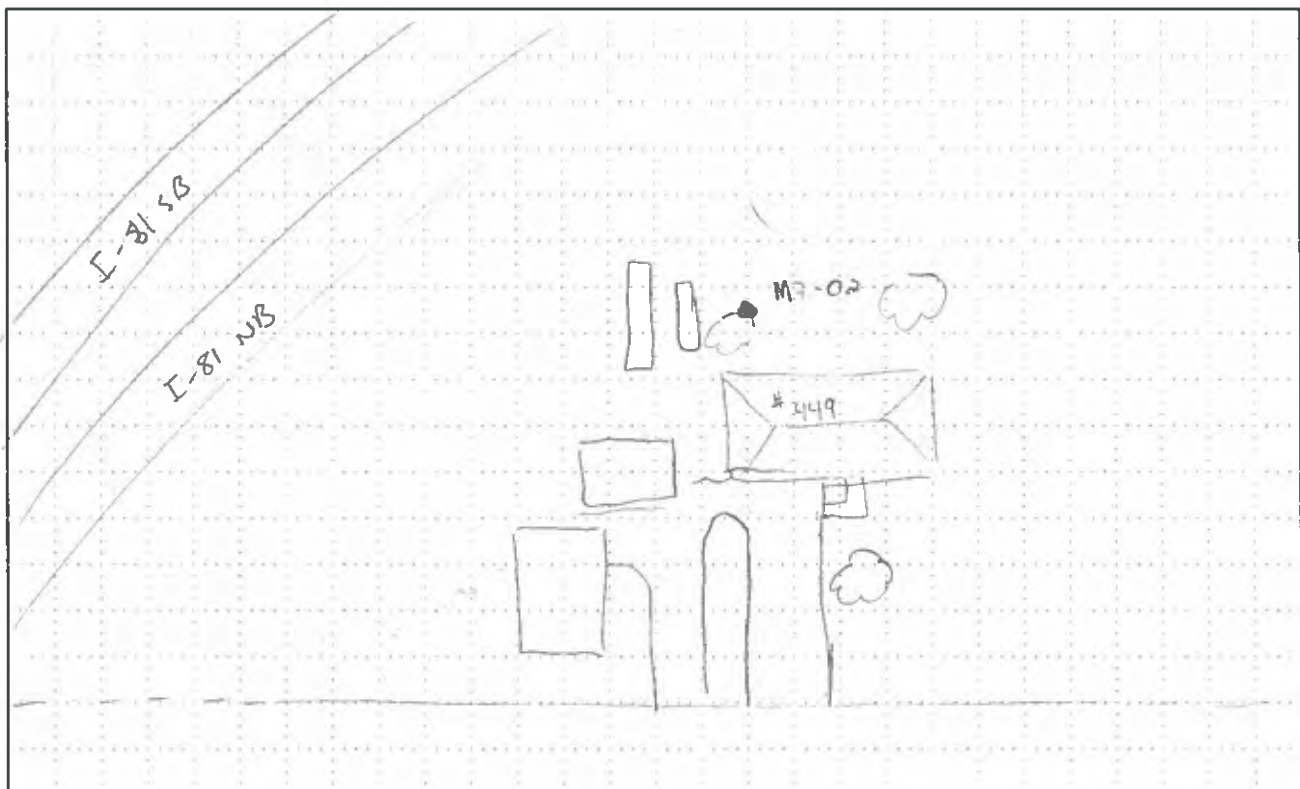
Weather: temperature 67 wind speed _____ cloud cover none
 Time: 1st start 9 35 stop 9 55 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 56.8 Lmax 65.2 Lmin 48.3 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	<u>Edella</u>		Roadway#2	<u>I-81</u>		Roadway#3			Roadway#4		
Direction	<u>NB</u>	<u>SB</u>	Direction	<u>SB</u>	<u>NB</u>	Direction			Direction		
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	<u>15</u>	<u>40</u>	auto	<u>239</u>	<u>155</u>	auto			auto		
med. trk.	<u>0</u>	<u>0</u>	med. trk.	<u>9</u>	<u>11</u>	med. trk.			med. trk.		
hvy trk.	<u>0</u>	<u>0</u>	hvy trk.	<u>72</u>	<u>50</u>	hvy trk.			hvy trk.		
bus	<u>0</u>	<u>0</u>	bus	<u>1</u>	<u>5</u>	bus			bus		
motorcycle	<u>0</u>	<u>0</u>	motorcycle	<u>1</u>	<u>0</u>	motorcycle			motorcycle		

NOTES: Birds very loud in front yard of M7-02

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 9
 SITE ID M7-03



ADDRESS: 442 Willowbrook Rd.

 Meter Storage # 041

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.492020°N
75.079971°W

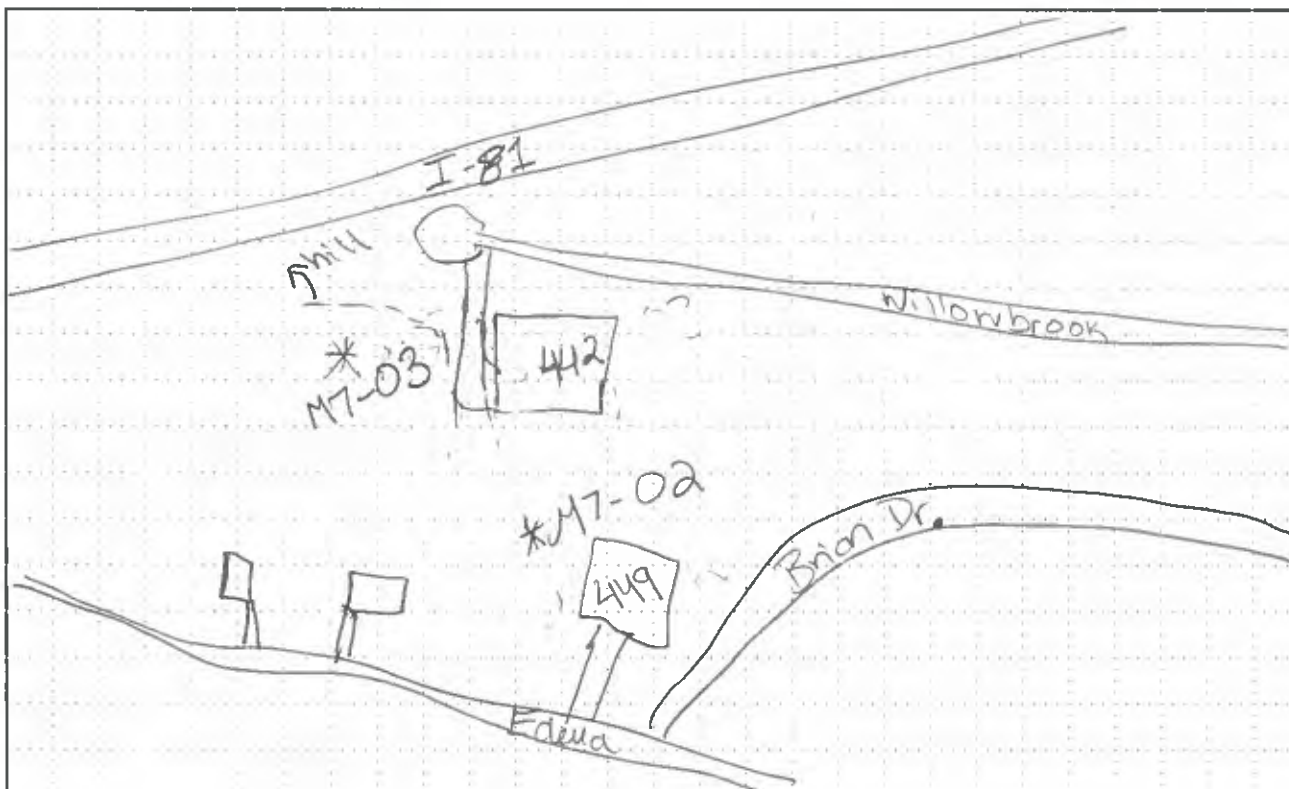
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 9:35AM stop 9:55AM total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 64.1dB Lmax 75.3dB Lmin 51.0dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction <u>SB</u> <u>NB</u>	Direction _____	Direction _____	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>239</u> <u>155</u>	auto _____	auto _____	auto _____
med. trk. <u>9</u> <u>11</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>72</u> <u>50</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>1</u> <u>5</u>	bus _____	bus _____	bus _____
motorcycle <u>1</u> <u>0</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Intermittent soft bird noises thru morning. Soft noise from AC around 9:50 AM.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB #: 10
 SITE ID: M7-04



ADDRESS: 456 Willowbrook Rd.
 Meter Storage #: 042

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.495081°N
75.079232°W

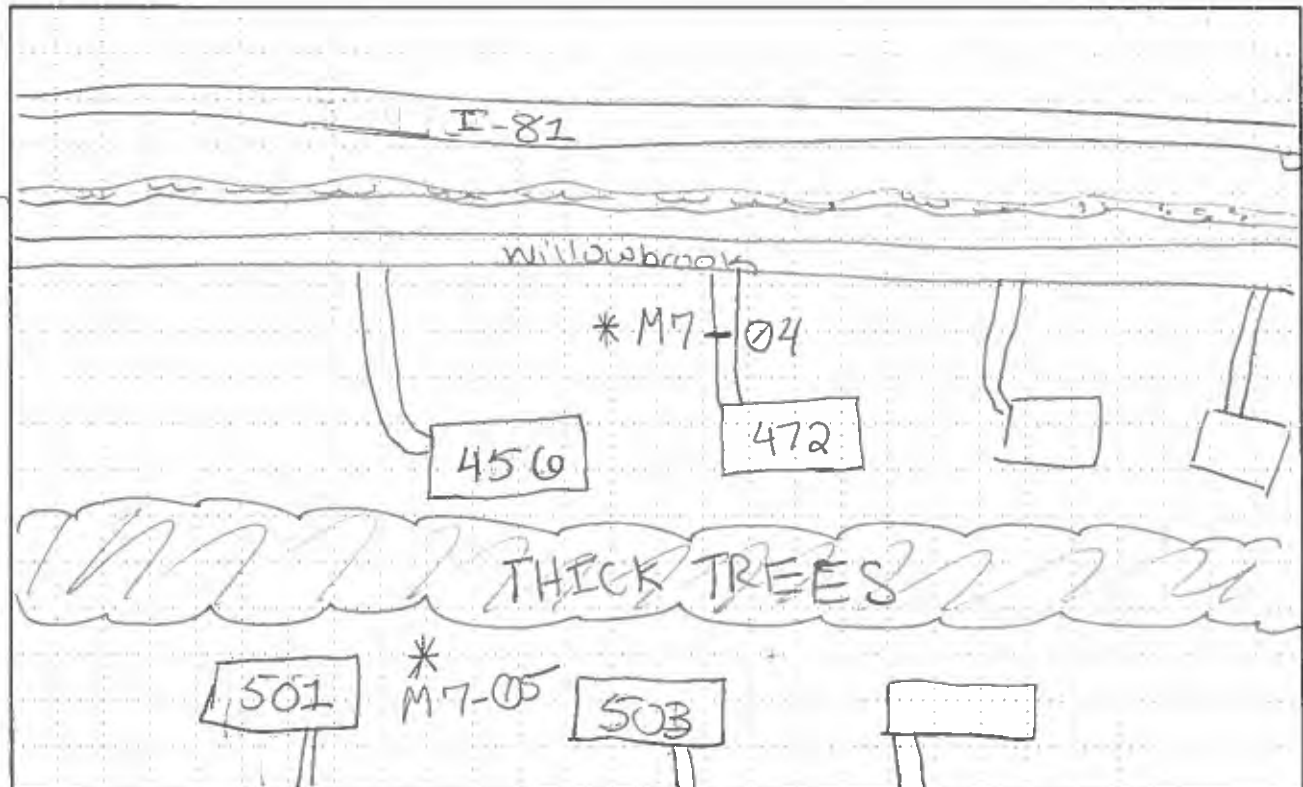
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 10:07AM stop 10:20AM total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 101.2dB Lmax 72.9dB Lmin 50.0dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction <u>SB</u> <u>NB</u>	Direction _____	Direction _____	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>287</u> <u>171</u>	auto _____	auto _____	auto _____
med. trk. <u>8</u> <u>16</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>69</u> <u>57</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>0</u> <u>4</u>	bus _____	bus _____	bus _____
motorcycle <u>1</u> <u>0</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Bird noise constant throughout msrment.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: SCRANTON Bldg
 JOB #: 10
 SITE ID: W7-05



ADDRESS: 501 Brian Dr

 Meter Storage #: 65

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.49447 N
75.67868 W

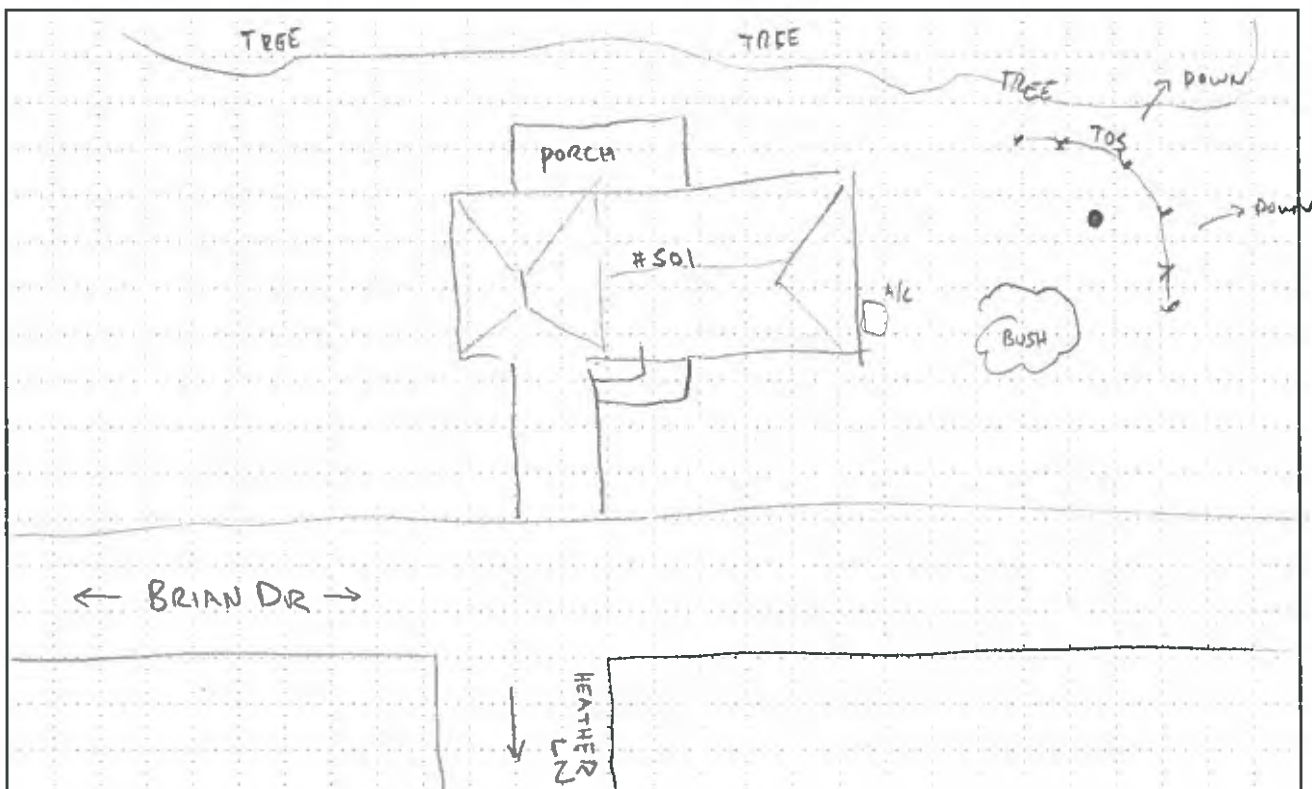
Weather: temperature 71 wind speed _____ cloud cover none
 Time: 1st start 10:07 stop 10:07 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 60.4 Lmax 69.5 Lmin 50.5 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-81</u>	<u>SB</u> <u>NB</u>														
auto		<u>287</u>	<u>171</u>	auto				auto				auto			
med. trk.		<u>8</u>	<u>16</u>	med. trk.				med. trk.				med. trk.			
hvy trk.		<u>69</u>	<u>57</u>	hvy trk.				hvy trk.				hvy trk.			
bus		<u>0</u>	<u>4</u>	bus				bus				bus			
motorcycle		<u>1</u>	<u>0</u>	motorcycle				motorcycle				motorcycle			

NOTES: 10:17:10 - Dog bark

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: _____
 JOB #: 11
 SITE ID: M8-01



ADDRESS: 530 Edella

 Meter Storage #: 66

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.49630
75.67795

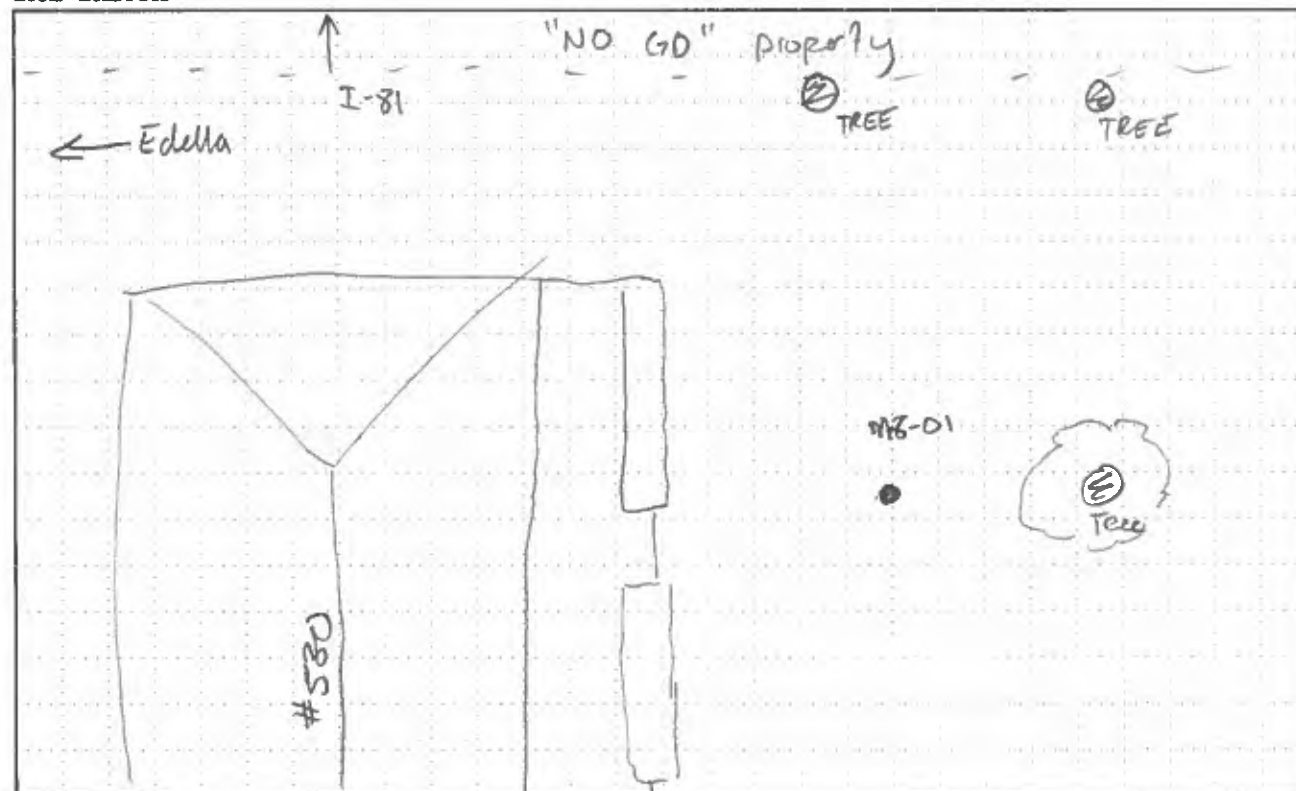
Weather: temperature 83 (K) wind speed _____ cloud cover _____
 Time: 1st start 10:58 stop 11:18 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 57.5 Lmax 65.5 Lmin 47.8 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-81</u>	<u>SB</u>														
auto		<u>267</u>		auto				auto				auto			
med. trk.		<u>13</u>		med. trk.				med. trk.				med. trk.			
hvy trk.		<u>82</u>		hvy trk.				hvy trk.				hvy trk.			
bus		<u>1</u>		bus				bus				bus			
motorcycle		<u>3</u>		motorcycle				motorcycle				motorcycle			

NOTES: Speaking to resident of "no go" at beginning of measurement

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 11
 SITE ID M8-02



ADDRESS: 113 Echo Dr.

 Meter Storage # 043

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.497272°N
75.677126°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 10:58 AM stop 11:18 AM total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 58.6 dR Lmax 65.4 dR Lmin 51.7 dR SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>	_____	_____	_____
Direction <u>SB</u>	Direction _____	Direction _____	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>267</u>	auto _____	auto _____	auto _____
med. trk. <u>13</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>82</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>1</u>	bus _____	bus _____	bus _____
motorcycle <u>3</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Resident going out at 11:01 AM. Talking at 11:02 AM. Intermittent bird noise. Talking again at 11:13 AM. Talking at 11:17 AM. Dog barking (not loud) around 11:16 AM. Gate open 11:16 AM. Bird noise throughout.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 12
 SITE ID M8-03



ADDRESS: 530 Hilltop Dr.

 Meter Storage # 044

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.499488°N
75.077074°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 11:33AM stop 11:53AM total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 71.7dB Lmax 84.7dB Lmin 47.9dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction <u>SB</u>	Direction _____	Direction _____	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>275</u>	auto _____	auto _____	auto _____
med. trk. <u>14</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>67</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>1</u>	bus _____	bus _____	bus _____
motorcycle <u>2</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: kids talking (not loud) around 11:41 AM. Huge truck with large
I beam very loud on I-81 around 11:43 AM.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: SCRANTON Byp
 JOB #: 12
 SITE ID: M8-04



ADDRESS: 121 Echo Dr
 Meter Storage #: 67

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s ✓

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.49808 N
75.67652 W

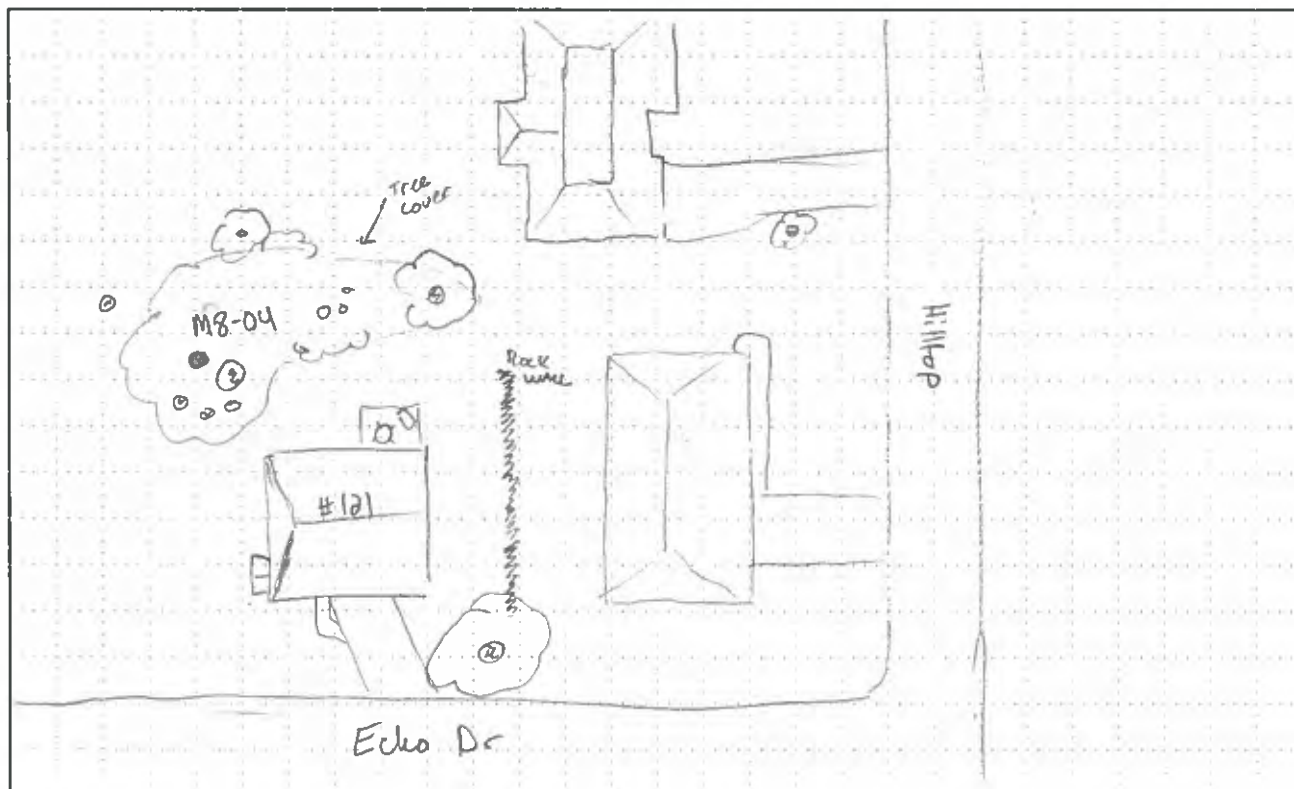
Weather: temperature 75 wind speed 2.5 mph cloud cover none
 Time: 1st start 11:33 stop 11:53 total 20m
 2nd start stop total
 Data: 1st Leq 56.6 Lmax 69.6 Lmin 47.4 SEL
 2nd Leq Lmax Lmin SEL

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-81</u>	<u>SB</u>														
auto		<u>275</u>		auto				auto				auto			
med. trk.		<u>14</u>		med. trk.				med. trk.				med. trk.			
hvy trk.		<u>67</u>		hvy trk.				hvy trk.				hvy trk.			
bus		<u>1</u>		bus				bus				bus			
motorcycle		<u>2</u>		motorcycle				motorcycle				motorcycle			

NOTES:

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: 13
 JOB #: _____
 SITE ID: M8-05



ADDRESS: 211 Willow Ln.

 Meter Storage # 0608

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.500866°N
75.676037°W

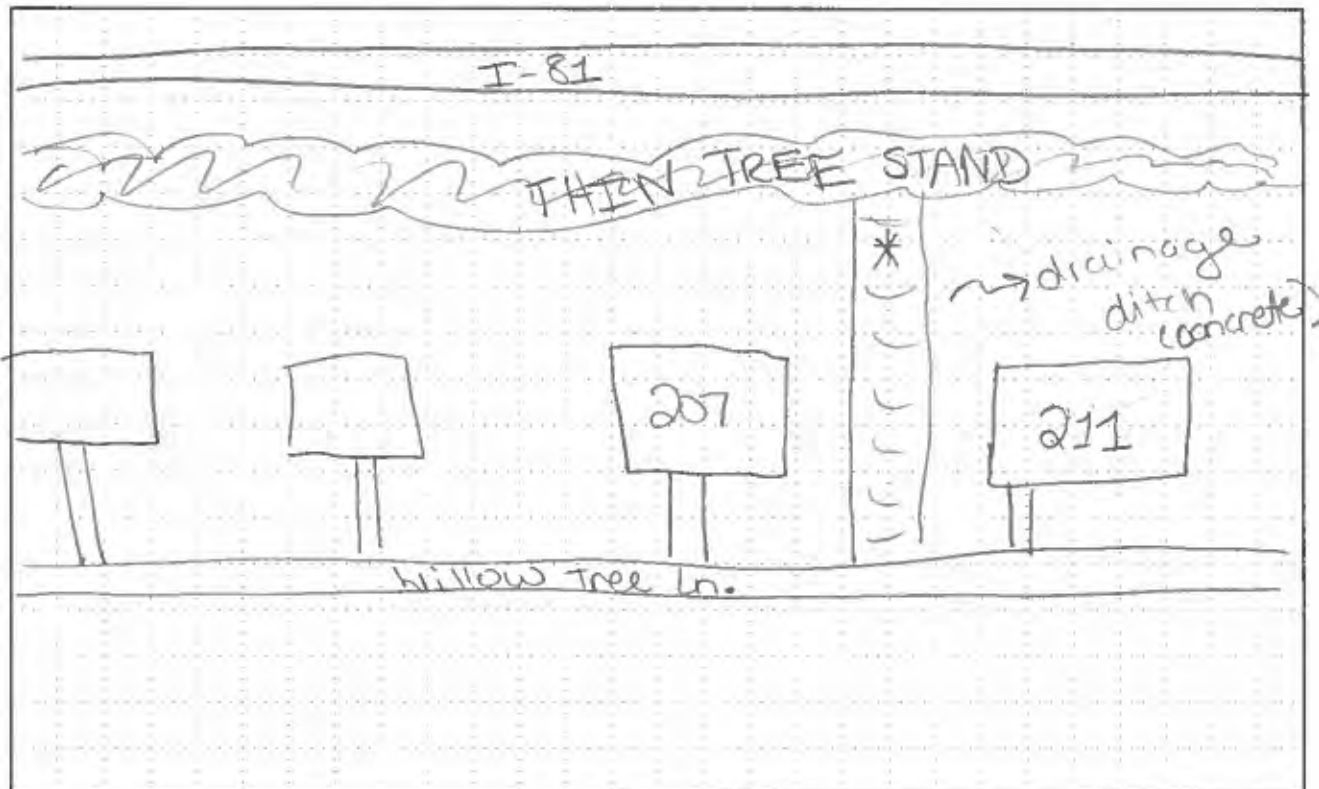
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 12:00pm stop 12:26pm total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 74.8dB Lmax 77.9dB Lmin 49.4dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Willow Tree</u>	<u>I-81</u>		
Direction <u>both</u>	Direction <u>SB</u>	Direction _____	Direction _____
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: Some weedwacker noise at 12:00pm. Weedwacker again at 12:11pm. 12:16pm truck with trailer on Willow Tree Ln.
Some intermittent bird noises.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scrawton Byp
 JOB #: 13
 SITE ID: M8-06



ADDRESS: 201 Appletree Ln
 Meter Storage # 45

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.49961 N
75.67535 W

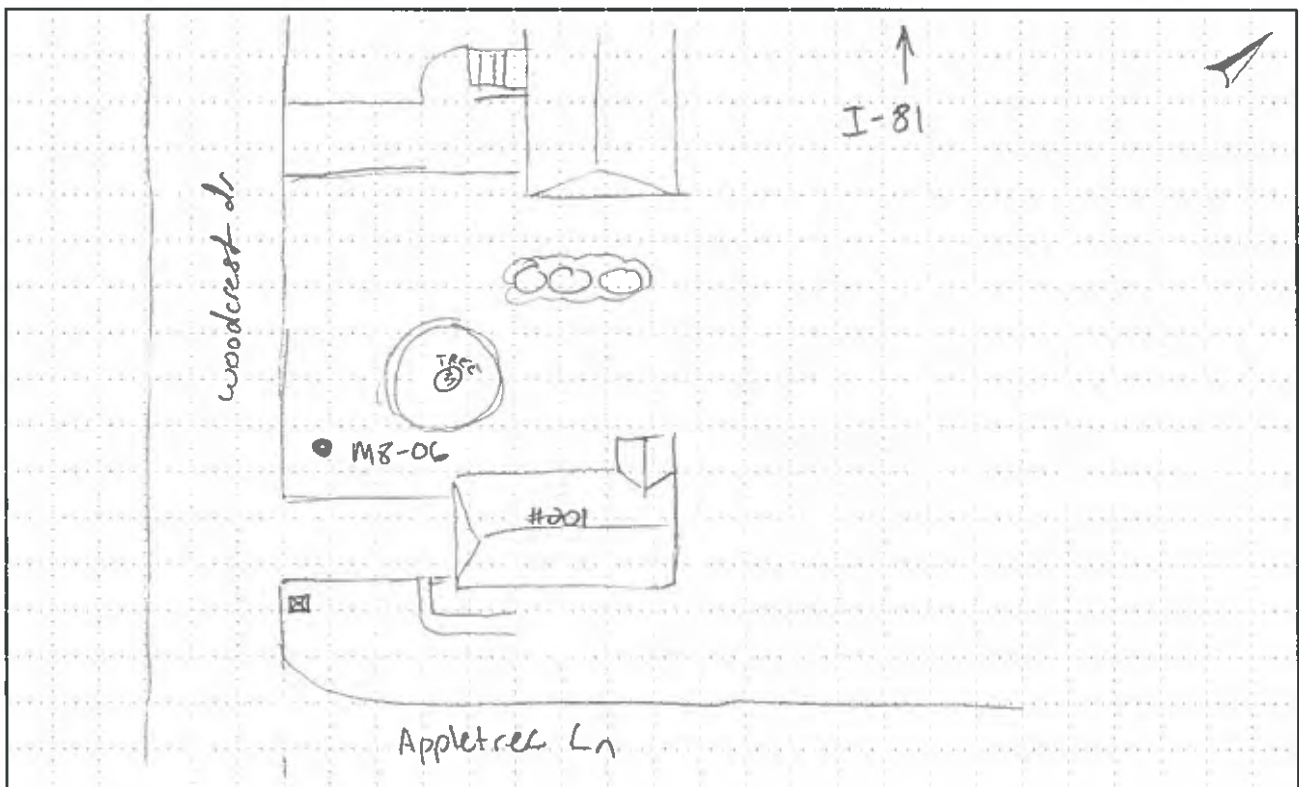
Weather: temperature 78 wind speed - cloud cover none
 Time: 1st start 12:06 stop 12:26 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 54.2 Lmax 73.1 Lmin 42.9 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
Apple tree Ln	I-81		
Direction	Direction	Direction	Direction
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>1111</u> <u>12:07:10</u>	auto <u>259</u>	auto	auto
med. trk.	med. trk. <u>13</u>	med. trk.	med. trk.
hvy trk.	hvy trk. <u>78</u>	hvy trk.	hvy trk.
bus	bus <u>1</u>	bus	bus
motorcycle	motorcycle <u>0</u>	motorcycle	motorcycle

NOTES: 12:06:00 - 06:30:00 weed wacker; Distant dog barking at 12:06-12:07
F350 pass-by at 12:09:15.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB #: 14
 SITE ID: M8-07



ADDRESS: 409 Willow Ln.

 Meter Storage #: 070

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.503785°N
75.673958°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 1:40 PM stop 2:00 PM total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 63.7dB Lmax 73.9dB Lmin 50.2dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>Willow Tree Ln.</u>	<u>Both</u>			<u>I-81</u>	<u>SB</u>										
auto				auto				auto				auto			
med. trk.				med. trk.				med. trk.				med. trk.			
hvy trk.				hvy trk.				hvy trk.				hvy trk.			
bus				bus				bus				bus			
motorcycle				motorcycle				motorcycle				motorcycle			

NOTES: Neighbor slam door at 1:40 PM. Dump truck drive by
around 1:50 PM. Intermittent bird noise (quiet). Jagged
brakes on FedEx truck around 2:01 PM.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Sycamore Byp.
 JOB #: 14
 SITE ID: M8-08



ADDRESS: 1102 E. Longwood
 Meter Storage # 47

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s ✓

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.50211
75.67347

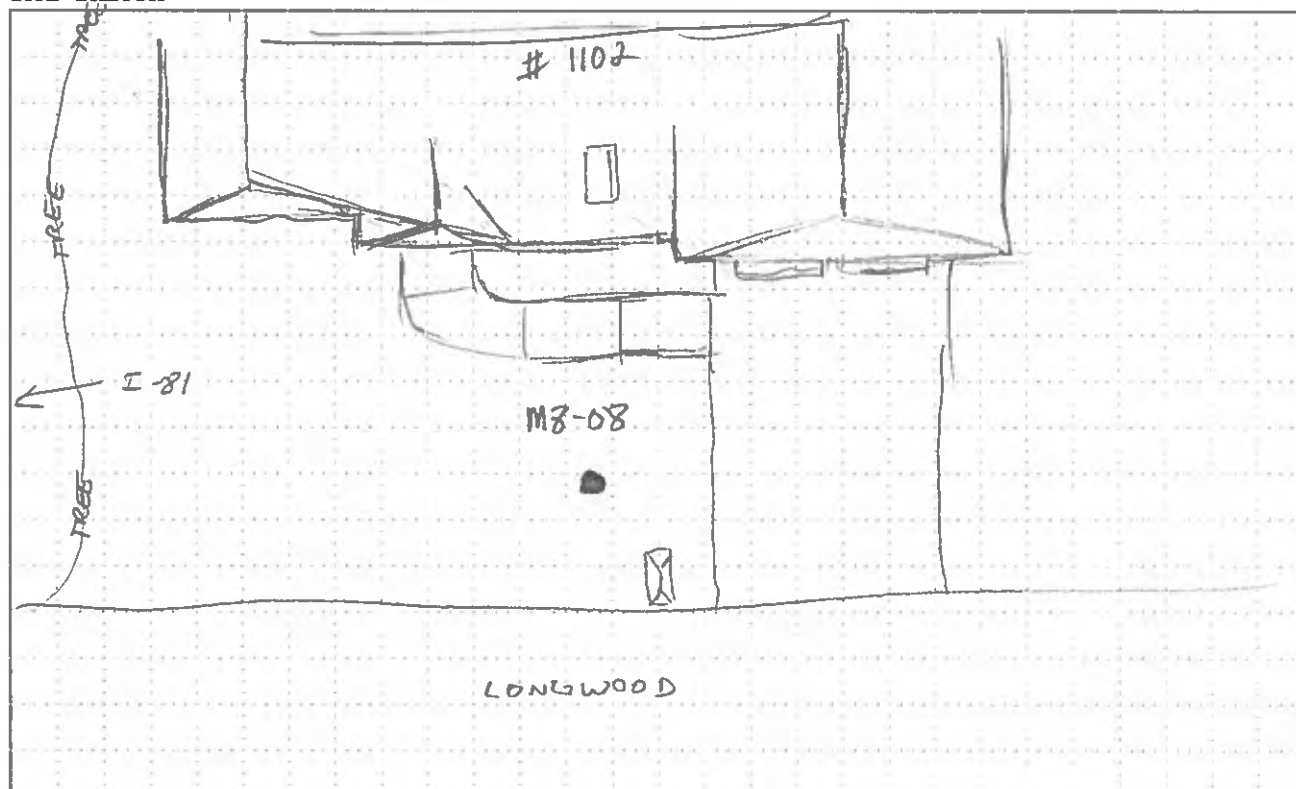
Weather: temperature 80 wind speed - cloud cover none
 Time: 1st start 1:46 stop 2:06 total 20m
 2nd start stop total
 Data: 1st Leq 52.9 Lmax 71.2 Lmin 44.8 SEL
 2nd Leq Lmax Lmin SEL

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Longwood</u>	<u>I-81</u>		
Direction	Direction	Direction	Direction
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>111</u>	auto <u>291</u>	auto	auto
med. trk. <u>1</u>	med. trk. <u>14</u>	med. trk.	med. trk.
hvy trk.	hvy trk. <u>81</u>	hvy trk.	hvy trk.
bus	bus <u>3</u>	bus	bus
motorcycle	motorcycle <u>0</u>	motorcycle	motorcycle

NOTES: Fed-Ex truck @ 1:58

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 15
 SITE ID M8-09



ADDRESS: 212 Simmore Rd.
 Meter Storage # 069

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.505662°N
75.672632°W

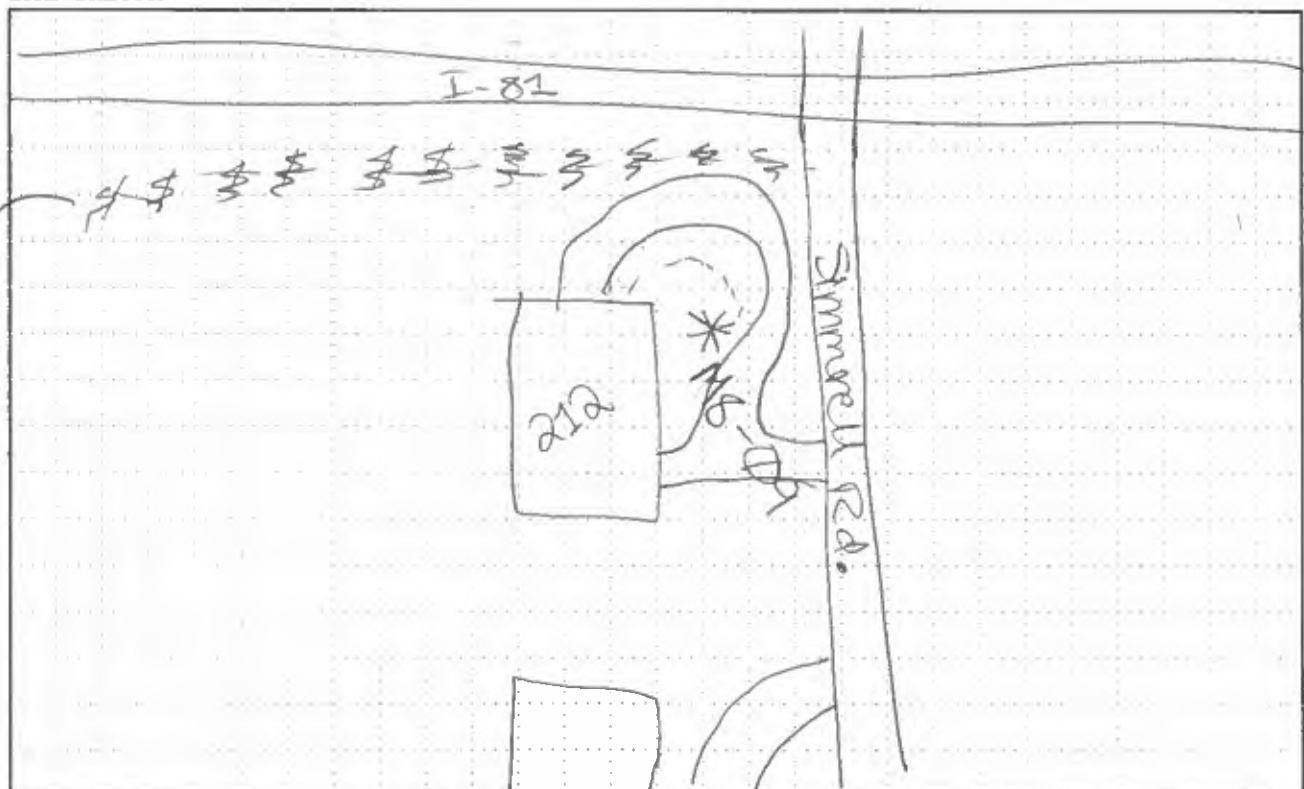
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 12:48 PM stop 1:08 PM total 20 min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 100.1 dB Lmax 88.6 dB Lmin 49.0 dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Simmore Rd.</u>	<u>I-81</u>		
Direction <u>EB</u> <u>WB</u>	Direction <u>SB</u>	Direction	Direction
1st <u>9</u> 2nd <u>10</u>	1st <u>306</u> 2nd	1st 2nd	1st 2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: Take brakes on truck on I-81 at 1:03 PM.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp
 JOB #: 14
 SITE ID: M8-10



ADDRESS: 201 Simerell Rd
 Meter Storage # 46

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.50505 N
75.67163 W

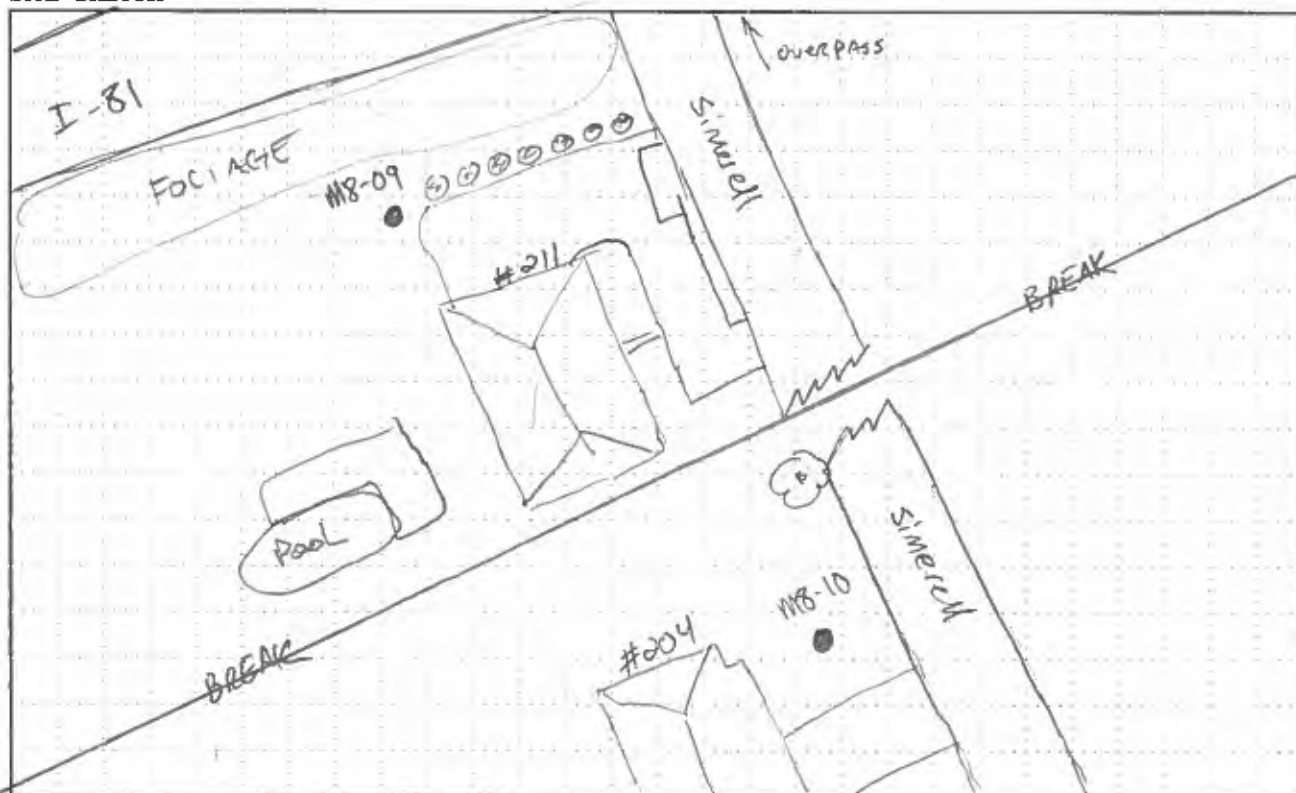
Weather: temperature 79 wind speed _____ cloud cover none
 Time: 1st start 12:48 stop 1:08 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 56.9 Lmax 73.6 Lmin 47.3 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction <u>SB</u>	Direction _____	Direction _____	Direction _____
1st <u>306</u> 2nd _____	1st _____ 2nd _____	1st _____ 2nd _____	1st _____ 2nd _____
auto <u>14</u>	auto _____	auto _____	auto _____
med. trk. <u>76</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>3</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>3</u>	bus _____	bus _____	bus _____
motorcycle <u>3</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Garage door open @ 12:54:40 ; Car pull in neighbors @ 12:55:40
Edoor slam

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 18
 SITE ID M9-01



ADDRESS: 640 Vernard Rd

 Meter Storage # 074

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.497257°N
75.680402°W

Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 5:40 AM stop 10:00 PM total 20 min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 65.3 Lmax 80.0 dB Lmin 51.9 dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>Vernard</u>	<u>E W</u>	<u>82</u>	<u>25</u>	<u>I-81</u>	<u>SB</u>	<u>269</u>									
auto				auto				auto				auto			
med. trk.				med. trk.				med. trk.				med. trk.			
hvy trk.				hvy trk.		<u>86</u>		hvy trk.				hvy trk.			
bus				bus		<u>2</u>		bus				bus			
motorcycle				motorcycle		<u>0</u>		motorcycle				motorcycle			

NOTES: Loud bird @ 5:45 PM. Stop signs at Edella + Vernard.
Loud Mustang with music on Edella at 5:50 PM.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 10
 SITE ID M9-02



ADDRESS: 1 Pauline Dr.

 Meter Storage # 072

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 570 SLM Calibration before 94.10 after 93.92 GPS PT 41.497227°N
75.081155°W

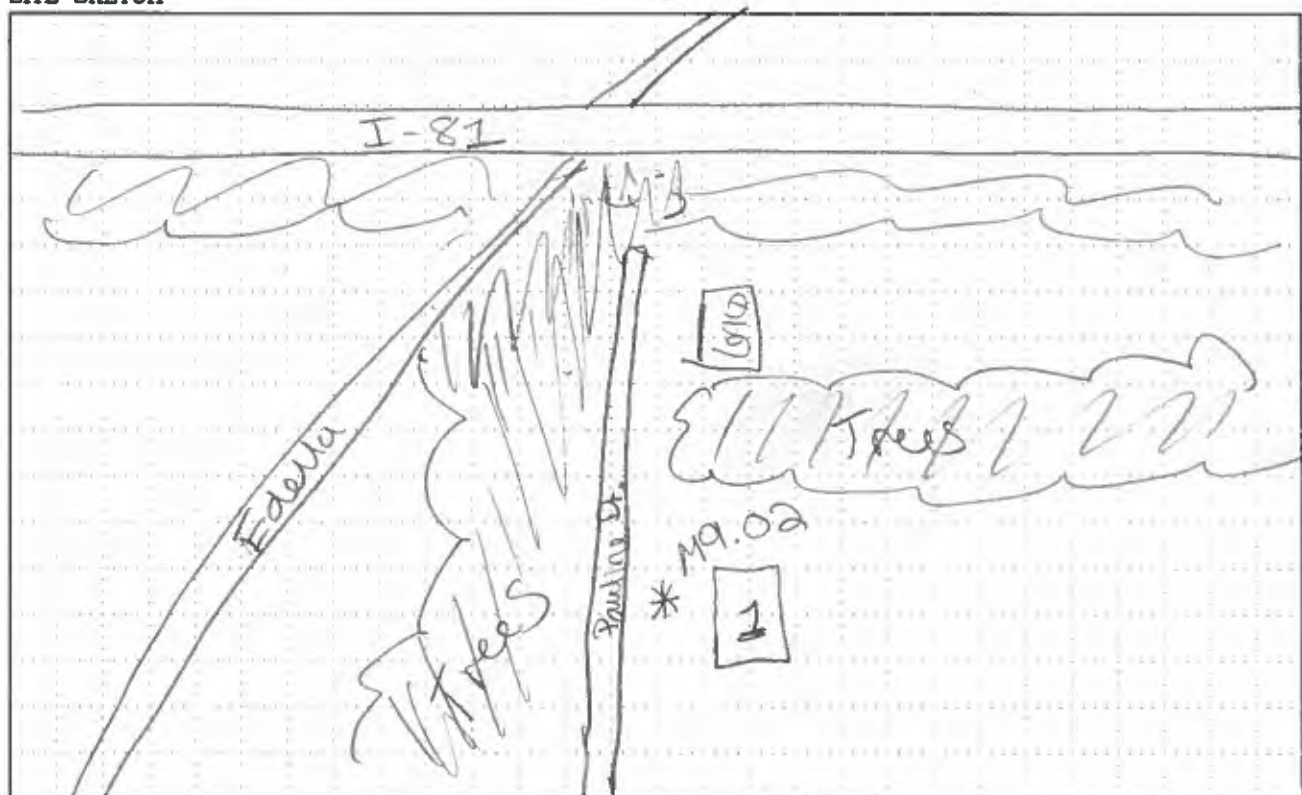
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 4:05PM stop 4:25PM total _____
 2nd start _____ stop _____ total _____
 Data: 1st Leq 50.5dB Lmax 08.8dB Lmin 48.4dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Pauline Dr.		Roadway#2	I-81		Roadway#3			Roadway#4		
Direction	Both		Direction	SB		Direction			Direction		
	1st	2nd		1st	2nd		1st	2nd		1st	2nd
auto	1		auto	297		auto			auto		
med. trk.	0		med. trk.	13		med. trk.			med. trk.		
hvy trk.	0		hvy trk.	57		hvy trk.			hvy trk.		
bus	0		bus	0		bus			bus		
motorcycle	0		motorcycle	0		motorcycle			motorcycle		

NOTES: Neighbor AC turn on at 4:07 PM. Loud bird noise
throughout.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB #: _____
 SITE ID: M9-03



ADDRESS: 2nd to most
southern dorm at
Clark's Summit
 Meter Storage # 072

TYPE ☐ Residential ☐ Commercial ☒ Religion ☒ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 57A① SLM Calibration before 94.10 after 93.92 GPS PT 41.493635°N
75.084570°W

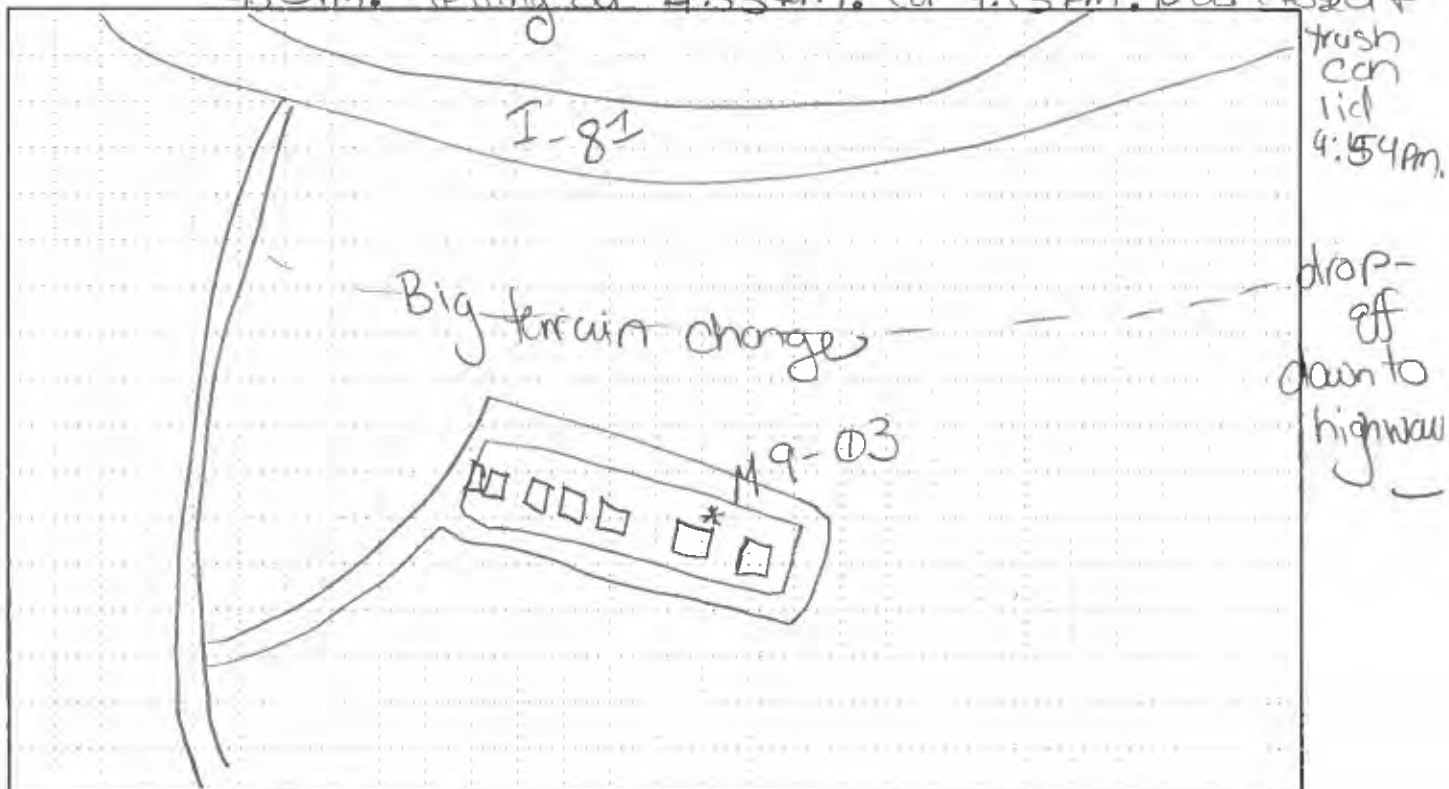
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 4:35pm stop 4:55pm total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 49.3dB Lmax 58.4dB Lmin 45.3dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Parkingsbt</u>	<u>I-81</u>		
Direction <u>Both</u>	Direction <u>SB</u>	Direction _____	Direction _____
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto <u>4</u>	auto <u>334</u>	auto _____	auto _____
med. trk. <u>2</u>	med. trk. <u>16</u>	med. trk. _____	med. trk. _____
hvy trk. <u>①</u>	hvy trk. <u>81</u>	hvy trk. _____	hvy trk. _____
bus <u>①</u>	bus <u>2</u>	bus _____	bus _____
motorcycle <u>①</u>	motorcycle <u>0</u>	motorcycle _____	motorcycle _____

NOTES: Car parked at 4:37pm. Scammed door. kid yelling at
4:38pm. Birds pretty bad throughout. Van drive by around
4:44pm. Church bells 4:45pm. kid yelling at 4:48pm. Van drive by at
4:50pm. Yelling at 4:53pm. Car 4:53pm. Door closed +

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp
 JOB #: 17
 SITE ID: M9-04



ADDRESS: Christen Hall,
Clarks Summit On
 Meter Storage # 50

TYPE ☐ Residential ☐ Commercial ☒ Religion ☒ Educational ☐ Other _____

Measurement Data

Photograph #'s ✓

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT _____

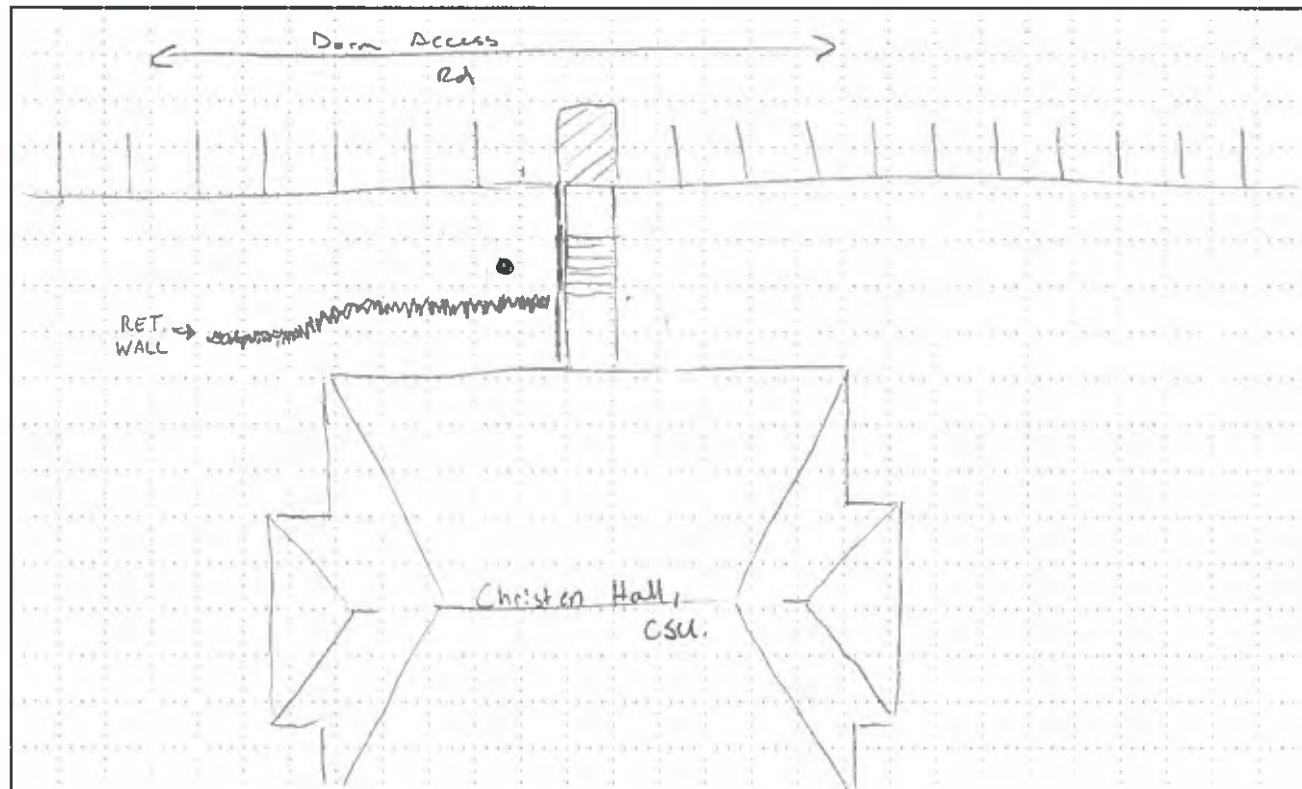
Weather: temperature 85. wind speed ~2 mph cloud cover _____
 Time: 1st start 4:35 stop 4:55 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 50.0 Lmax 59.7 Lmin 45.9 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Dorm Access Rd</u>	<u>I-81</u>		
Direction <u>Both</u>	Direction <u>SB</u>	Direction _____	Direction _____
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: A/C running ~~and~~ throughout measurement.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: _____
 JOB # 16
 SITE ID MA-05



ADDRESS: Shaffer Hall,
Clarks Summit Univ.
 Meter Storage # 49

TYPE ☐ Residential ☐ Commercial ☒ Religion ☒ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.49657
75.68392

Weather: temperature 84 wind speed ~ 3 mph cloud cover none

Time: 1st start 4:05 PM stop 4:25 PM total 20 min

2nd start _____ stop _____ total _____

Data: 1st Leq 49.1 Lmax 68.0 Lmin 42.6 SEL _____

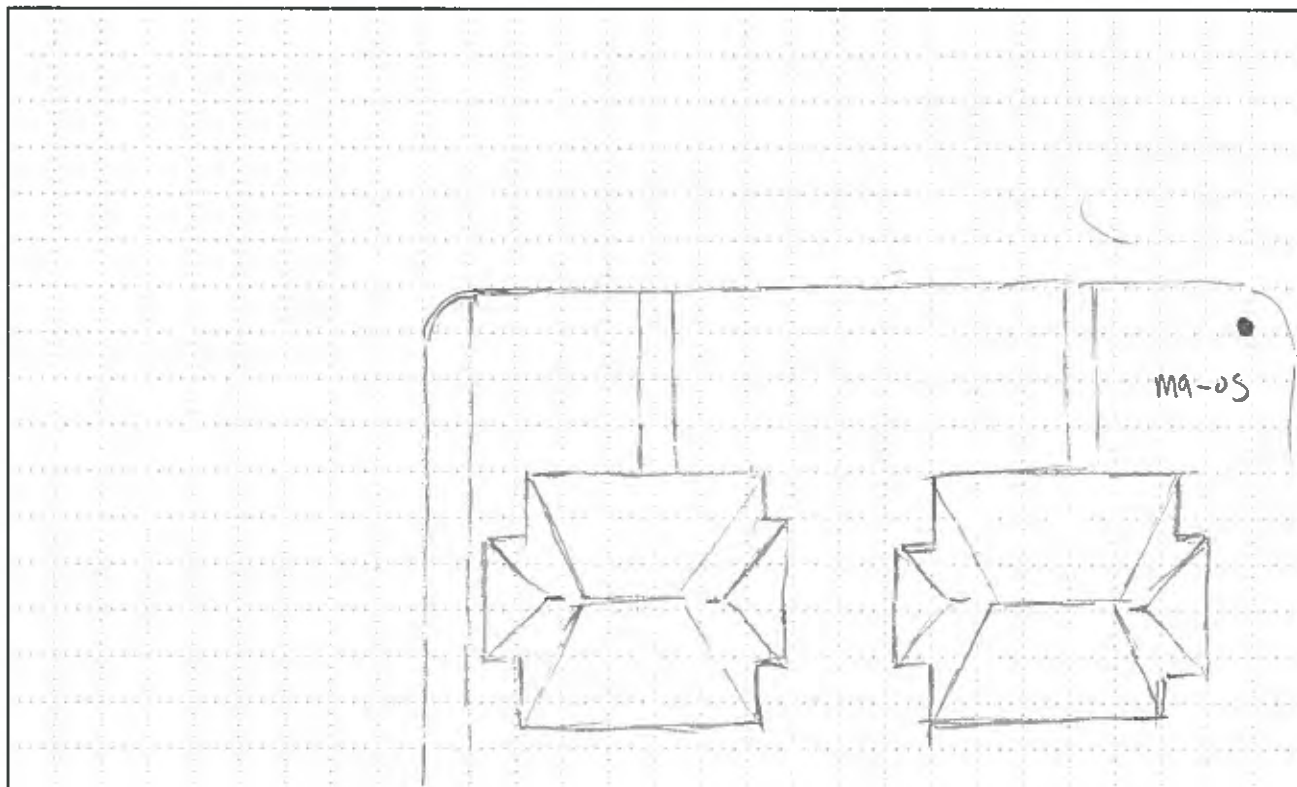
2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Road A</u>	<u>I-81</u>		
Direction	Direction	Direction	Direction
	<u>SB</u>		
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: 4:06 - XFL truck 4:07:40 - 4:08:00 talking
4:13:10 - Talking

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp
 JOB #: 18
 SITE ID: M10-01



ADDRESS: 617 Edella Rd
609 Edella
 Meter Storage # 51

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.49806 N
75.67985 W
 Weather: temperature 84 wind speed _____ cloud cover none
 Time: 1st start 5:12 stop 5:32 total 20m
 2nd start 5:40 stop 6:00 total 20m
 Data: 1st Leq 65.6 Lmax 80.5 Lmin 51.4 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>Edella</u>	<u>NB SB</u>			<u>I-81</u>	<u>SB</u>										
auto		<u>35</u>	<u>26</u>	auto		<u>269</u>		auto				auto			
med. trk.				med. trk.		<u>11</u>		med. trk.				med. trk.			
hvy trk.				hvy trk.		<u>86</u>		hvy trk.				hvy trk.			
bus				bus		<u>2</u>		bus				bus			
motorcycle				motorcycle		<u>0</u>		motorcycle				motorcycle			

NOTES: Kids @ 5:24 5:25. Moved Meter to 609 Edella
New Measurement: 5:46:00 - 5:47:00 > Talking to resident

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB #: _____
 SITE ID: M10-02



ADDRESS: 1228 White Birch Rd.
 Meter Storage #: 075

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.49921°N
75.079287°W

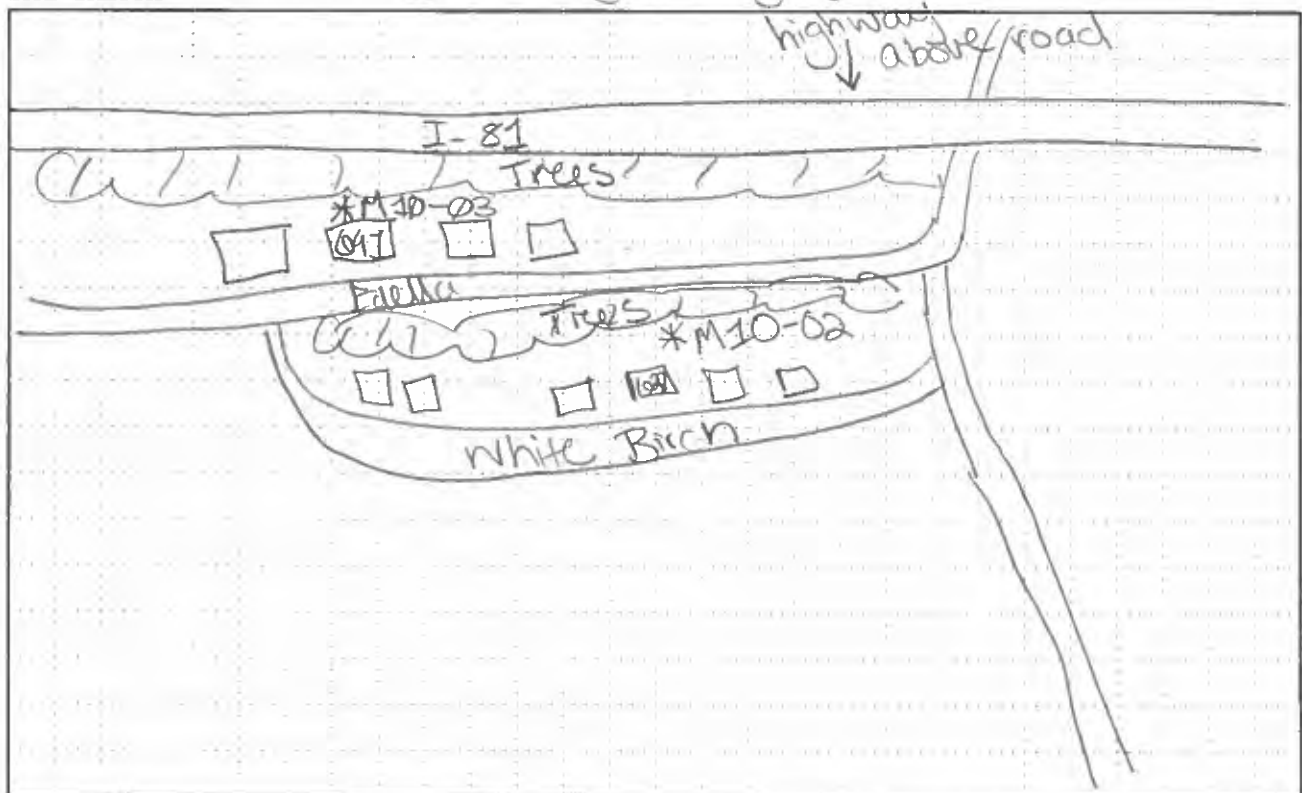
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 0:15PM stop 0:35PM total 20min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 122.5 Lmax 75.0dB Lmin 51.0dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>I-81</u>	<u>SB</u>														
auto		<u>231</u>		auto				auto				auto			
med. trk.		<u>10</u>		med. trk.				med. trk.				med. trk.			
hvy trk.		<u>73</u>		hvy trk.				hvy trk.				hvy trk.			
bus		<u>0</u>		bus				bus				bus			
motorcycle		<u>0</u>		motorcycle				motorcycle				motorcycle			

NOTES: Resident talked at 0:15PM. Dog bark around 0:20PM.
Intermittent bird noise throughout msrmnt. Ran an extra
min. to account for talking at beg. of msrmnt.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp.
 JOB #: 21
 SITE ID: M10-03



ADDRESS: 641 Edella

 Meter Storage # 82

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.49998
75.67794

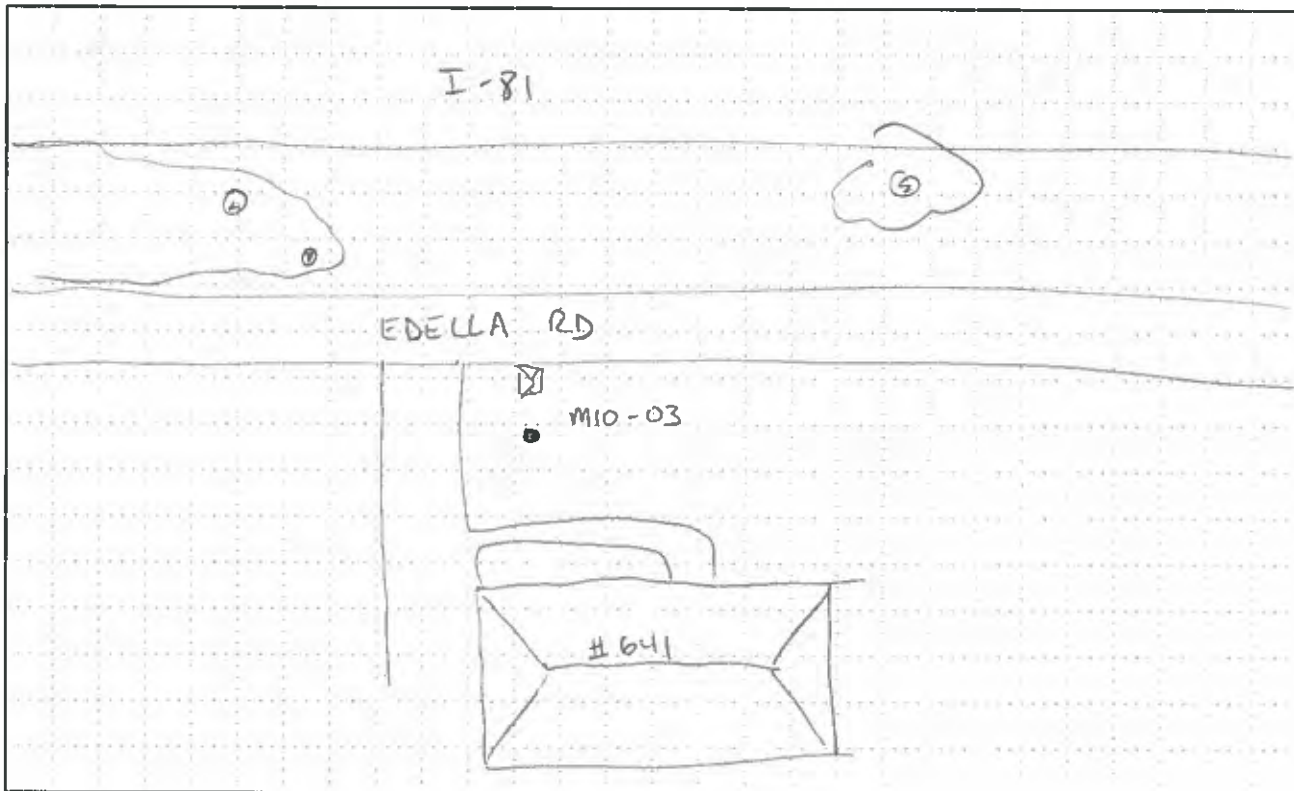
Weather: temperature 81 wind speed - cloud cover haze
 Time: 1st start 6:15 stop 6:35 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 68.5 Lmax 84.1 Lmin 54.3 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Direction	1st	2nd	Roadway#2	Direction	1st	2nd	Roadway#3	Direction	1st	2nd	Roadway#4	Direction	1st	2nd
<u>Edella</u>	<u>NB SB</u>			<u>I-81</u>	<u>SB</u>										
auto		<u>26</u>	<u>25</u>	auto		<u>23</u>		auto				auto			
med. trk.				med. trk.		<u>10</u>		med. trk.				med. trk.			
hvy trk.				hvy trk.		<u>73</u>		hvy trk.				hvy trk.			
bus				bus		<u>0</u>		bus				bus			
motorcycle				motorcycle		<u>0</u>		motorcycle				motorcycle			

NOTES: _____

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 19
 SITE ID M10-04



ADDRESS: 638 White Birch Ln.
 Meter Storage # 076

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.500649°N
75.078540°W

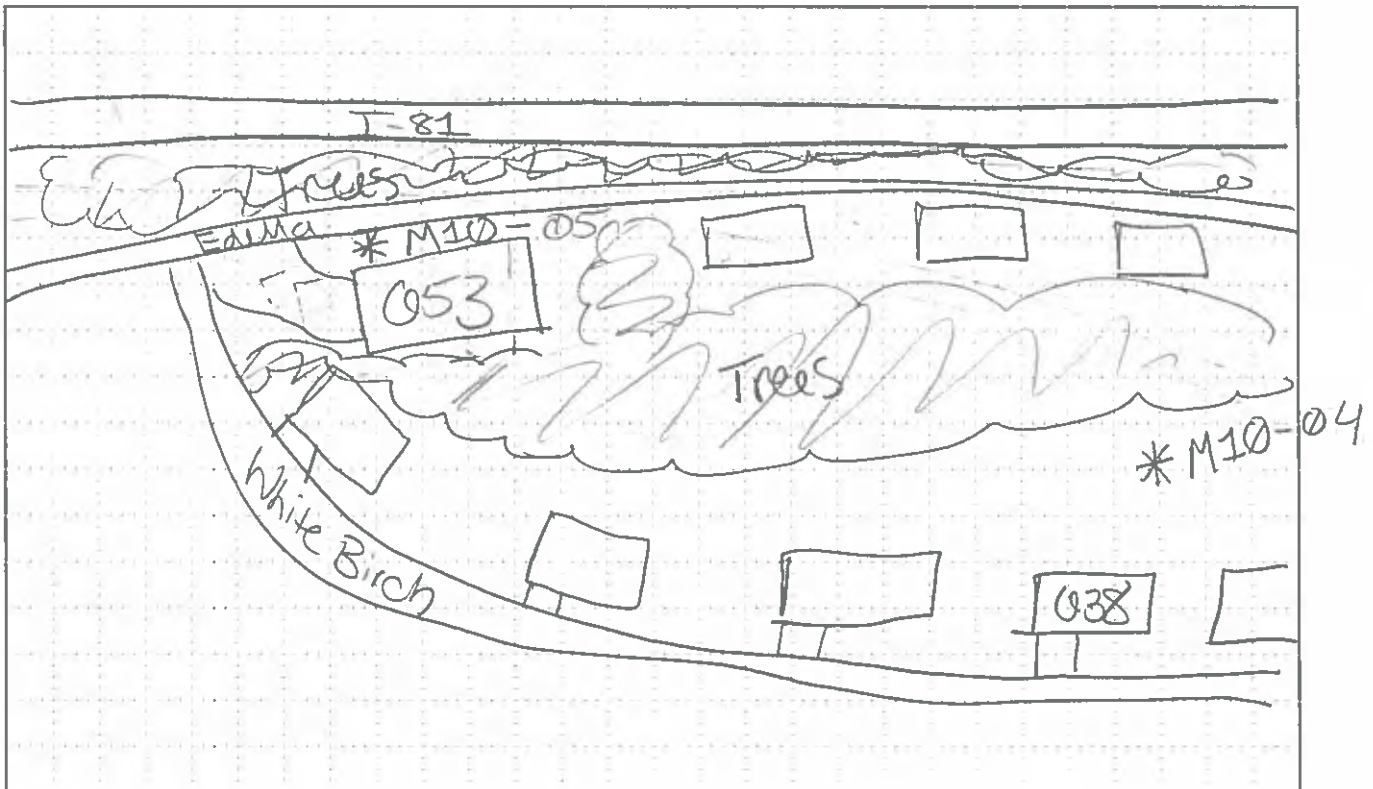
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 9:46PM stop 7:06PM total 80min.
 2nd start _____ stop _____ total _____
 Data: 1st Leq 58.1dB Lmax 105.1dB Lmin 50.5dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction <u>SB</u>	Direction _____	Direction _____	Direction _____
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto <u>210</u>	auto _____	auto _____	auto _____
med. trk. <u>9</u>	med. trk. _____	med. trk. _____	med. trk. _____
hvy trk. <u>71</u>	hvy trk. _____	hvy trk. _____	hvy trk. _____
bus <u>1</u>	bus _____	bus _____	bus _____
motorcycle <u>0</u>	motorcycle _____	motorcycle _____	motorcycle _____

NOTES: Bird noise throughout some loud. Loud bird around 6:54pm. AC unit turn off next door at 7:02pm. Nbs running before that.

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp
 JOB #: 19
 SITE ID: M10-05



ADDRESS: 653 Edella Rd

 Meter Storage # 53

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s _____

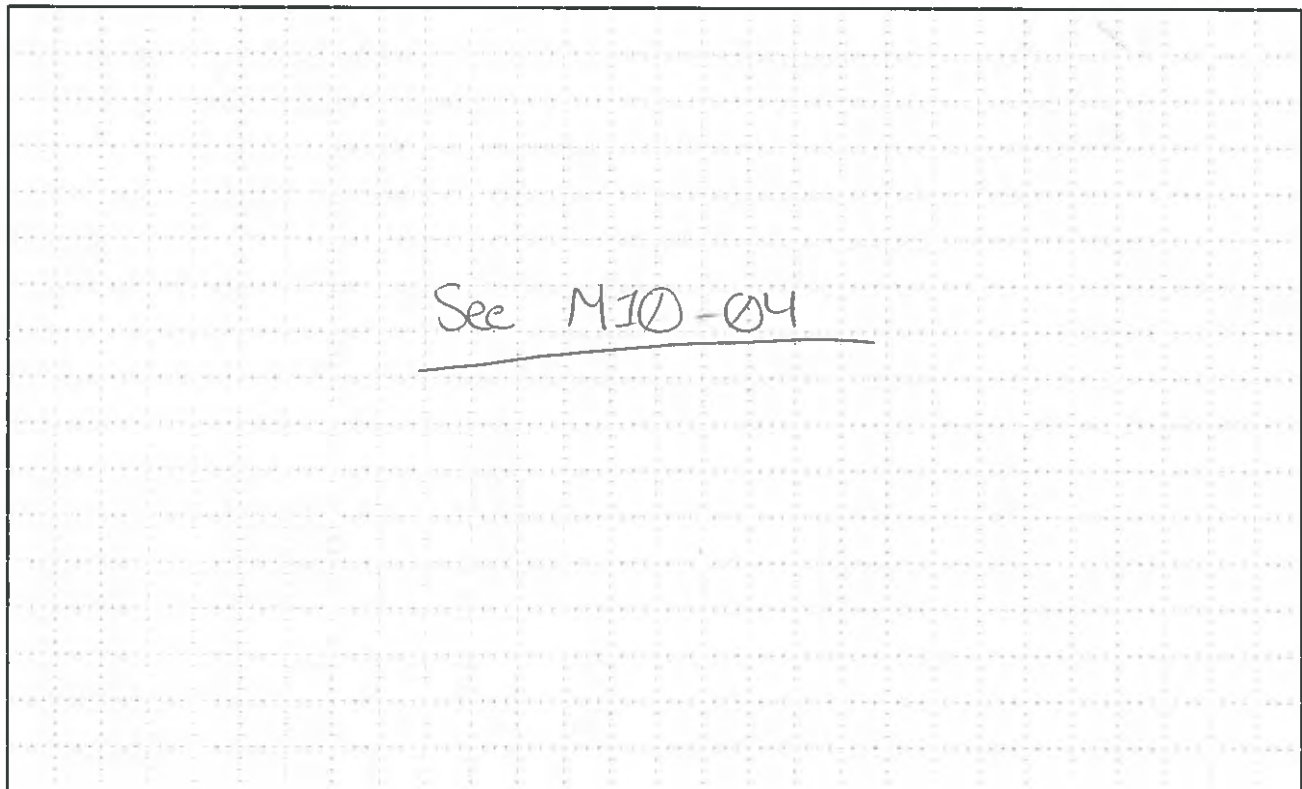
SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.50160
 Weather: temperature 79 wind speed - cloud cover partly 75.67747
 Time: 1st start 6:46 stop 7:06 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 64.5 Lmax 79.9 Lmin 46.9 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
Edella	I-81		
Direction NB SB	Direction SB	Direction	Direction
1st 2nd	1st 2nd	1st 2nd	1st 2nd
auto 22 15	auto 210	auto	auto
med. trk. 1	med. trk. 9	med. trk.	med. trk.
hvy trk. -	hvy trk. 71	hvy trk.	hvy trk.
bus -	bus 1	bus	bus
motorcycle -	motorcycle 0	motorcycle	motorcycle

NOTES:

SITE SKETCH



Highway Noise Monitoring Sheet

DATE: 7/9/19
 PROJECT: Scranton Byp
 JOB # 20
 SITE ID M10-06



ADDRESS: 740 Edella Rd
 Meter Storage # 77

TYPE ☒ Residential ☐ Commercial ☐ Religion ☐ Educational ☐ Other

Measurement Data

Photograph #'s _____

SLM NO. 5790 SLM Calibration before 94.10 after 93.92 GPS PT 41.50256
75.67623

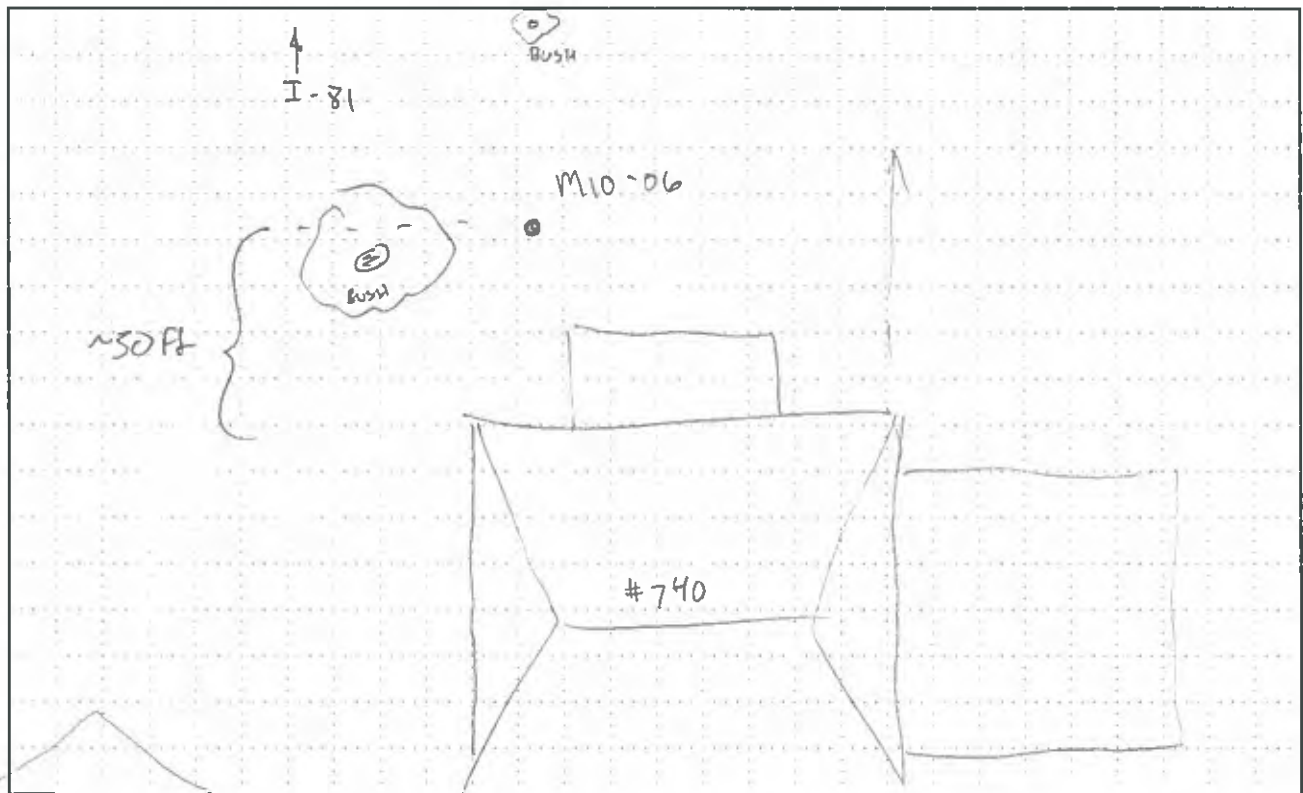
Weather: temperature 80 wind speed - cloud cover 100%
 Time: 1st start 7:18 stop 7:38 total 20m
 2nd start _____ stop _____ total _____
 Data: 1st Leq 61.9 Lmax 78.4 Lmin 50.5 SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>I-81</u>			
Direction	Direction	Direction	Direction
<u>SB</u>			
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto <u>199</u>	auto	auto	auto
med. trk. <u>9</u>	med. trk.	med. trk.	med. trk.
hvy trk. <u>68</u>	hvy trk.	hvy trk.	hvy trk.
bus <u>4</u>	bus	bus	bus
motorcycle <u>0</u>	motorcycle	motorcycle	motorcycle

NOTES:

SITE SKETCH



CD 55
422

Highway Noise Monitoring Sheet

DATE: 07/09/2019
 PROJECT: _____
 JOB # 00
 SITE ID M10-07



ADDRESS: 812 Edella Rd.
 Meter Storage # 054

TYPE ☒ Residential ☒ Commercial ☐ Religion ☐ Educational ☐ Other _____

Measurement Data

Photograph #'s Done

SLM NO. 5791 SLM Calibration before 94.04 after 94.03 GPS PT 41.504666°N
75.075881°W

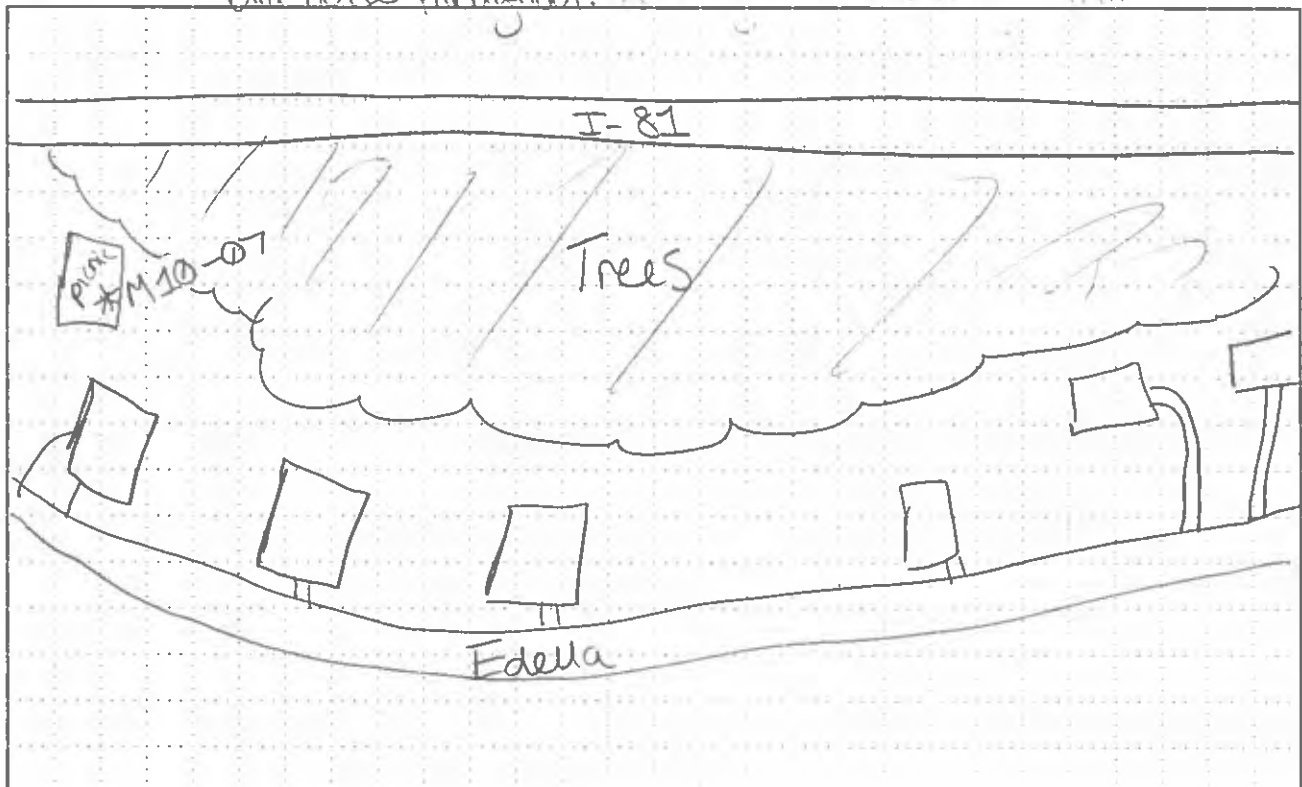
Weather: temperature _____ wind speed _____ cloud cover _____
 Time: 1st start 7:18pm stop 7:38pm total 20min
 2nd start _____ stop _____ total _____
 Data: 1st Leq 55.8dB Lmax 109.7dB Lmin 40.4dB SEL _____
 2nd Leq _____ Lmax _____ Lmin _____ SEL _____

Traffic Data

Roadway#1	Roadway#2	Roadway#3	Roadway#4
<u>Edella</u>	<u>I-81</u>		
Direction <u>Both</u>	Direction <u>SB</u>	Direction _____	Direction _____
1st	1st	1st	1st
2nd	2nd	2nd	2nd
auto	auto	auto	auto
med. trk.	med. trk.	med. trk.	med. trk.
hvy trk.	hvy trk.	hvy trk.	hvy trk.
bus	bus	bus	bus
motorcycle	motorcycle	motorcycle	motorcycle

NOTES: Intermittent A/C noise. Some humming right at 7:18pm.
Dr. by 7:19pm. Loud birds at 7:21pm - end intermittent. Kids playing
around 7:26pm. Kids playing again at 7:30pm. Humming at 7:32pm.

SITE SKETCH



Appendix B

Calibration Certificate

Certificate Number 2019000280

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number LxT1
Serial Number 0005790
Test Results Pass

Initial Condition As Manufactured

Description SoundTrack LxT Class 1
Class 1 Sound Level Meter
Firmware Revision: 2.302

Procedure Number D0001.8378
Technician Ron Harris
Calibration Date 8 Jan 2019
Calibration Due
Temperature 23.35 °C ± 0.25 °C
Humidity 50.7 %RH ± 2.0 %RH
Static Pressure 87.32 kPa ± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1 S/N 055912 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev J Supporting Firmware Version 2.301, 2015-04-30

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



LARSON DAVIS
A PCB PIEZOTRONICS DIV.

Description	Standards Used		
	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
SRS DS360 Ultra Low Distortion Generator	2018-06-28	2019-06-28	007118

Larson Davis, a division of PCB Piezotronics, Inc
 1681 West 820 North
 Provo, UT 84601, United States
 716-684-0001



LARSON DAVIS
 A PCB PIEZOTRONICS DIV.

Calibration Certificate

Certificate Number 2018011410

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number PRMLxT1

Serial Number 055912

Test Results Pass

Initial Condition As Manufactured

Description Larson Davis 1/2" Preamplifier for LxT Class 1
-23 dB

Procedure Number D0001.8383

Technician Ron Harris

Calibration Date 10 Nov 2018

Calibration Due

Temperature 22.97 °C ± 0.01 °C

Humidity 51.8 %RH ± 0.5 %RH

Static Pressure 86.31 kPa ± 0.03 kPa

Evaluation Method Tested electrically using a 12.0 pF capacitor to simulate microphone capacitance.
Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	01/09/2018	01/09/2019	003062
Hart Scientific 2626-H Temperature Probe	02/02/2018	02/02/2019	006767
SRS DS360 Ultra Low Distortion Generator	06/28/2018	06/28/2019	007118
Agilent 34401A DMM	07/11/2018	07/11/2019	007172



Calibration Certificate

Certificate Number 2019000286

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number LxT1
Serial Number 0005790
Test Results Pass

Initial Condition As Manufactured

Description SoundTrack LxT Class 1
Class 1 Sound Level Meter
Firmware Revision: 2.302

Procedure Number D0001.8384
Technician Ron Harris
Calibration Date 8 Jan 2019
Calibration Due
Temperature 23.33 °C ± 0.25 °C
Humidity 50.6 %RH ± 2.0 %RH
Static Pressure 87.17 kPa ± 0.13 kPa

Evaluation Method **Tested with:** **Data reported in dB re 20 µPa.**

Larson Davis PRMLxT1. S/N 055912
PCB 377B02. S/N 309404
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005.

Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev J Supporting Firmware Version 2.301, 2015-04-30

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



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For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to 1/2" adaptor is used with the preamplifier.

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 successfully completed by Physikalisch-Technische Bundesanstalt (PTB) on 2007-10-09 reference number PTB-1.72-4034218.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organization responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013 / ANSI/ASA S1.4-2014/Part 2, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1; the sound level meter submitted for testing conforms to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2018-09-19	2019-09-19	001250
SRS DS360 Ultra Low Distortion Generator	2018-06-21	2019-06-21	006311
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
Larson Davis CAL200 Acoustic Calibrator	2018-07-24	2019-07-24	007027
Larson Davis Model 831	2018-02-28	2019-02-28	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2018-03-07	2019-03-07	007185

Acoustic Calibration

Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.00	113.80	114.20	0.14	Pass

Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using slow time-weighted sound level for compliance to IEC 61672-1:2013 5.5; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.16	-0.20	-1.20	0.80	0.23	Pass
1000	0.24	0.00	-0.70	0.70	0.23	Pass
8000	-3.72	-3.00	-5.50	-1.50	0.32	Pass

-- End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	40.29

-- End of measurement results--

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716-684-0001



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-- End of Report--

Signatory: Ron Harris

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



 **LARSON DAVIS**
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~ Certificate of Calibration and Compliance ~

Microphone Model: 377B02

Serial Number: 309404

Manufacturer: PCB

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Reference Equipment

Manufacturer	Model #	Serial #	PCB Control #	Cal Date	Due Date
National Instruments	PCIe-6351	1896F08	CA1918	10/19/18	10/18/19
Larson Davis	PRM915	148	CA2180	3/6/18	3/6/19
Larson Davis	PRM902	4407	CA1248	5/23/18	5/23/19
Larson Davis	PRM916	125	TA469	6/26/18	6/26/19
Larson Davis	CAL250	5569	CA2284	5/22/18	5/22/19
Larson Davis	2201	115	TA472	4/12/18	4/12/19
Brueel & Kjaer	4192	2764626	CA1636	8/15/18	8/15/19
Larson Davis	GPRM902	4163	CA1089	6/12/18	6/12/19
Newport	iTHX-SD/N	1080002	CA1511	2/9/18	2/8/19
Larson Davis	PRA951-4	222	LD026	12/19/17	12/19/18
Larson Davis	PRM915	147	CA2179	6/8/18	6/7/19
PCB	68510-02	N/A	CA2672	12/27/17	12/27/18
0	0	0	0	not required	not required
0	0	0	0	not required	not required
0	0	0	0	not required	not required

Frequency sweep performed with B&K UA0033 electrostatic actuator.

Condition of Unit

As Found: n/a

As Left: New Unit, In Tolerance

Notes

1. Calibration of reference equipment is traceable to one or more of the following National Labs; NIST, PTB or DFM.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 10012-1, ANSI/NCISL Z540.3 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Open Circuit Sensitivity is measured using the insertion voltage method following procedure AT603-5.
6. Measurement uncertainty (95% confidence level with coverage factor of 2) for sensitivity is +/-0.20 dB.
7. Unit calibrated per ACS-20.

Technician: Leonard Lukasik

Date: December 10, 2018



3425 Walden Avenue, Depew, New York, 14043

TEL: 888-684-0013

FAX: 716-685-3886

www.pcb.com

ID CAL112-3637291080 880-Q

Calibration Certificate

Certificate Number 2019000279

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number LxT1
Serial Number 0005791
Test Results Pass

Initial Condition As Manufactured

Description SoundTrack LxT Class 1
Class 1 Sound Level Meter
Firmware Revision: 2.302

Procedure Number D0001.8378
Technician Ron Harris
Calibration Date 8 Jan 2019
Calibration Due
Temperature 23.23 °C ± 0.25 °C
Humidity 51.6 %RH ± 2.0 %RH
Static Pressure 87.33 kPa ± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1 S/N 055913 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev J Supporting Firmware Version 2.301, 2015-04-30

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

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1681 West 820 North
Provo, UT 84601, United States
716-684-0001



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Description	Standards Used		
	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
SRS DS360 Ultra Low Distortion Generator	2018-06-08	2019-06-08	007117

Calibration Certificate

Certificate Number 2018011411

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number	PRMLxT1	Procedure Number	D0001.8383
Serial Number	055913	Technician	Ron Harris
Test Results	Pass	Calibration Date	10 Nov 2018
Initial Condition	As Manufactured	Calibration Due	
Description	Larson Davis 1/2" Preamplifier for LxT Class 1 -23 dB	Temperature	22.94 °C ± 0.01 °C
		Humidity	51.3 %RH ± 0.5 %RH
		Static Pressure	86.3 kPa ± 0.03 kPa
Evaluation Method	Tested electrically using a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.		
Compliance Standards	Compliant to Manufacturer Specifications		

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	03/07/2018	03/07/2019	003003
Hart Scientific 2626-H Temperature Probe	02/02/2018	02/02/2019	006767
Agilent 34401A DMM	06/29/2018	06/29/2019	007165
SRS DS360 Ultra Low Distortion Generator	10/04/2018	10/04/2019	007167



Calibration Certificate

Certificate Number 2019000287

Customer:

Environmental Acoustics
207 Senate Avenue
Camp Hill, PA 17011, United States

Model Number LxT1
Serial Number 0005791
Test Results Pass

Initial Condition As Manufactured

Description SoundTrack LxT Class 1
Class 1 Sound Level Meter
Firmware Revision: 2.302

Procedure Number D0001.8384
Technician Ron Harris
Calibration Date 8 Jan 2019
Calibration Due
Temperature 23.5 °C ± 0.25 °C
Humidity 49.8 %RH ± 2.0 %RH
Static Pressure 87.15 kPa ± 0.13 kPa

Evaluation Method **Tested with:** **Data reported in dB re 20 µPa.**

Larson Davis PRMLxT1. S/N 055913
PCB 377B02. S/N 309486
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005.

Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev J Supporting Firmware Version 2.301, 2015-04-30

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



LARSON DAVIS
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For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to 1/2" adaptor is used with the preamplifier.

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 successfully completed by Physikalisch-Technische Bundesanstalt (PTB) on 2007-10-09 reference number PTB-1.72-4034218.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organization responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013 / ANSI/ASA S1.4-2014/Part 2, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1; the sound level meter submitted for testing conforms to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2018-09-19	2019-09-19	001250
SRS DS360 Ultra Low Distortion Generator	2018-06-21	2019-06-21	006311
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
Larson Davis CAL200 Acoustic Calibrator	2018-07-24	2019-07-24	007027
Larson Davis Model 831	2018-02-28	2019-02-28	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2018-03-07	2019-03-07	007185

Acoustic Calibration

Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.01	113.80	114.20	0.14	Pass

Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using slow time-weighted sound level for compliance to IEC 61672-1:2013 5.5; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.17	-0.20	-1.20	0.80	0.23	Pass
1000	0.28	0.00	-0.70	0.70	0.23	Pass
8000	-3.52	-3.00	-5.50	-1.50	0.32	Pass

-- End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	40.79

-- End of measurement results--

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
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716-684-0001



-- End of Report--

Signatory: Ron Harris

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



 **LARSON DAVIS**
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~ Certificate of Calibration and Compliance ~

Microphone Model: 377B02

Serial Number: 309486

Manufacturer: PCB

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Reference Equipment

Manufacturer	Model #	Serial #	PCB Control #	Cal Date	Due Date
National Instruments	PCIe-6351	1896F08	CA1918	10/19/18	10/18/19
Larson Davis	PRM915	148	CA2180	3/6/18	3/6/19
Larson Davis	PRM902	4407	CA1248	5/23/18	5/23/19
Larson Davis	PRM916	125	TA469	6/26/18	6/26/19
Larson Davis	CAL250	5569	CA2284	5/22/18	5/22/19
Larson Davis	2201	115	TA472	4/12/18	4/12/19
Brueel & Kjaer	4192	2764626	CA1636	8/15/18	8/15/19
Larson Davis	GPRM902	4163	CA1089	6/12/18	6/12/19
Newport	iTHX-SD/N	1080002	CA1511	2/9/18	2/8/19
Larson Davis	PRA951-4	222	LD026	12/19/17	12/19/18
Larson Davis	PRM915	147	CA2179	6/8/18	6/7/19
PCB	68510-02	N/A	CA2672	12/27/17	12/27/18
0	0	0	0	not required	not required
0	0	0	0	not required	not required
0	0	0	0	not required	not required

Frequency sweep performed with B&K UA0033 electrostatic actuator.

Condition of Unit

As Found: n/a

As Left: New Unit, In Tolerance

Notes

1. Calibration of reference equipment is traceable to one or more of the following National Labs; NIST, PTB or DFM.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 10012-1, ANSI/NCSL Z540.3 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Open Circuit Sensitivity is measured using the insertion voltage method following procedure AT603-5.
6. Measurement uncertainty (95% confidence level with coverage factor of 2) for sensitivity is +/-0.20 dB.
7. Unit calibrated per ACS-20.

Technician: Leonard Lukasik

Date: December 10, 2018



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ID CAL 112-362720-575 413-0

Appendix C

Scranton Beltway - Clarks Summit Interchange
TNM Traffic Volumes based on Conceptual Point of Access Study

Roadway	Roadway SPEED	Peak Hour Traffic Volume	Vehicle Mix						Hourly Volume by Veh. Class				
			% Trucks*	%Auto	%MT of %Trk	%HT of %Trk	%Bus	%MC	Auto	MT	HT	Bus	MC
Existing (2018)													
I-81 NB	55	1235	12%	-	23%	77%	-	-	1087	34	114	-	-
I-81 SB	55	1176	12%	-	17%	83%	-	-	1035	24	117	-	-
I-476 NB	70	489	-	68.2%	14.2%	17.1%	0.2%	0.3%	333	69	84	1	1
I-476 SB	70	305	-	68.2%	14.2%	17.1%	0.2%	0.3%	208	43	52	1	1
Future No-Build (2045)													
I-81 NB	55	2040	12%	-	23%	77%	-	-	1795	56	188	-	-
I-81 SB	55	1764	12%	-	17%	83%	-	-	1552	36	176	-	-
I-476 NB	70	1125	-	68.2%	14.2%	17.1%	0.2%	0.3%	767	160	192	2	3
I-476 SB	70	526	-	68.2%	14.2%	17.1%	0.2%	0.3%	359	75	90	1	2
Future Build (2045)													
I-81 NB	55	828	12%	-	23%	77%	-	-	729	23	77	-	-
I-81 SB	55	1958	12%	-	17%	83%	-	-	1723	40	195	-	-
I-81 NB (after NB Conn)	55	1509	12%	-	23%	77%	-	-	1328	42	139	-	-
I-81 SB (after SB Conn)	55	1358	12%	-	17%	83%	-	-	1195	28	135	-	-
I-476 NB	70	1010	-	68.2%	14.2%	17.1%	0.2%	0.3%	689	143	173	2	3
I-476 SB (SB Conn + SB Ramp D)	70	647	-	68%	14%	17%	0%	0%	441	92	111	1	2
Proposed NB Connector	55	681	-	68%	14%	17%	0%	0%	464	97	116	1	2
Proposed SB Connector	55	600	-	68%	14%	17%	0%	0%	409	85	103	1	2
NB Ramp D	70	329	-	68%	14%	17%	0%	0%	224	47	56	1	1
SB Ramp D	70	47	-	68.2%	14.2%	17.1%	0.2%	0.3%	32	7	8	0	0

CONCEPTUAL POINT OF ACCESS STUDY

SCRANTON BELTWAY

**Direct connections between I -476 (Pennsylvania Turnpike Northeastern Extension) and I-81
At Wyoming Valley (Exit 115) and Clarks Summit (Exit 131) Interchanges**

Luzerne & Lackawanna Counties

Appendix C : Traffic Volume Diagrams

November 2019

Prepared For:



Pennsylvania Turnpike Commission

and



**U.S. Department of Transportation
Federal Highway Administration**

and

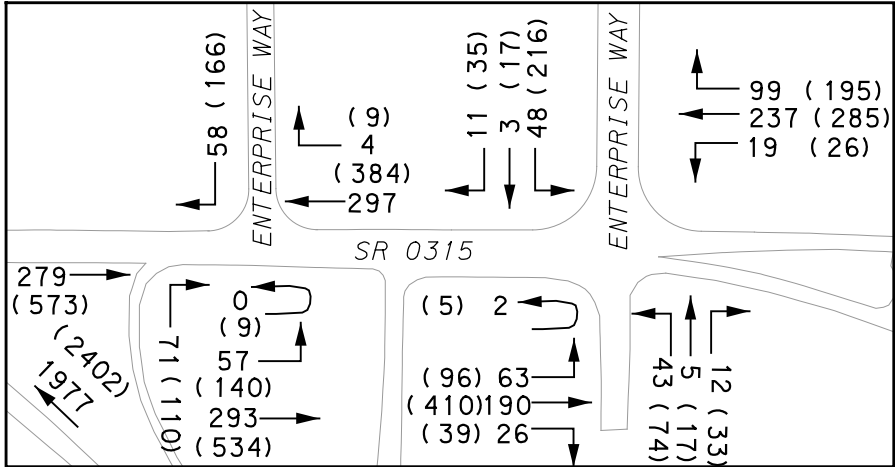
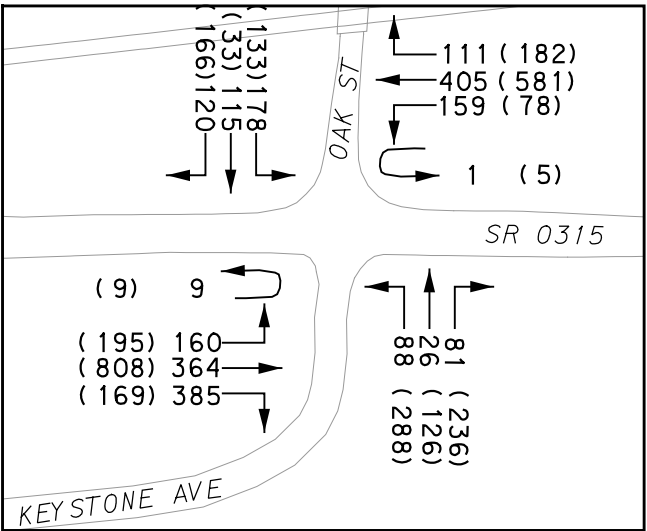
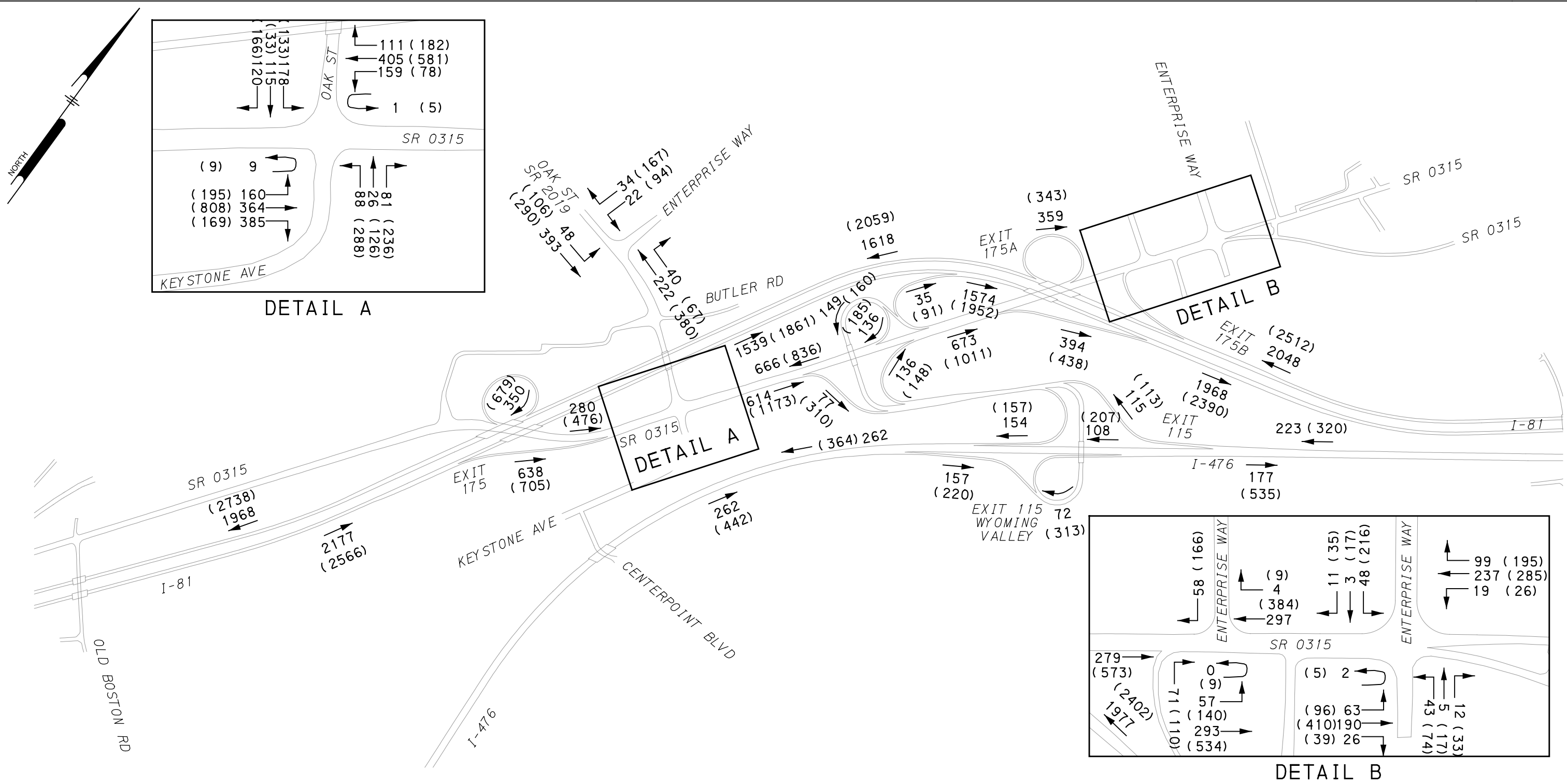


**Pennsylvania Department of
Transportation**

Prepared By



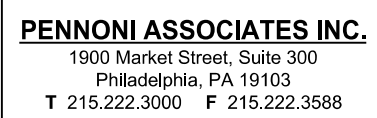
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PLOTTED: 1/1/2001 12:00:00 AM, BY: IAN T. EDISON PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: -----



PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

PTC WBS No.: A-115.70P001-2	
PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: EXISTING (2018) PEAK HOUR AM (PM)	
NTS	SHEET 1 OF 8

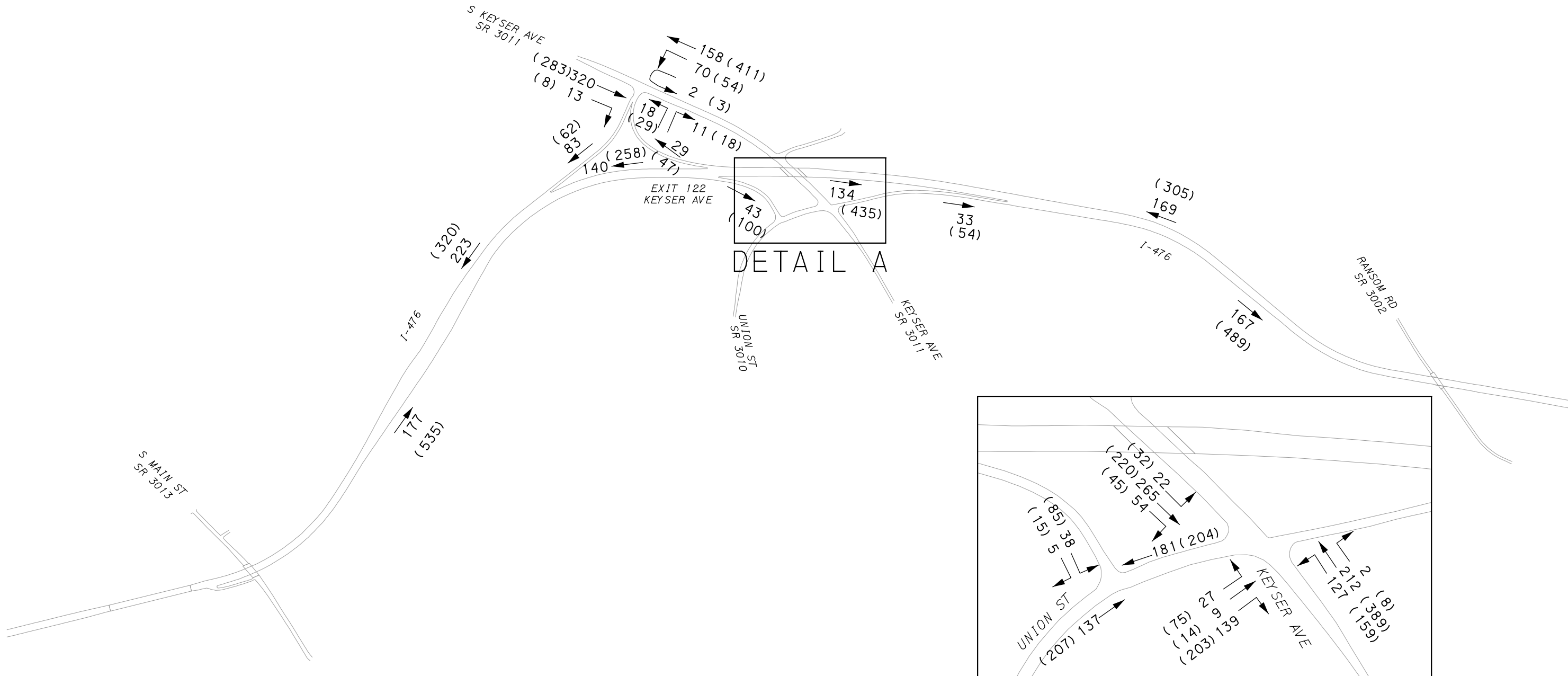
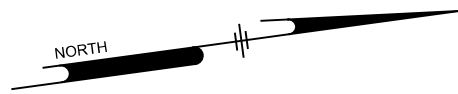
SEE SHEET 2



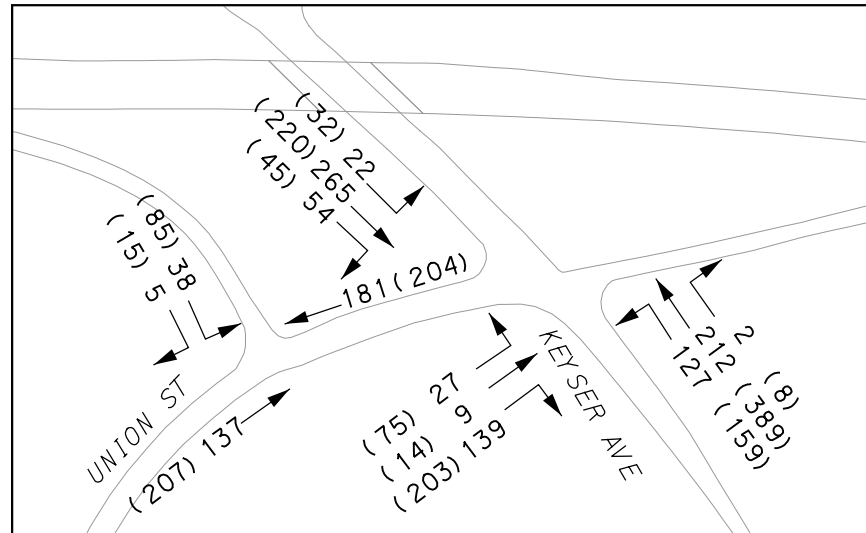
PTC WBS No.: A-115.70P001-2	
PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: EXISTING (2018) PEAK HOUR AM (PM)	
NTS	SHEET 2 OF 8

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PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

TRAFFIC VOLUME DIAGRAM

TITLE: EXISTING (2018) PEAK HOUR
AM (PM)

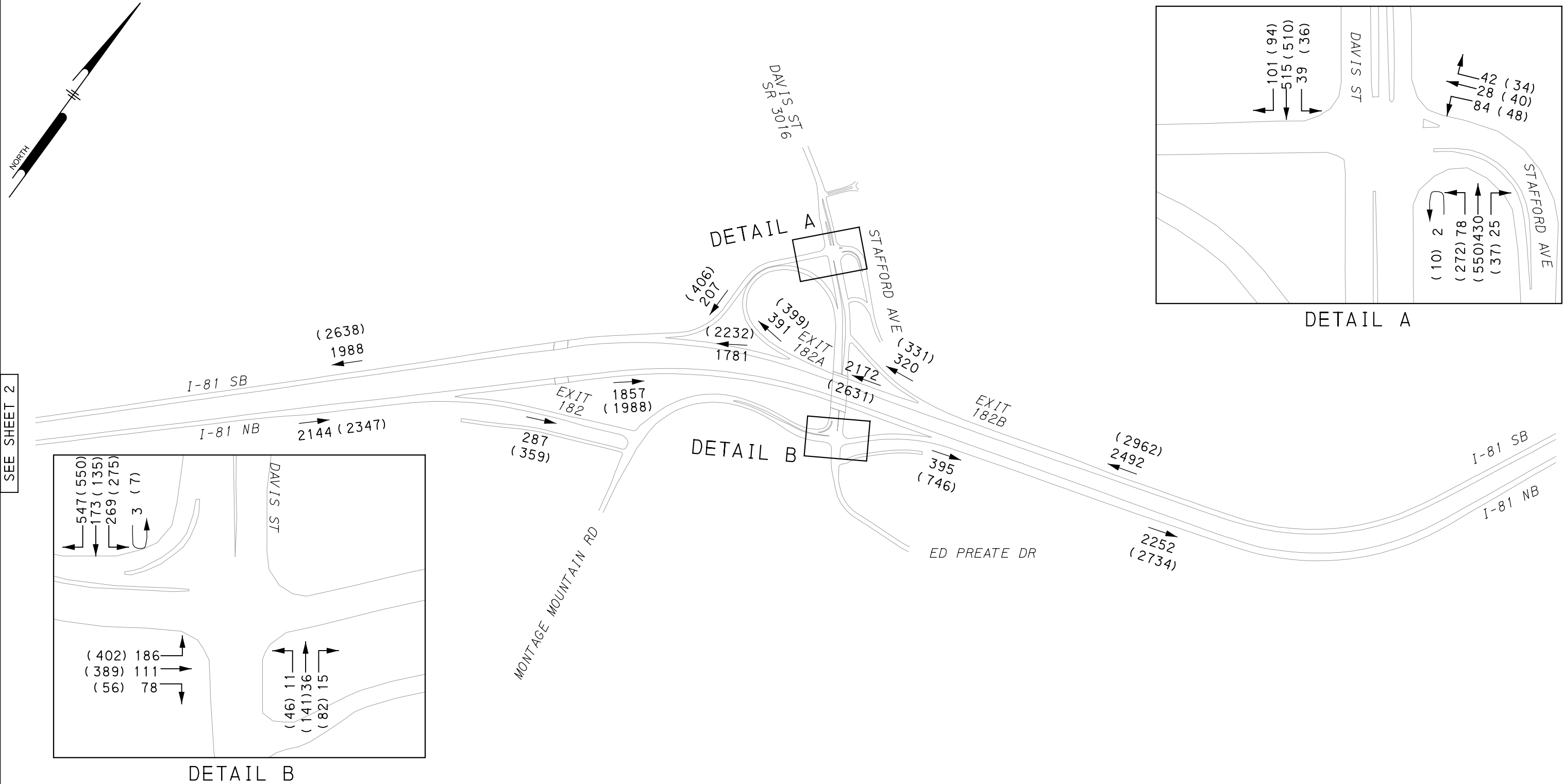
NTS

SHEET 3 OF 8

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PTC WBS No.: A-115.70P001-2

PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

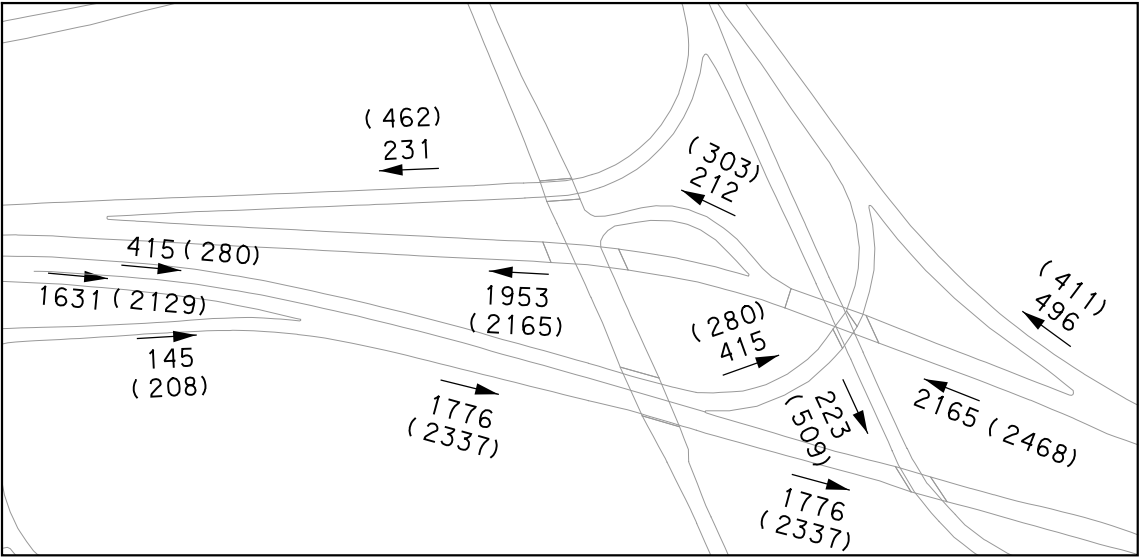
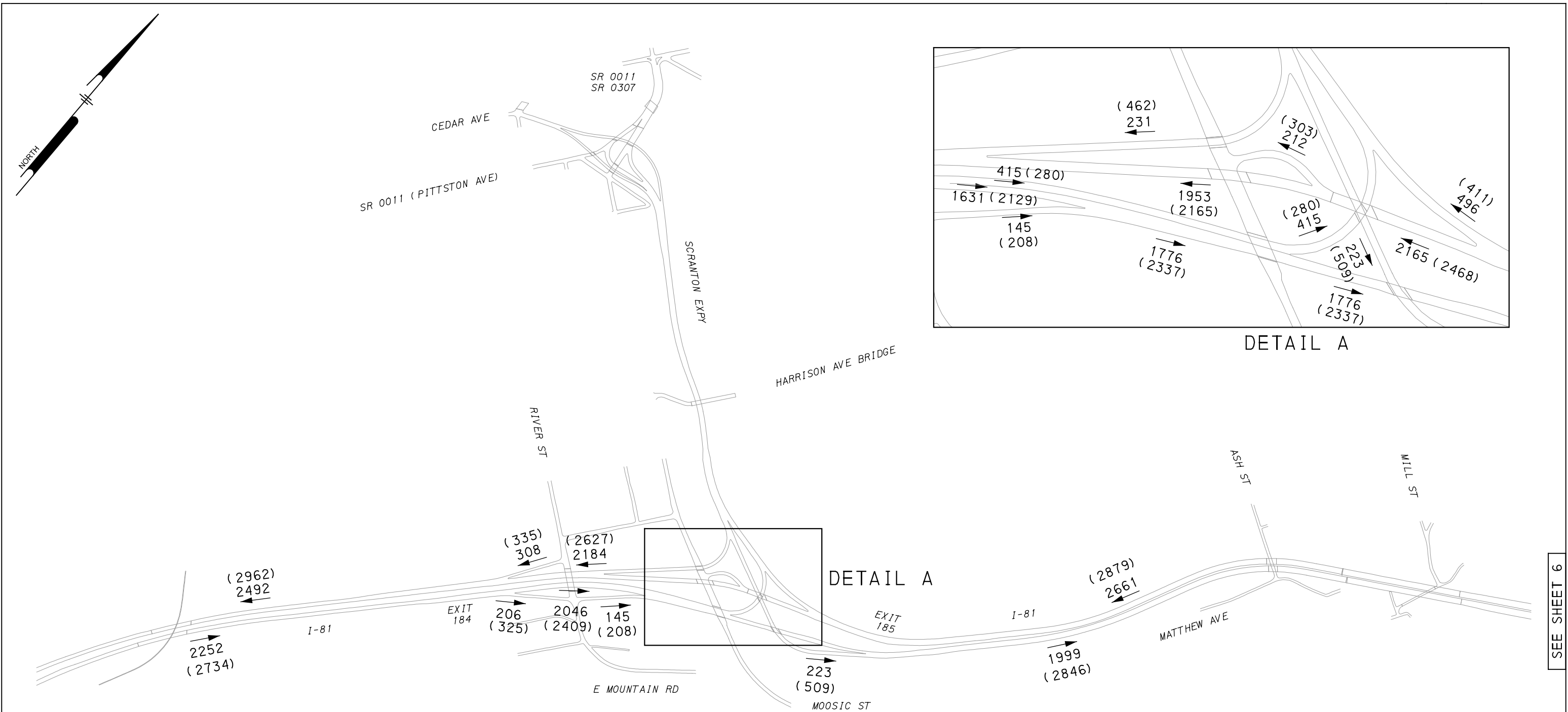
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TITLE: EXISTING (2018) PEAK HOUR
AM (PM)

NTS

SHEET 4 OF 8

\\PENNONI-COM\DATA\ACCOUNTS\URBAN\URBAN1801A - SCRANTON BELTWAY PRELIMINARY ENG\DESIGN\CT\DGN\BORDER.DGN
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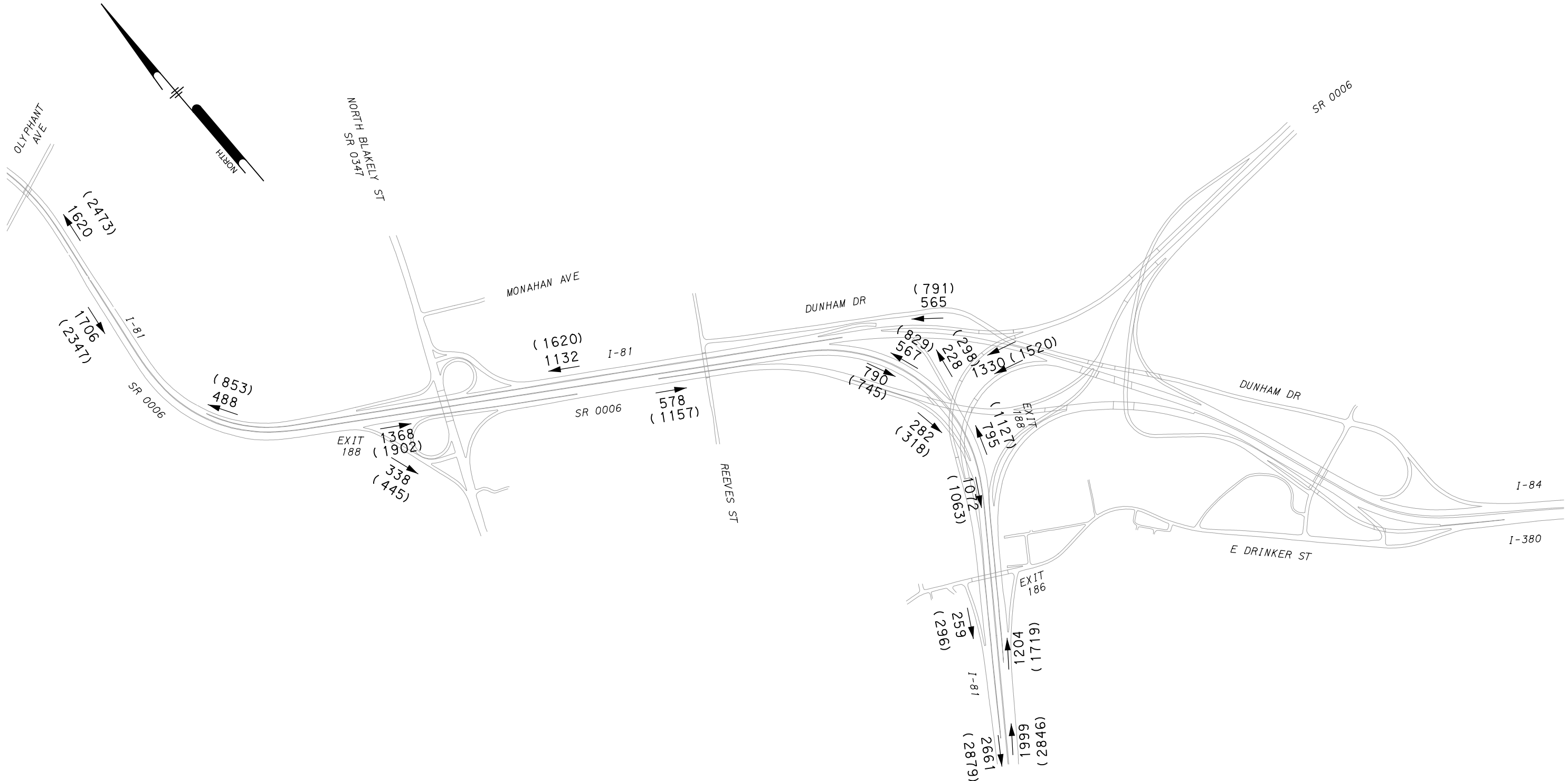
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PTC WBS No.: A-115.70P001-2	
PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: EXISTING (2018) PEAK HOUR AM (PM)	
NTS	SHEET 5 OF 8

SEE SHEET 6

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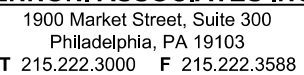
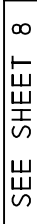


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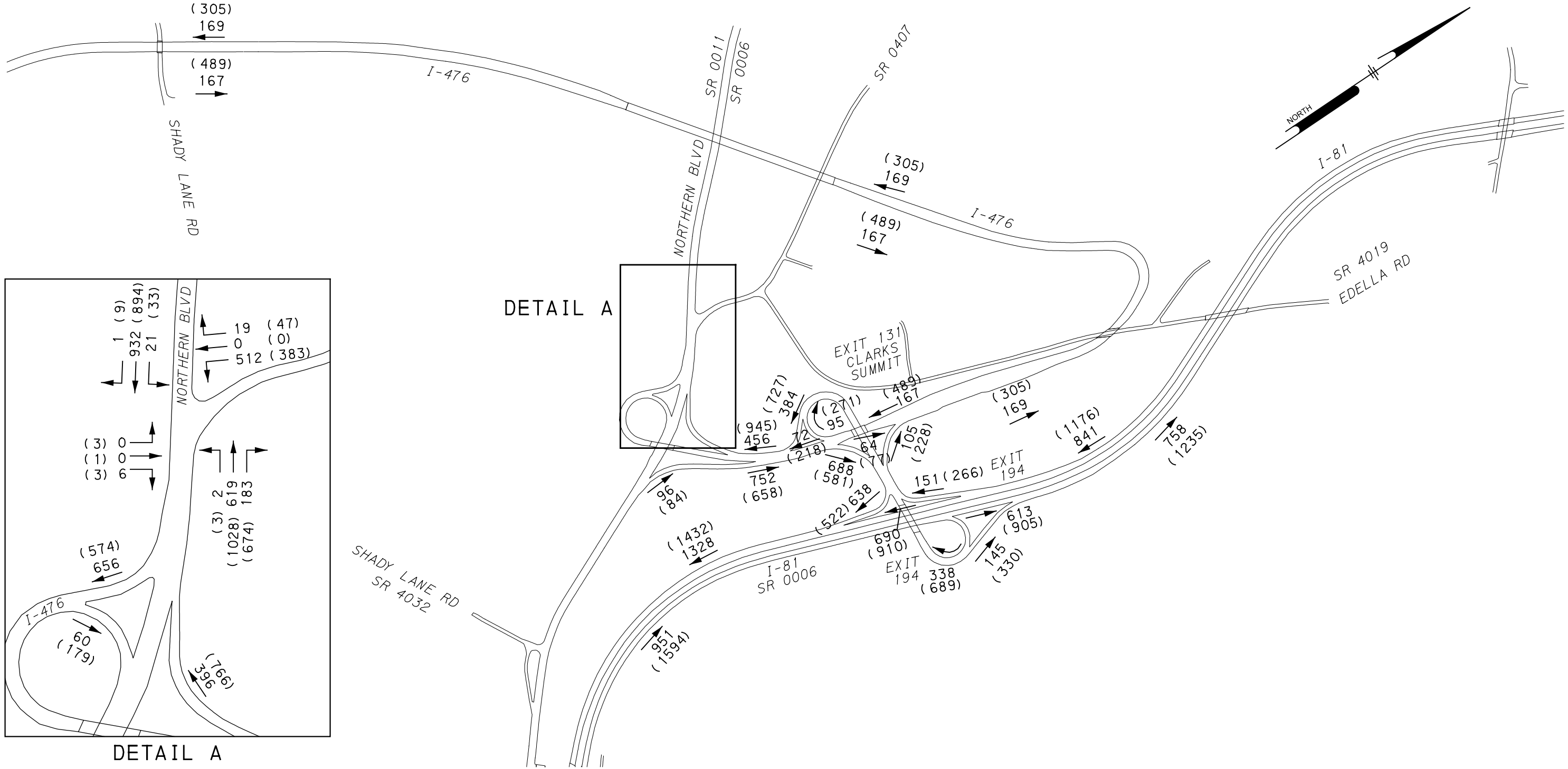
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NTS	SHEET 6 OF 8



SHEET 7 OF 8

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PTC WBS No.: A-115.70P001-2

PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

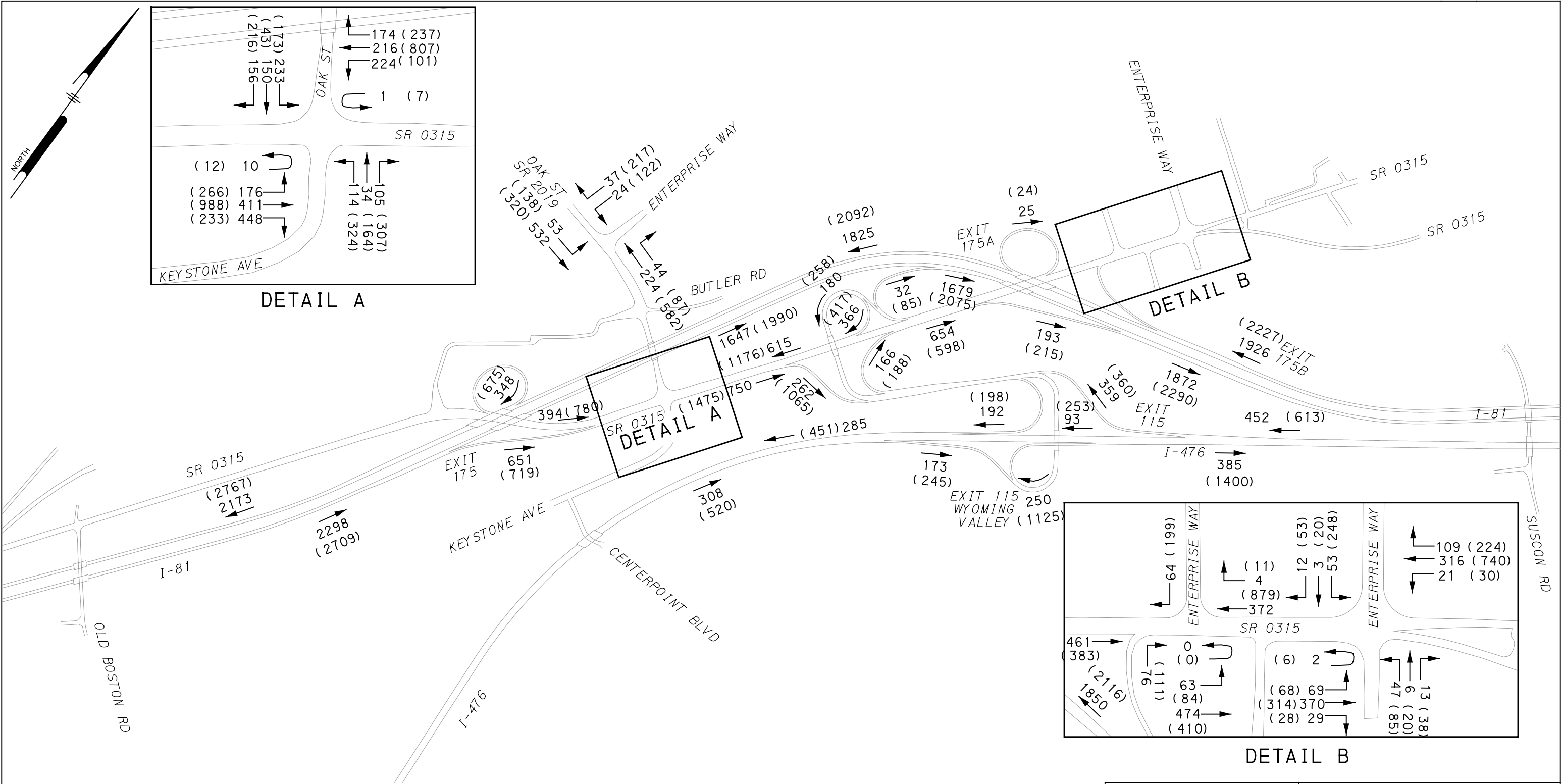
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TITLE: EXISTING (2018) PEAK HOUR
AM (PM)

NTS

SHEET 8 OF 8

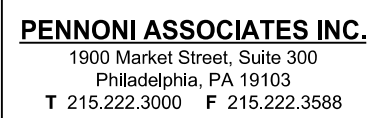
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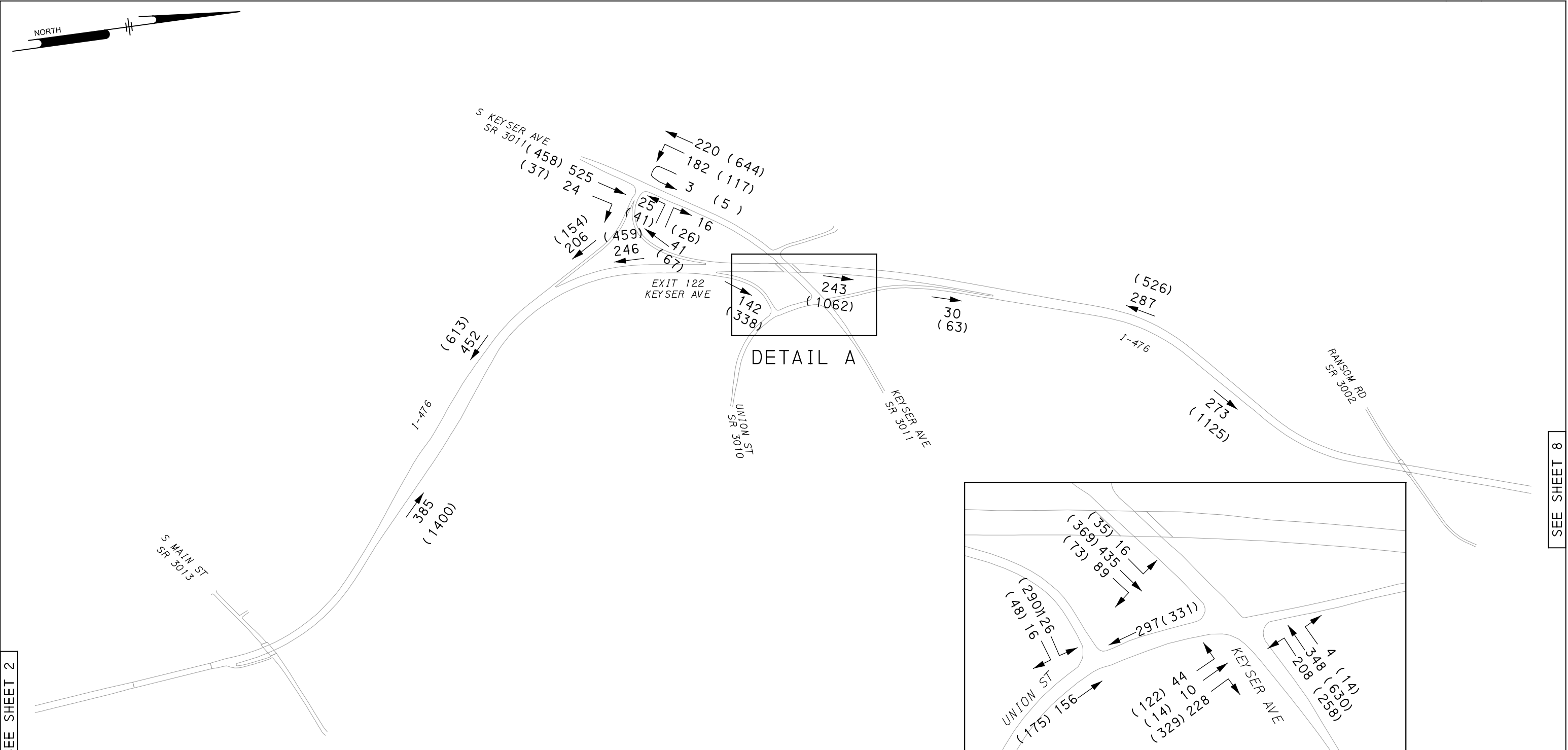
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TITLE: DESIGN YEAR (2045) NO-BUILD PEAK HOUR AM (PM)	
NTS	SHEET 1 OF 8



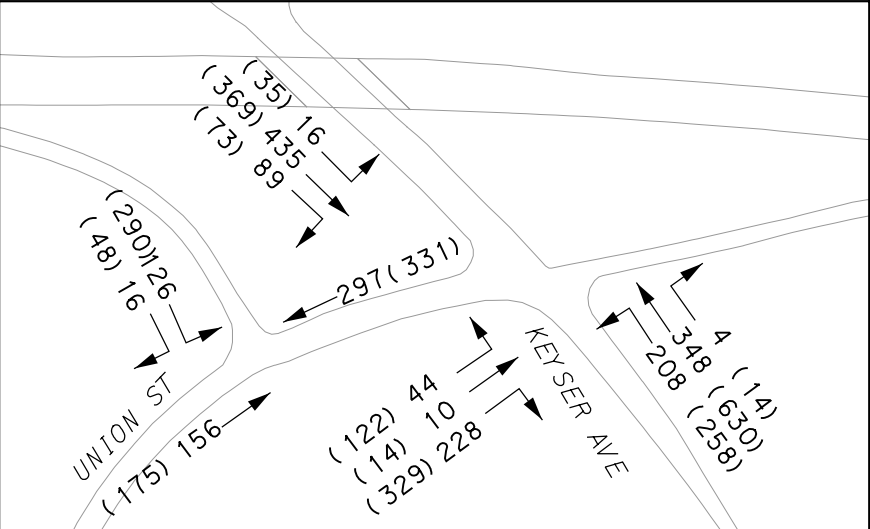
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TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) NO-BUILD PEAK HOUR AM (PM)	
NTS	SHEET 2 OF 8

\\PENNONI-COM\DATA\ACCOUNTS\URBAN\URBAN1801A - SCRANTON BELTWAY PRELIMINARY ENG\DESIGN\CT\DGN\BORDER.DGN
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PTC WBS No.: A-115.70P001-2

PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

TRAFFIC VOLUME DIAGRAM

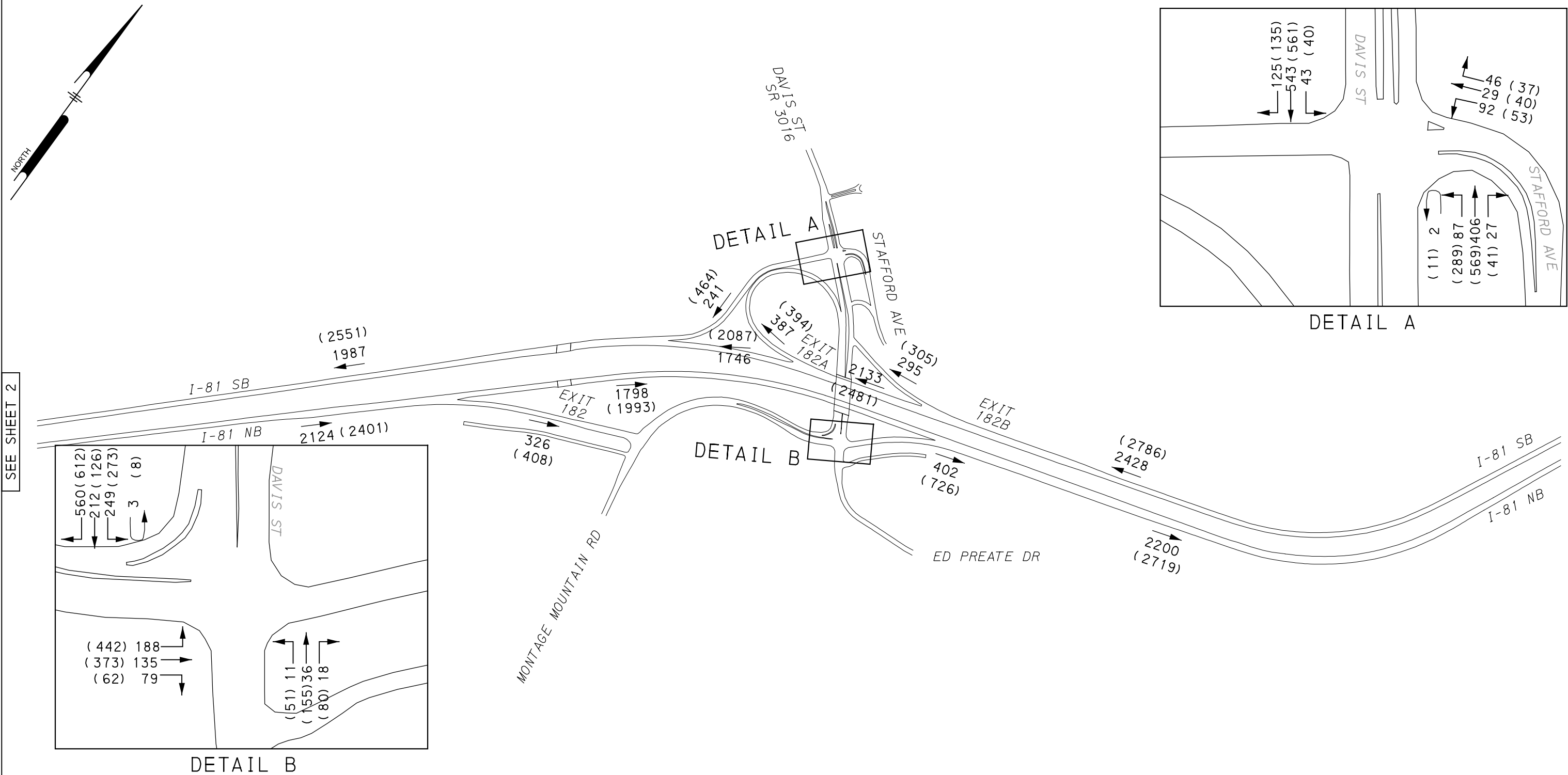
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NO-BUILD PEAK HOUR
AM (PM)

NTS

SHEET 3 OF 8

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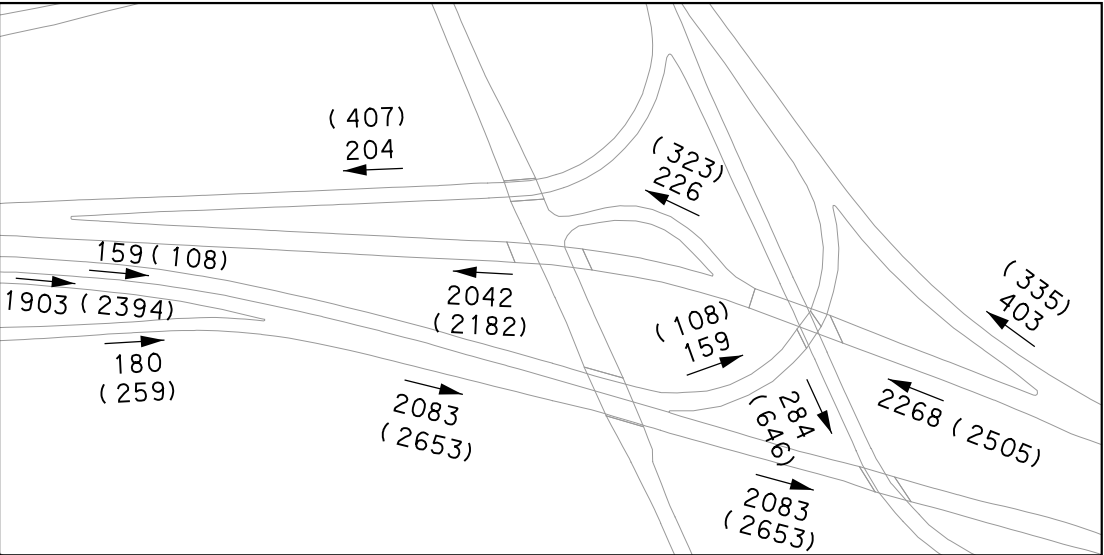
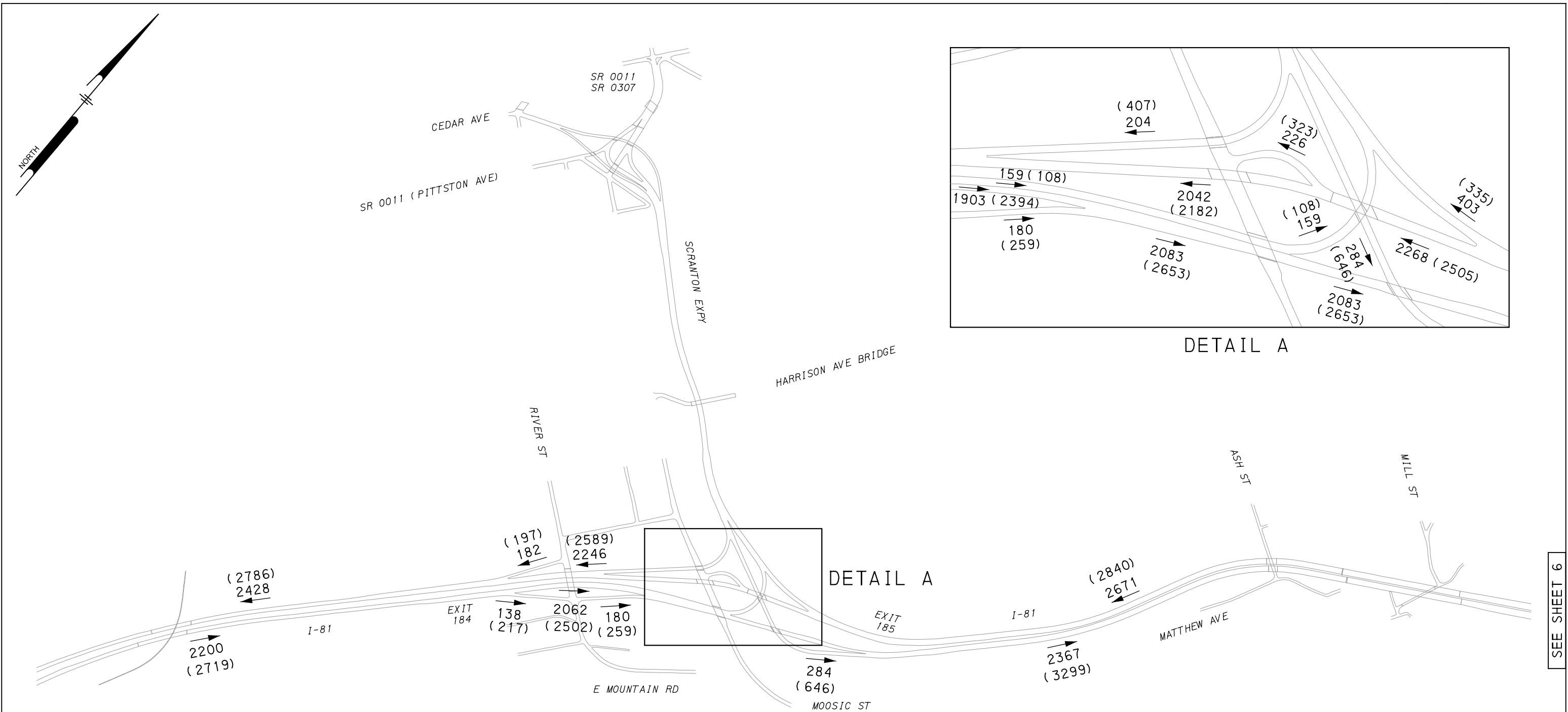


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TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) NO-BUILD PEAK HOUR AM (PM)	
NTS	SHEET 4 OF 8

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DETAIL A

DETAIL A

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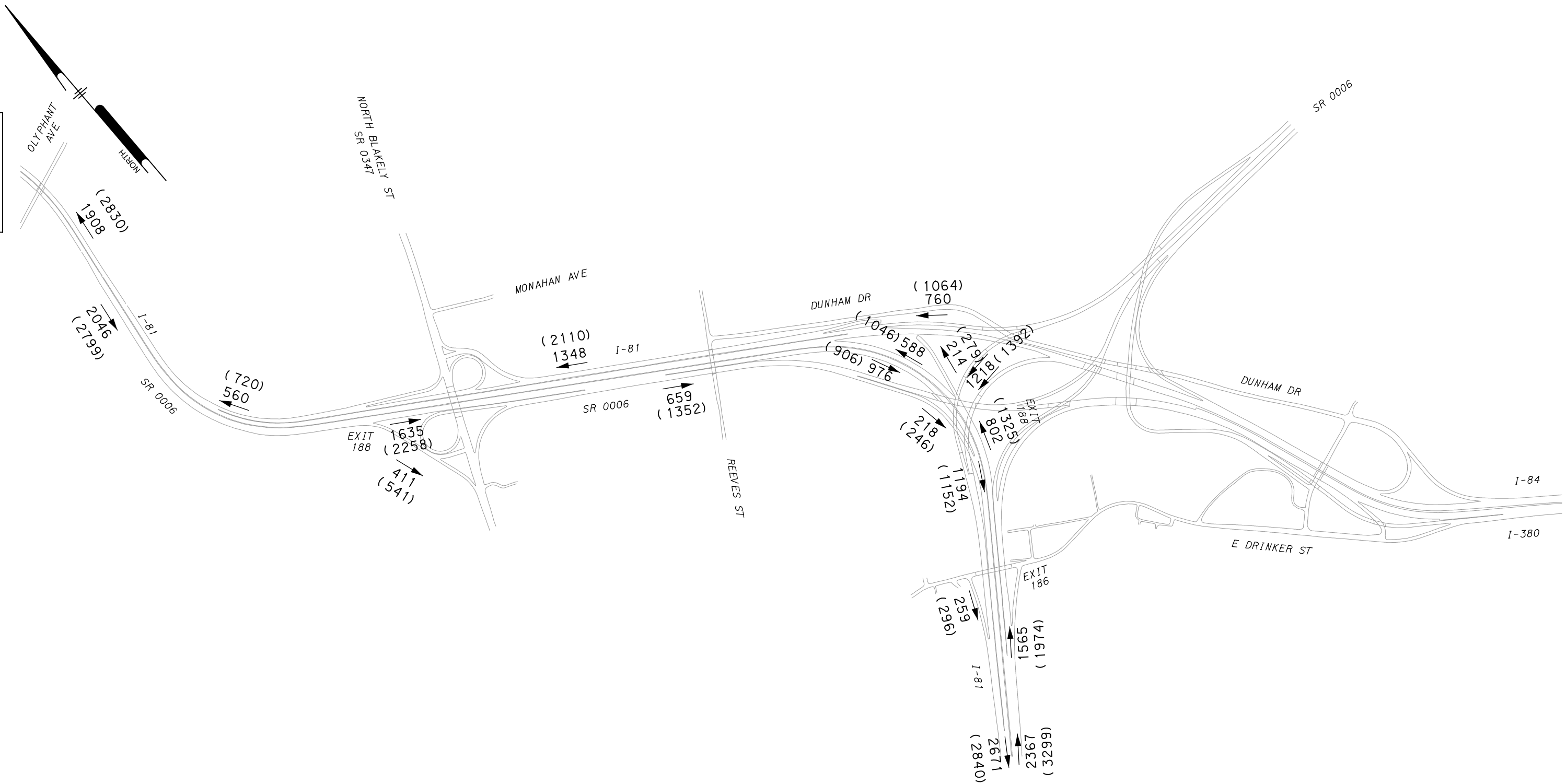
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TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) NO-BUILD PEAK HOUR AM (PM)	
NTS	SHEET 5 OF 8

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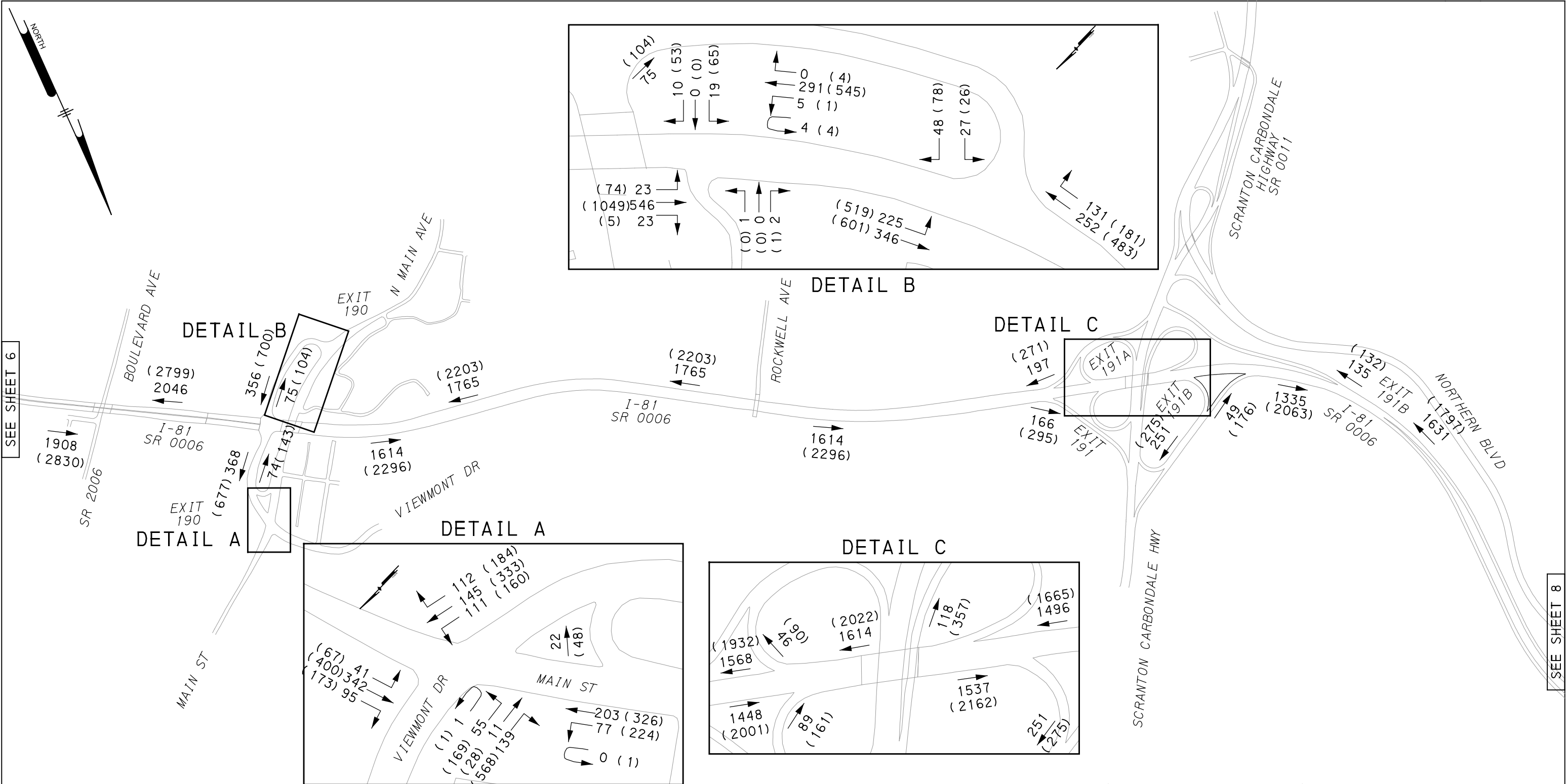


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TRAFFIC VOLUME DIAGRAMS	
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NTS	SHEET 6 OF 8

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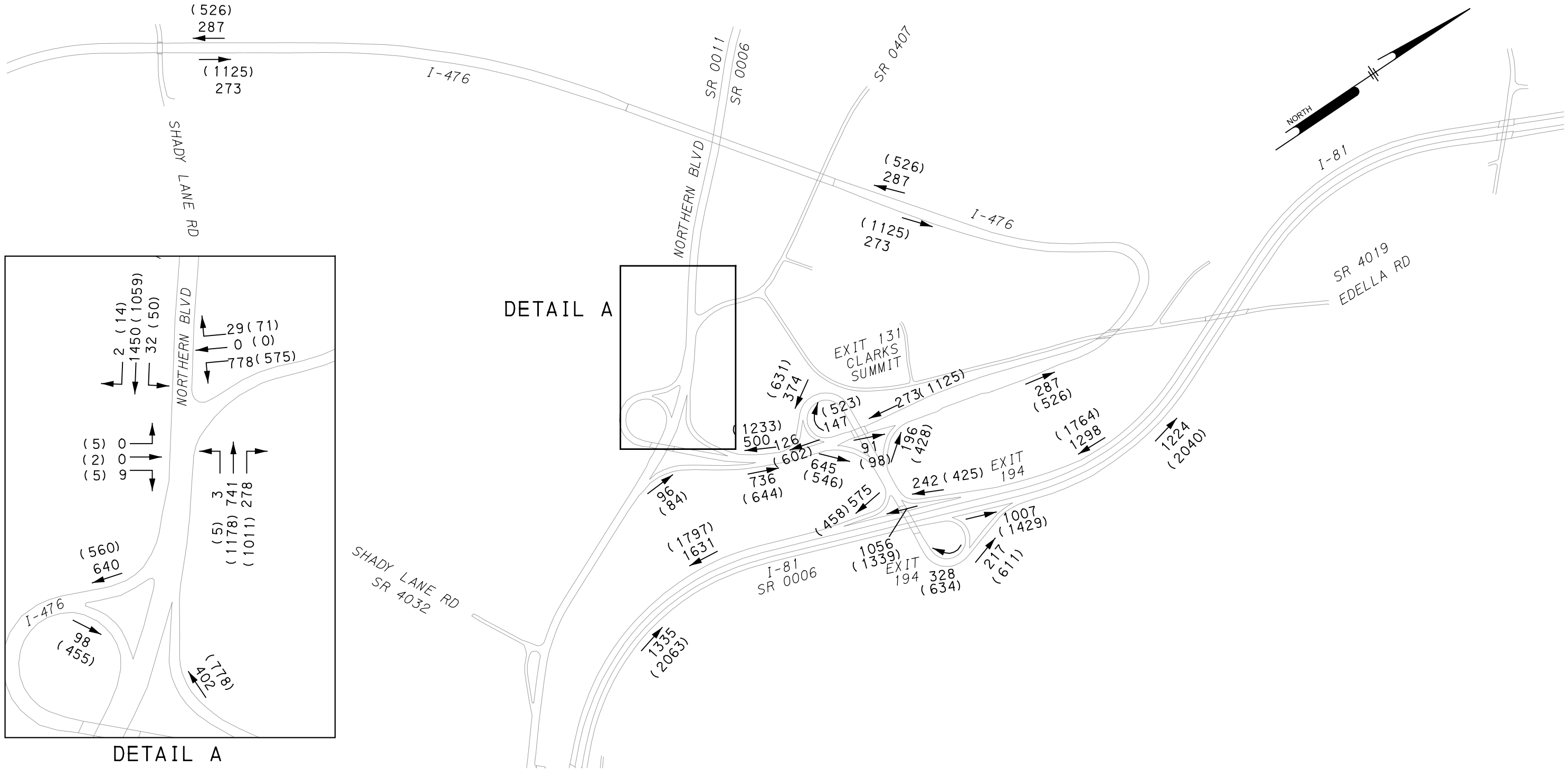
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PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) NO-BUILD PEAK HOUR AM (PM)	
NTS	SHEET 7 OF 8

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PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

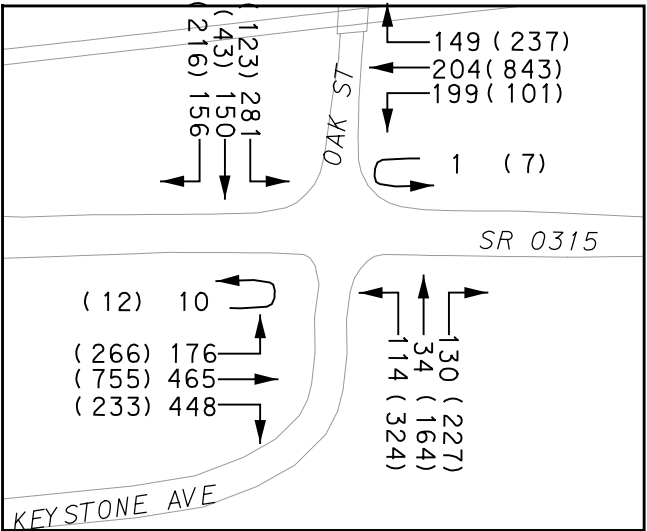
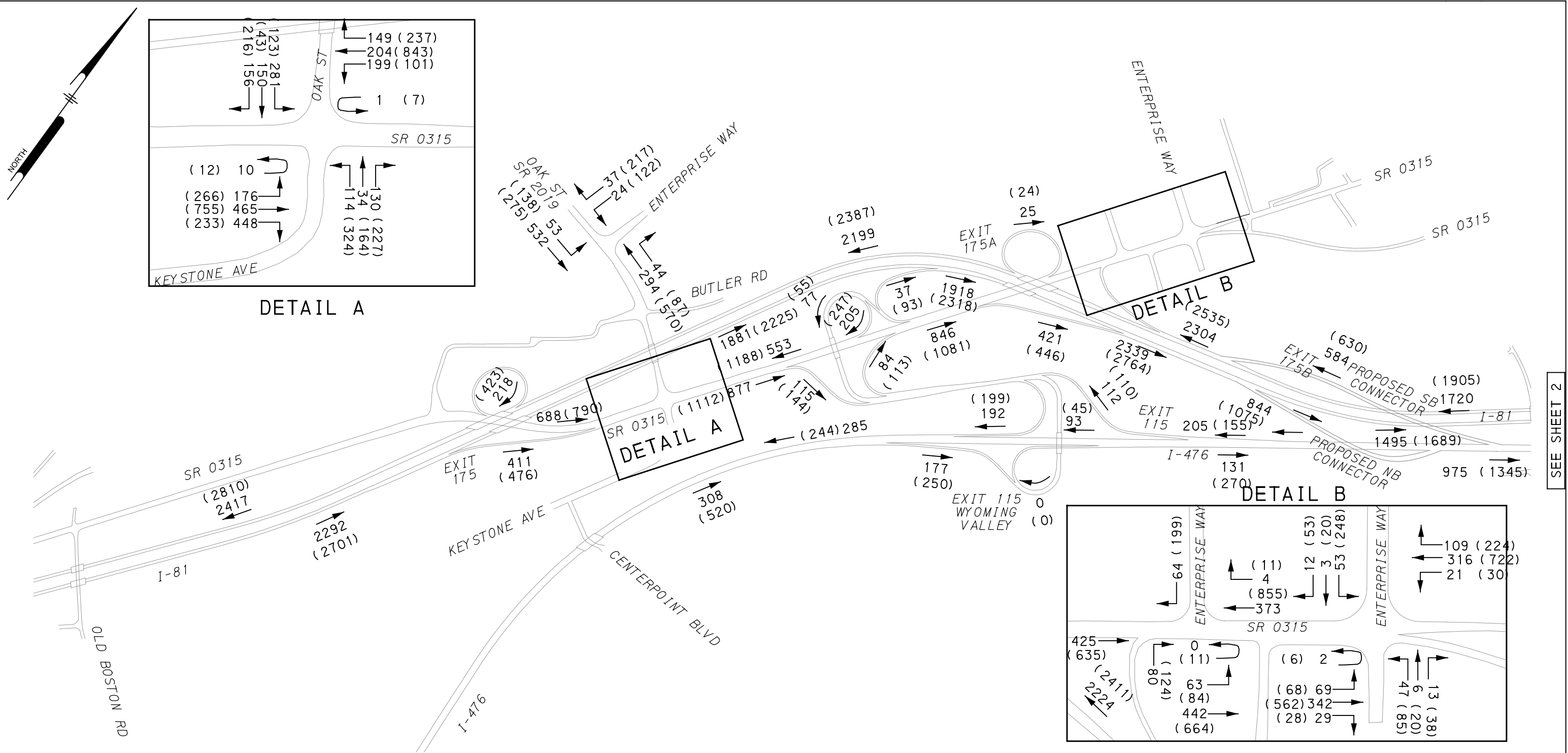
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TITLE: DESIGN YEAR (2045)
NO-BUILD PEAK HOUR
AM (PM)

NTS

SHEET 8 OF 8

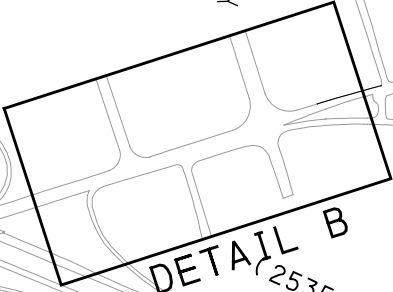
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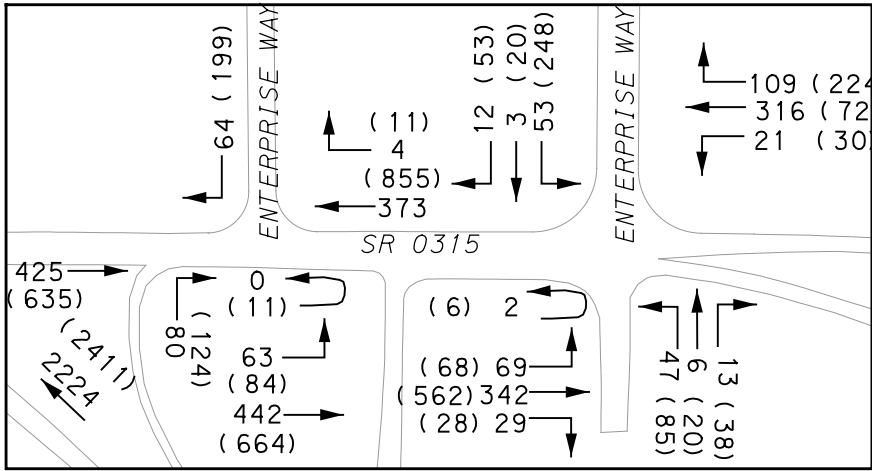
DETAIL A



DETAIL A



DETAIL B



DETAIL B



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PTC WBS No.: A-115.70P001-2

PROJECT: SCRANTON BELTWAY
POINT OF ACCESS STUDY

TRAFFIC VOLUME DIAGRAMS

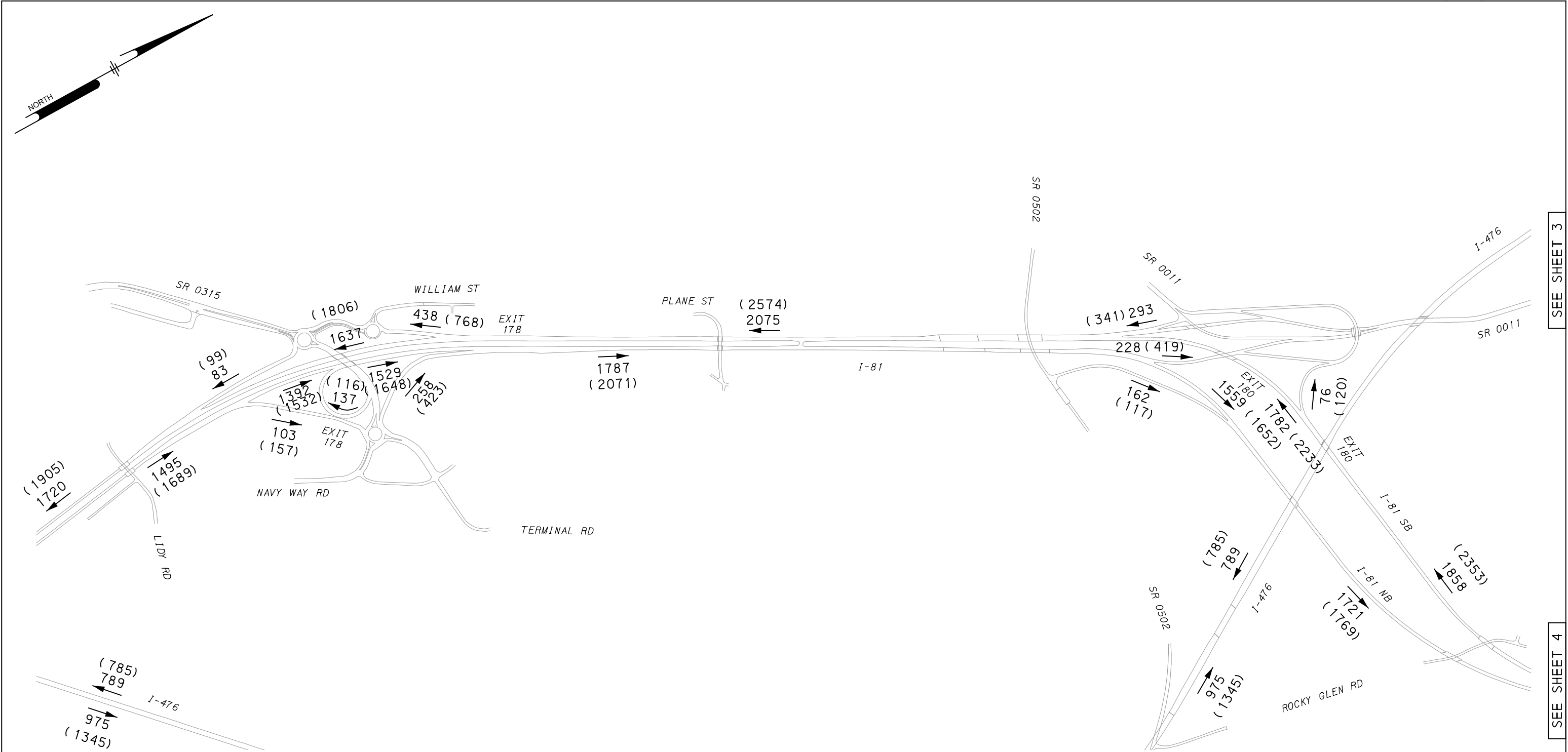
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BUILD PEAK HOUR
AM (PM)

NTS

SHEET 1 OF 8

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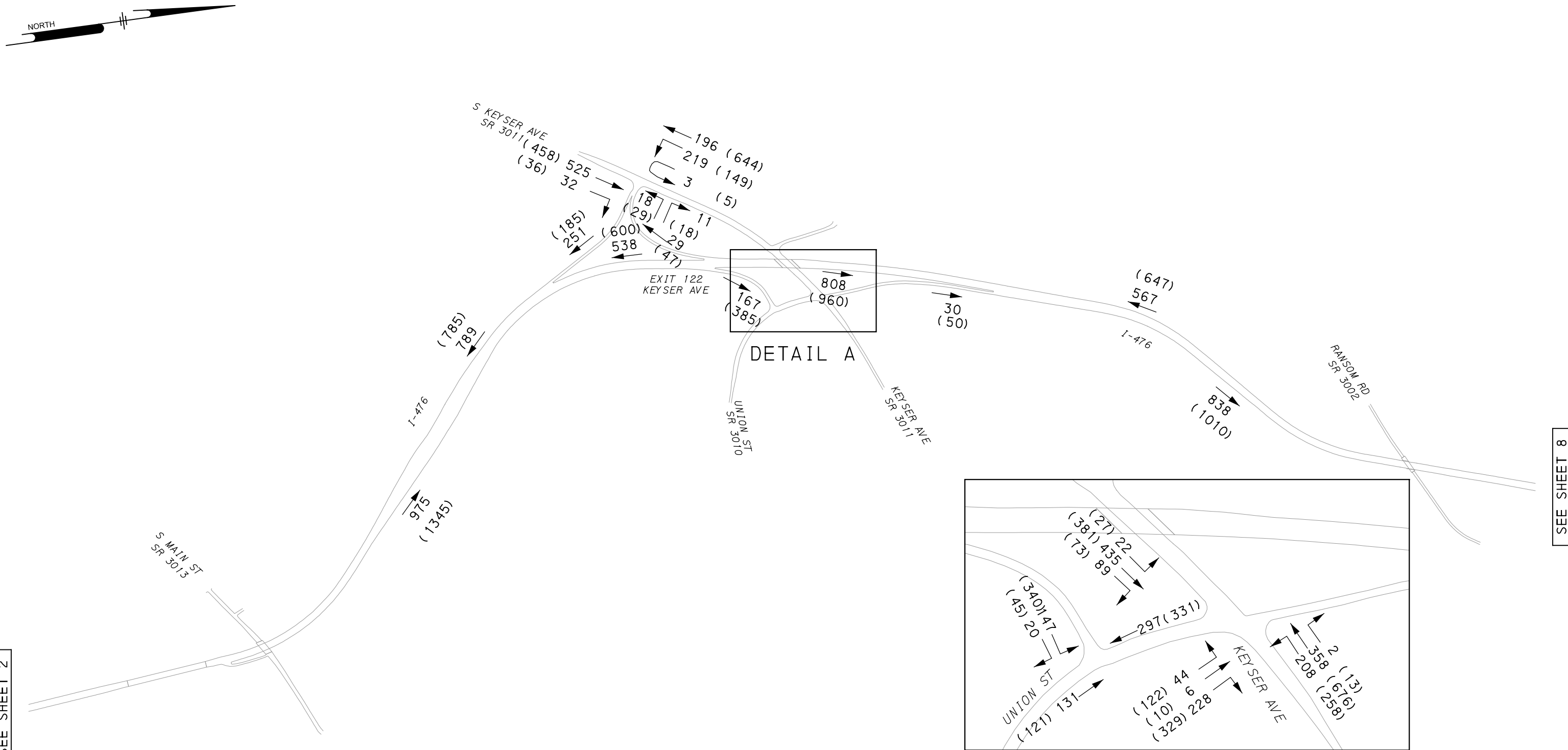
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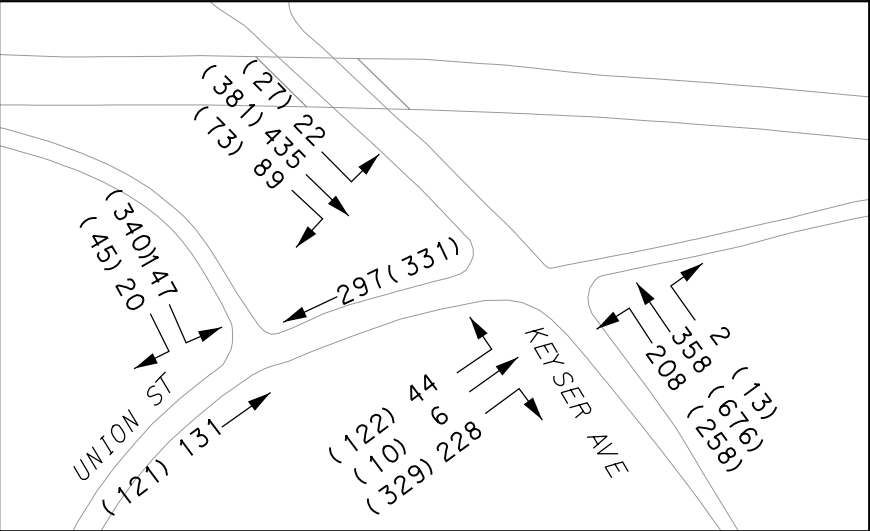
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TRAFFIC VOLUME DIAGRAMS	
TITLE: HORIZON YEAR (2045) BUILD PEAK HOUR AM (PM)	
NTS	SHEET 2 OF 8

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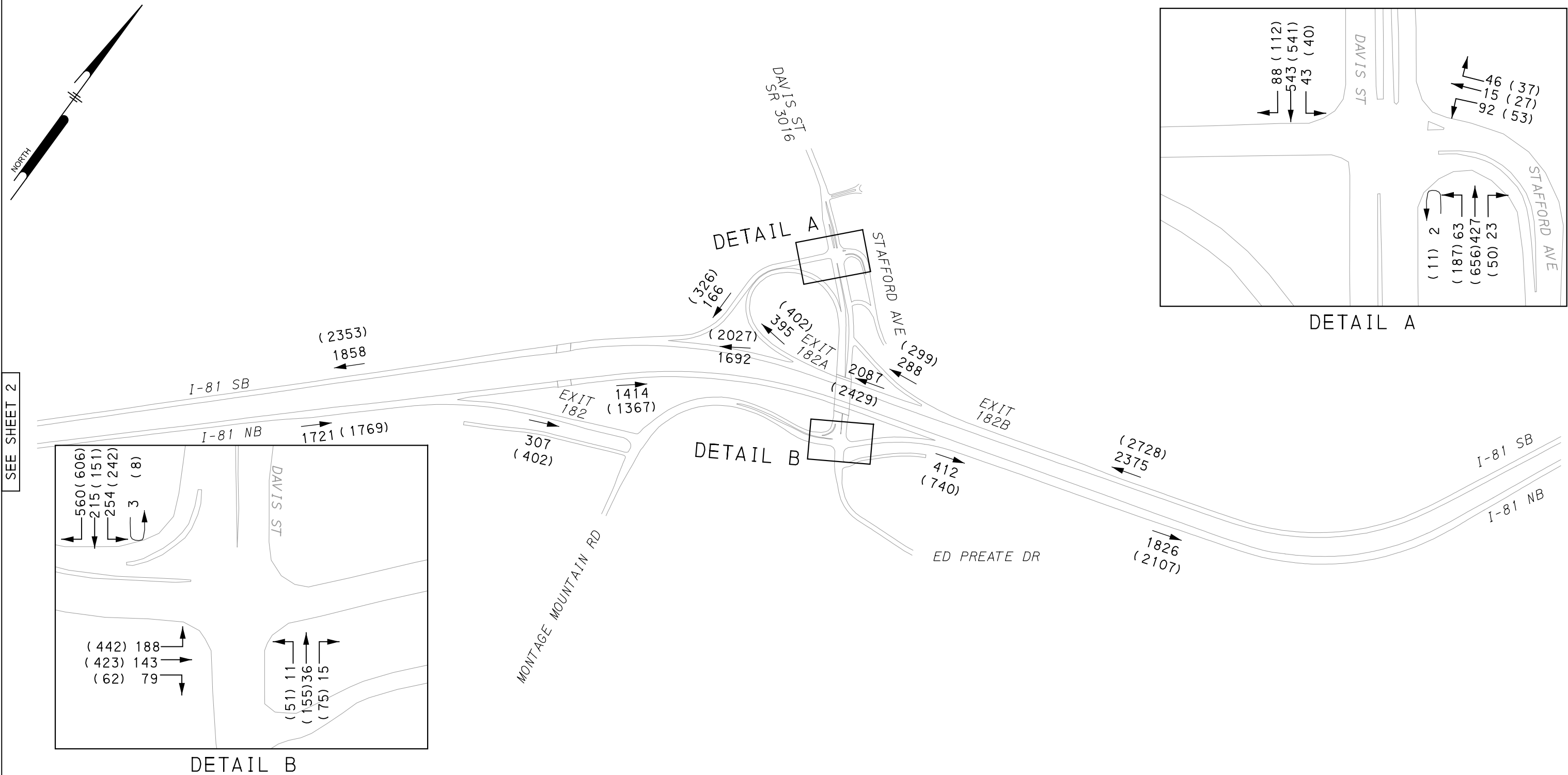


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PTC WBS No.: A-115.70P001-2	
PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) BUILD PEAK HOUR AM (PM)	
NTS	SHEET 3 OF 8

\\PENNONI.COM\DATA\ACCOUNTS\URBAN\URBAN1801A - SCRANTON BELTWAY PRELIMINARY ENG\DESIGN\CT\DGN\BORDER.DGN
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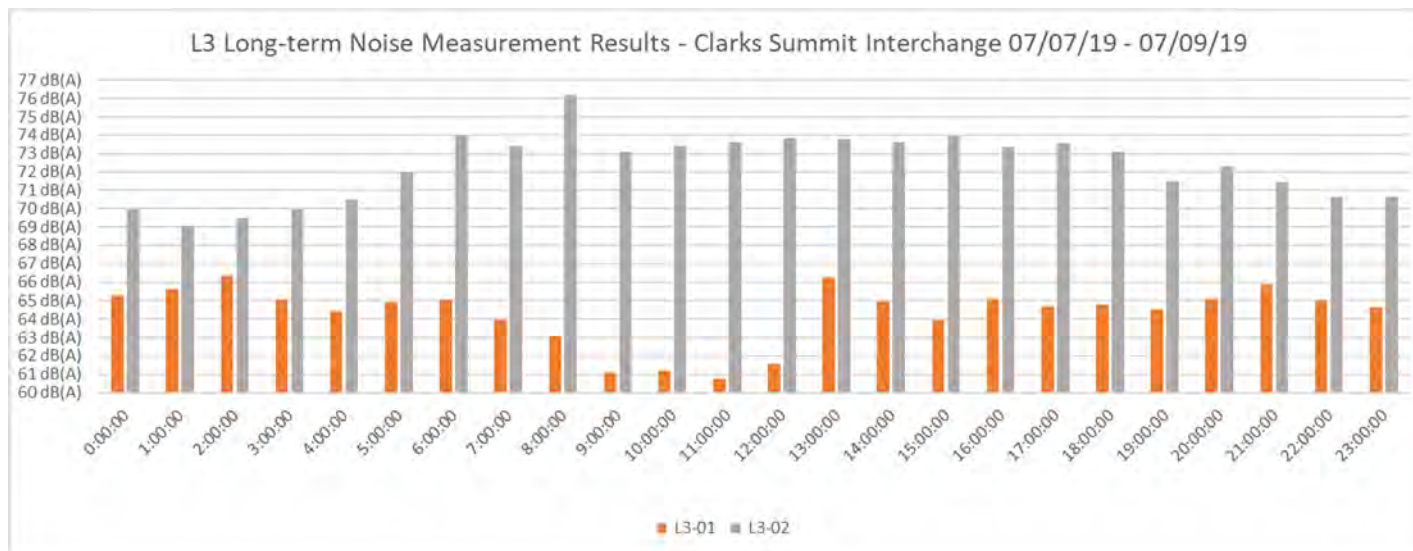
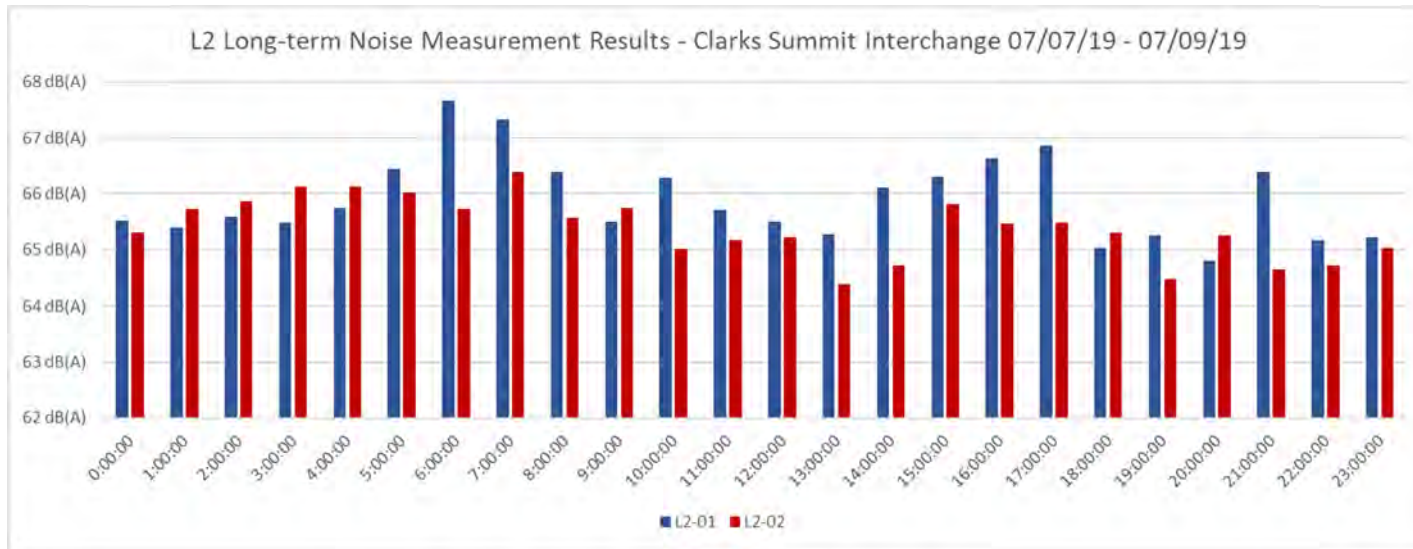


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PTC WBS No.: A-115.70P001-2	
PROJECT: SCRANTON BELTWAY POINT OF ACCESS STUDY	
TRAFFIC VOLUME DIAGRAMS	
TITLE: DESIGN YEAR (2045) BUILD PEAK HOUR AM (PM)	
NTS	SHEET 4 OF 8

Appendix D



Appendix E

List of Preparers

- Ahmed El-Aassar, PhD, P.E., Group Lead
- Adam Alexander, ENV SP, Senior Noise Analyst
- Sondra Peterson, Noise Analyst
- Kevin Brown, Noise Analyst