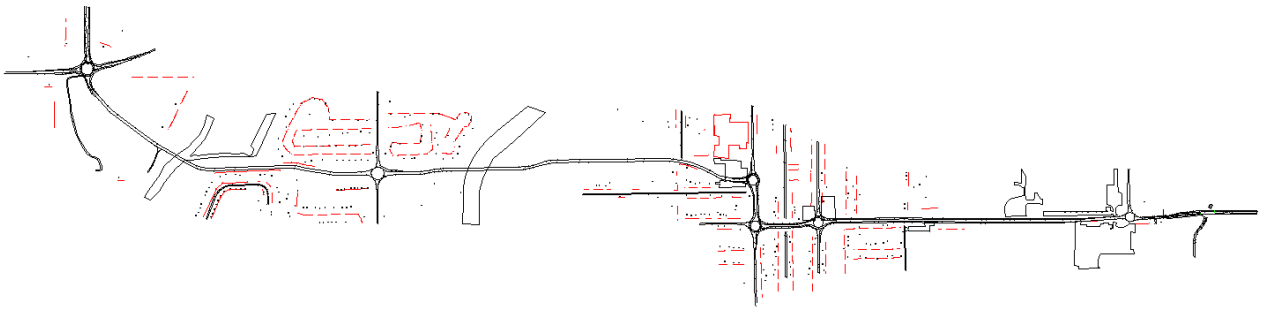
Appendix G

Noise Analysis

NOISE ANALYSIS REPORT

Noblesville E-W Corridor

City of Noblesville
Hamilton County, Indiana



Prepared for the:
City of Noblesville

March 2022

Table of Contents

EXECUTIVE SUMMARY

This analysis was developed with the purpose of identifying noise impacts that would be associated with the proposed Noblesville East-West Corridor project in the City of Noblesville, Hamilton County, Indiana. The primary purpose of the project is to provide an alternate route between S.R. 32 and S.R. 37 to relieve traffic congestion in downtown Noblesville.

The Noblesville East-West Corridor project is broken up into three phases:

- Phase 1 – River Road to 11th Street
- Phase 2 - 11th Street to 19th Street
- Phase 3 - River Road to S.R. 32

Phase 1 will extend Pleasant Street along new alignment from about the intersection of Walnut/8th on the east side to just west of River Road on the west side. This will include a new bridge that passes over the White River. Multi-lane roundabouts will be constructed at the intersections of River Road/ Pleasant, 8th/Relocated Pleasant, 8th/Existing Pleasant, and 10th/Pleasant.

Phase 2 will widen Pleasant Street beginning at 11th Street (tie into Phase 1) and extending east to tie in just west of the roundabout at 19th Street. The typical section features 2-12' lanes in each direction with curbed median or two-way left turn lane.

Phase 3 will connect the western terminus of Phase 1 (just west of the new River Road/Pleasant Street roundabout) to the intersection of Hague Road/S.R. 32. The new intersection at Hague Road/S.R. 32 will be a multi-lane roundabout. A new bridge will be constructed over Cicero Creek.

Although federal funds are not being used for the project, the federal noise analysis process was used as a guide. The proposed project would be considered a Type I project due to construction of roadway on new location, significant changes in horizontal alignment, and increasing the number of through-traffic lanes on the existing roadway.

In accordance with 23 CFR 772 – *Procedures for Abatement of Highway Noise and Construction Noise* and the Indiana Department of Transportation (INDOT) Traffic Noise Policy (2017), existing and future noise levels were determined using the Federal Highway Administration (FHWA) *Traffic Noise Model* (TNM) *Program Version 2.5*.

Based on the studies completed to date, 10 impacted receptors have been identified. Following a barrier feasibility analysis, including engineering and cost considerations, no noise abatement is recommended with the future build condition.

1.0 INTRODUCTION

1.1 PURPOSE OF THE ANALYSIS

The purpose of this noise analysis is to identify, discuss, and evaluate existing and future noise levels associated with the Pleasant Street (B-1 alternative) Noblesville East-West Corridor project in the City of Noblesville, Indiana in accordance with the current Indiana Department of Transportation (INDOT) Traffic Noise Policy (2017).

Since the project is classified as a Type I Project, a noise analysis is required using the Federal Highway Administration's (FHWA) *Traffic Noise Model, Version 2.5* (TNM 2.5). This program generates predicted noise levels at user-defined receptor locations and produces an A-weighted decibel value (dBA) to help identify locations where noise impacts can be expected under future conditions. It is also used to assess noise mitigation measures such as noise barriers.

1.2 PROJECT DESCRIPTION

The purpose of the project is to provide significant volume reduction of S.R. 32 downtown Noblesville traffic, defined as 20% reduction. This will meet the project need by addressing the limited mobility in the City of Noblesville by connecting S.R. 32 to S.R. 37 via improvements and new alignment along Pleasant Street. This will provide an alternate method of east-west travel with the City, improving mobility downtown. The following describes the existing and future conditions:

1.2.1 EXISTING CONDITIONS

Pleasant Street is a 2-lane urban arterial with 12' lanes that has a speed limit of 30 mph from 13th Street to the roundabout at 19th Street on the east side. The speed limit slows to 20 mph west of 13th Street as it passes through denser residential neighborhoods and commercial areas. On the east side of the study area, there is the Hamilton County Fairgrounds and Humane Society of Hamilton County on the south of Pleasant Street, and a commercial strip building on the north side. Following Pleasant towards the west, there is a U-Haul facility on the south side and Noblesville Baptist Church on the north side, just east of 13th Street.

The study area between 5th Street and 13th Street is mostly a residential grid-like neighborhood with 2-lane streets. The IDI Composites plant is located at the corner of Walnut Street and 8th Street. Walnut Street extends west to the Noblesville Wastewater facility. On Pleasant Street, there is one signalized intersection at 10th Street, with stop signs at 8th, 9th, and 11th Streets.

On the west side of the White River are residential neighborhoods that access River Road. Westridge Drive, Doves Court, and Cliff Overlook Road are on the west side of River Road, as well as River Run Place on the east side, are all 2-lane residential streets with a 25 mph speed limit. River Road is a two-lane urban arterial with a 35 mph speed limit and 12' through lanes and acceleration/deceleration lanes to neighborhoods. Also, in between River Road and the White River is an auto parts store and wrecker service.

On the west side of Cicero Creek are homes along Cherry Tree Road, an open field, the Midland Trace Trail, Noblesville Pilgrim Holiness Church, the Mustard Seed event venue, and other residences near the Hague Road/S.R. 32 intersection.

S.R. 32 is a 2-lane road with 12' lanes and 8' paved shoulders with a 45 mph speed limit. Hague Road is a 4-lane divided boulevard with a curbed, grassed median and 45 mph speed limit. The intersection of S.R. 32 (Westfield Road) and Hague Road is signalized, with a 12' left turn lane on the west leg and a 12' right turn lane on the east leg. The east leg also has a paved median that serves to line up the through lanes on S.R. 32 to the other side of the intersection.

1.2.2 PROPOSED IMPROVEMENTS

The Noblesville East-West Corridor project is broken into three phases for construction purposes:

- Phase 1 – River Road to 11th Street
- Phase 2 - 11th Street to 19th Street
- Phase 3 - S.R. 32 and Hague Road to River Road

Phase 1 will extend Pleasant Street along new alignment from about the intersection of Walnut/8th on the east side to just west of River Road on the west side. This will include a new bridge that passes over the White River. Multi-lane roundabouts will be constructed at the intersections of River Road/ Pleasant, 8th/Relocated Pleasant, 8th/Existing Pleasant, and 10th/Pleasant. The typical section is mostly a 2-lane boulevard with 16' lanes and a 10' median, with a new shared use path and sidewalk. The typical section near the roundabouts at 8th Street and 10th Street use 2-12' lanes in each direction with center median and sidewalk.

Phase 2 will widen Pleasant Street beginning at 11th Street (tie into Phase 1) and extending east to tie in just west of the roundabout at 19th Street. The typical section features 2-12' lanes in each direction with curbed median or two-way left turn lane.

Phase 3 will connect the western terminus of Phase 1 (just west of the new River Road/Pleasant Street roundabout) to the intersection of Hague Road/S.R. 32. The new intersection at Hague Road/S.R. 32 is still being considered, however, a multi-lane roundabout was considered for the purposes of this analysis. A new bridge will be constructed over Cicero Creek. The typical section for the Pleasant Street extension features one 16' lane in each direction and a 10' median with curb and gutter. A 12' multi-use path will run parallel along the new road on the north side. MSE walls approximately 600' long will be used on the north and south side of the roadway just east of Cicero Creek.

2.0 METHODOLOGY AND ASSUMPTIONS

An existing noise model was developed using TNM 2.5 in accordance with the INDOT Traffic Noise Analysis Procedure (2017). Future noise levels were then predicted using future build conditions for the design year 2045.

2.1 DATA COLLECTION SITES

To gather data needed for the existing model, field work was performed at eight different sites in the project area, summarized in Table 2-1 below. The location of the data collection sites is shown in Appendix A.

Table 2-1: Data Collection Sites

Site	Description
1	Southwest corner of S.R. 32 / Hague Road intersection on trail
2	North of Cliff Overlook Road, in between 340 and 342 Cliff Overlook Road
3	Southwest corner of River Road / Westridge S. Drive
4	West of S. 5th Street, across from Mulberry Street
5	Southwest corner of S. 8th Street / Walnut Street (Chapel Church)
6	Northwest corner of Pleasant Street / S. 10th Street (Dairy Queen parking lot)
7	South of Pleasant Street, approximately 500' west of S. 16th Street
8	South of Pleasant Street, approximately 450' west of Clover Drive (Hamilton County Fairgrounds)

Noise measurements took place on December 15, 2020 between 12:57 pm and 5:39 pm. Additional measurements were conducted on April 16, 2021 between 11:39 am and 4:16 pm at a few of the sites.

At each site, existing equivalent noise levels (Leq) were measured in decibels (dBA) using a noise dosimeter. The first measurements used a noise dosimeter manufactured by IE Monitoring Instruments calibrated at 113.9 dB. The second measurements used a noise dosimeter manufactured by Quest Technologies (NoisePro DLX) and calibrated at 114.0 dB. Each measurement was taken for a 15-minute period until a Leq was established. Before each measurement, the dosimeter was calibrated and recordings of the relative humidity, temperature, and wind speed were taken. Traffic counts were performed simultaneously within the 15-minute period using a traffic counter for use in TNM 2.5. Documentation of the data collection can be found in Appendix E.1 (Field Measurements) and Appendix F (Traffic Counts).

2.2 TRAFFIC VOLUMES

Existing traffic volumes were determined from the traffic counts performed in data collection for the road segments adjacent to the measurement location. The volume associated with the noisiest measured peak hour for the 15-minute interval was extrapolated to an hourly volume (multiplied by four) for input into the model. Volumes for roadway segments not directly measured along with the

noise measurements were taken from the 2018 Corridor Study for S.R. 32 and Pleasant Street (prepared by A&F Engineering and provided by Structurepoint). These volumes were used in the existing model for the purpose of validation.

Future traffic volumes (Year 2045) were determined using the 2018 Corridor Study and an additional figure provided by Structurepoint showing peak hour traffic turning movement volumes at the future new roundabouts at River Road, 8th Street, and 10th Street. These volumes were input into TNM 2.5 along with anticipated vehicular speeds. Additionally, truck percentages from the 2018 Corridor Study for the future condition were used and applied to the model.

See Appendix C for Traffic Data Input Table, which contains the existing and proposed traffic data used to develop the noise model.

There were assumptions made when handling traffic data, which are listed below:

- Design Hourly Volumes (DHV) used in the model for multi-lane roadways were generally assumed to be split evenly by lane.
- The modeling of noise impacts for the future condition was completed using PM peak design hourly volumes, as they are the higher volumes of traffic.

2.3 ROADWAY DATA

Aerial imagery and Geographic Information System (GIS) shapes were downloaded from the Hamilton County GIS website to model roadways, buildings, rivers, and other terrain features. Topographic survey supplied by Structurepoint was primarily used to lay out existing roadway segments and populate elevation data. Lidar data was also obtained from OpenTopography (https://portal.opentopography.org/datasets) to enter elevation data for points outside of the field survey.

Proposed roadway CAD files were used to trace each individual travel lane for import into TNM 2.5. Because the Pleasant Street reconstruction project in its entirety is broken into 3 phases, some sections of the project are further along in design development than others.

The PFC plans for Phase 1 (prepared by Structurepoint) were used to determine proposed roadway elevations for that section. For Phase 2 (11th Street to 19th Street), a preliminary profile prepared by BF&S was used. For Phase 3 (S.R. 32 to River Road), a preliminary profile developed by Structurepoint and A&F was used.

2.4 MODEL VALIDATION

To validate the existing noise model, the equivalent noise levels calculated within TNM 2.5 for each site must be within 3 dBA of the equivalent noise levels measured in the field as per the INDOT Traffic Noise Policy Procedure (2017). Table 2-2 summarizes the results of the existing model in relation to the measurements in the field:

Table 2-2: TNM 2.5 Existing Model Validation

Site	Measured LeQ (dBA)	Calculated LeQ (dBA)	Difference (dBA)	Result	Measurement Date Used
1	78.2	73.7	-4.5	Not Valid (See Notes Below)	4/16/21
2	52.1	N/A	N/A	N/A	12/15/20
3	66.9	65.6	-1.3	Valid	12/15/20
4	65.5	N/A	N/A	N/A	12/15/20
5	71.5	70.5	-1.0	Valid	4/16/21
6	64.1	66.4	+2.3	Valid	12/15/20
7	62.7	62.4	-0.3	Valid	12/15/20
8	67.1	64.5	-2.6	Valid	12/15/20

Notes:

- Sites 2 and 4 were not within 800 feet of a dominant roadway noise source, therefore validation is not required at those sites. The noise levels recorded were used to represent the existing ambient noise levels at the respective sites.
- Sites 3, 6, 7, and 8 were within the required 3 dB between the measured and calculated values based on the measurements taken on 12/15/20.
- Sites 1 and 5 could not be validated based on the difference between the 12/15/20 measurements and calculated values, which prompted further measurements on 4/16/21.
- Site 5 was within the required 3 dB between measured and calculated based on the measurements on 4/16/21.
- Site 1 could not be validated due to the constraints presented at the measurement site. There is a steep drop-off in terrain on the south side of S.R. 32, which forced the measurement location to be on the bike path directly beside the road. The limitations of TNM 2.5 cannot take into account the exact terrain conditions of the site, since the model considers the topography flat in close proximity.

TNM 2.5 results are shown in Appendix E.2.

3.0 IMPACT ANALYSIS

3.1 NOISE ABATEMENT CRITERIA

The FHWA Noise Abatement Criteria (NAC) was used to determine the thresholds for acceptable noise levels (shown in Table 3-1 below). In the analysis, a noise impact was defined as any receptor with a noise level that is within 1 dBA of the Activity Leq in Table 3-1 (as per the INDOT approach). An increase in noise levels for which the future noise levels exceed the existing noise levels by 15.0 dBA as predicted by TNM 2.5 is considered a substantial noise increase.

Table 3-1: FHWA NAC Land Uses

Activity Category	Activity Leq(h)	Evaluation Location	Activity Description
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[1]	67	Exterior	Residential.
C[1]	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[1]	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.

[1]Includes undeveloped lands permitted for this activity category.

Per INDOT's Traffic Noise Analysis Procedure, receptors are considered benefited if they receive a minimum reduction of 5 dBA in future noise levels. The noise reduction design goal is to provide a noise reduction of 7 dBA or greater to the majority (greater than 50%) of the benefited first row receptors.

3.2 LOCATION AND DESCRIPTION OF RECEIVERS

Once the existing model was completed, a proposed model was created and 481 additional receivers were added to the model, all of which represent land uses that lie within 500' of the proposed edge of pavement. Each receiver was assigned a receiver number, starting with Receiver 1 at the far northwest end of the project (S.R. 32 / Hague Road intersection) and increasing from west to east to the far east side of the project near 19th Street.

Receivers 1 through 18 are located west of Cicero Creek and are primarily residences (NAC Category B, Residence). There is also Mustard Seed Gardens (NAC Category C, event venue), Noblesville Pilgrim Holiness Church (NAC Category C, place of worship), and Pathways of Healing (NAC Category C, counseling center).

Receivers 19 through 229 are located between Cicero Creek and the White River, centered around River Road. These are primarily residences (NAC Category B, Residence). Within this group of receivers is the Westbrook Village Mobile Home Park as well as residences on Doves Court, Westridge South Drive, Westridge Circle, Westridge North Drive, River Road, Watermead Drive, River Run Place, Dalton Court, and Trailview Circle (NAC Category B, Residence). There is a small park on the corner of River Road and River Run Place (NAC Category C, Park) and a wrecker service between River Road and the White River (NAC Category F, industrial).

Receivers 230 through 458 are located between the White River and the eastern terminus of the project at the 19th Street roundabout. The vast majority of these receivers are residential (NAC Category B) with addresses on 2nd Street, Walnut Street, 4th Street, Division Street, 5th Street, Mulberry Street, 6th Street, 8th Street, Vine Street, Pleasant Street, Washington Street, Plum Street, 9th Street, 10th Street, 11th Street, 12th Street, and 13th Street.

Other land uses of note within Receivers 230-458 include the Noblesville Wastewater facility (NAC Category E, industrial), IDI Composites (NAC Category E, industrial), restaurants (Firehouse Pizza, El Camino Real Noblesville, Dairy Queen – NAC Category E, restaurants), Pleasant View Baptist Church (NAC Category C, place of worship), Noblesville Baptist Church (NAC Category C, place of worship), Simple Engine & Machine, U-Haul, Noblesville Building Corporation, United States Postal Service, and the Hamilton County Fairgrounds (NAC Category E, properties not in A-D or F).

Appendix B summarizes the additional receivers used in the model as well as the results of the noise analysis.

3.3 RECEPTOR CALCULATIONS

Under most situations, a single structure is considered a single receptor (per the INDOT Noise Policy). Structures that contain multiple units such as apartments are considered to have one receptor per residential unit. Other land uses such as parks, trails, and other public spaces require a calculation of receptors represented based on the algorithm provided in the INDOT Noise Policy. No user data was able to be found for the spaces, so the daily users were estimated based on population, accessibility, size of the space, and balancing out peak and non-peak periods over the year. Below are the calculations for the public land uses that fall within the project area:

Midland Trace Trail – Receivers 10A, 10B, 10C, 10D, and 10E

[(500 users per day) / 2.52 people on average per family] X [1,170' of trail within 500 feet / 28,820' length of the 5.46-mile length] = 4.39 receptors (5 when rounded up)

Playground at corner of River Road and River Run Place – Receivers 180A and 180B

(50 users per day / 2.52 people) = 19.84 receptors (20 when rounded up) – Divided into two receiver locations (Basketball court and playground); 10 receptors each

Hamilton County Fairgrounds – Receiver 458

(500 users per day / 2.52 people) X (9.86 acres / 40.63 acres) = 48.10 receptors (49 when rounded up)

3.4 DESCRIPTION OF NOISE LEVELS FOR FUTURE CONDITION

The results of the noise analysis for the future condition identified 10 receptors that would be impacted by the project. Overall, and as expected, noise levels generally increased due to the new construction. This is particularly true of the area west of the White River, where there is new alignment and thus a new noise generator. No receptors see a substantial increase in noise levels (+15 dBA from existing to future levels).

Because the common noise environments near Sites 2 (Cliff Overlook Road) and 4 (5th Street and Mulberry Street) were not in proximity (within 800') to any significant sources of roadway noise, the ambient measurements taken in the field were used for existing noise levels. Therefore, for Receptors 19-230, if TNM 2.5 produced existing noise levels below the measurement for Site 2, the measurement was used (52.1 dBA). Similarly, for Receptors 233-278, if TNM 2.5 produced existing noise levels below the measurement for Site 4, the measurement was used (65.5 dBA).

It should be noted that due to using the ambient measurement as the existing noise levels for receptors near Site 4, the future noise model results show a decrease in noise levels between future and existing for several receptors in the area (Receptors 230-279, with exception of Receptor 265). This is because the future noise model is modeling strictly vehicular noise sources and none of the other noise sources present in the actual condition, such as the nearby IDI Composites facility or the Noblesville Wastewater facility. These noise sources cannot be modeled in TNM 2.5.

Table 3-2 on the next page summarizes the 10 receptors that were impacted. See Appendix B for existing and future noise levels at each of the receptors.

Table 3-2: Noise Impacts – Future Condition

Receptor Number	Description	NAC Category*	Future Noise Level (dbA)	Increase over Existing (dBA)
130	797 Westridge South Drive	B	67.0	14.9
265	507 Vine Street	B	70.4	4.9
363	839 S. 10th Street	B	66.2	2.4
386	825 S. 11th Street	C	66.6	4.5
407	824 S. 11th Street	B	69.3	4.3
408	809 S. 11th Street	B	68.7	8.3
409	1209 Pleasant Street	B	70.4	9.1
410	1219 Pleasant Street	B	70.8	9.5
411	1227 Pleasant Street	B	70.9	8.8
418D	759 S. 11th Street	B	66.9	7.9

*Category B and C noise thresholds are both 67.0 dBA.

4.0 NOISE ABATEMENT

Per the 2017 INDOT Noise Policy, if traffic impacts are identified in the noise analysis, noise abatement measures must be considered. The most common form of abatement is the construction of noise barriers. In order for abatement to be seriously considered and implemented into the project, it must undergo scrutiny to determine if it is both feasible and reasonable to construct. The definition of reasonable and feasible is grounded in the INDOT Traffic Noise Policy (2017), but is summarized below:

Noise abatement is *feasible* if it meets all of the following conditions:

- Acoustic feasibility: INDOT requires that noise barriers achieve a 5 db(A) reduction at a majority (greater than 50%) of the impacted receivers. If a barrier cannot achieve this acoustic goal, abatement is considered to not be acoustically feasible.

- Engineering feasibility: A noise barrier must have an optimum location and a suitable length to be effective. Other considerations such as topography, drainage, safety, barrier height, utilities, and access/maintenance go into whether a noise barrier would be considered feasible for engineering reasons.

Noise abatement is considered *reasonable* based on its cost effectiveness and the views of impacted property owners.

- Cost-effectiveness: The estimated cost of building a noise barrier does not exceed $25,000 per benefited receptor (those who would receive a reduction of at least 5 dB(A). In cases where greater than 50% of the development was in place prior to construction of the roadway, this cost increases to $30,000 per benefited receptor.

- Views of the Impacted and/or Benefited Receptors: The concerns and opinions of property owners and unit occupants will be balanced with other considerations in determining whether a barrier is appropriate for a given location.

- INDOT Design Goal for Noise Abatement: INDOT's noise reduction goal is a 7 dB(A) reduction for a majority (greater than 50%) of the benefited first row receptors.

4.1 TRAFFIC NOISE BARRIERS

To reduce noise impacts resulting from the new Pleasant Street extension, three barriers were evaluated. A detailed discussion of each barrier follows:

Westridge South Drive Barrier (For Receptor 130)

A barrier approximately 334 feet in length and a height of 6-8 feet was inserted to evaluate the effectiveness of shielding Receptor 130 on Westridge South Drive. The length of the barrier was extended the recommended four times the distance between the edge of pavement and the end receptor. An additional 7 non-impacted receptors were included in the analysis of this barrier to determine if they were benefited by its insertion. That is, they received a reduction of 5 dBA or more as a result of the barrier.

A barrier included at this location resulted in the impacted receptor receiving at least a 5 dBA reduction in noise level. Therefore, the barrier is considered feasible. Based on the preliminary layout completed to date, the barrier length does not appear to be an issue. The noise barrier would need to be located just off the edge of the proposed shared use path, getting very close to the homes.

First row receptors along Westridge South Drive range from Receptors 118-131. Because predicted future noise levels at Receptor 124 only reduced 0.1 dB between barrier and no-barrier, no analysis was performed for Receptors 118-123. Three receptors in the first row were benefited (that is, received at least a 5 dBA reduction in future noise levels – Receptors 128, 129, and 130). Two of these receptors received at least a 7 dBA reduction (129 and 130), therefore the INDOT noise reduction goal is achieved. To construct the barrier, it would cost an estimated $101,000, or $33,667 (using an estimated $42/SF) per benefited receptor. This is over the $30,000 threshold to determine cost-effectiveness for developments in place prior to construction of the roadway. Thus, the barrier would not be cost-effective. For this reason, the barrier is dismissed from consideration.

Vine Street Barrier (For Receptor 265)

A barrier approximately 200 feet in length and a height of 8 feet was inserted to evaluate the effectiveness of shielding the impacted receptor 265 at 507 Vine Street. The length of the barrier was extended the recommended four times the distance between the edge of pavement and the receptor. An additional 11 non-impacted receptors were included in the analysis of this barrier to determine if they were benefited by its insertion. That is, they received a reduction of 5 dBA or more as a result of the barrier.

A barrier included at this location resulted in the impacted receptor receiving a 5 dBA reduction in noise level. Therefore, the barrier is considered feasible. Based on the preliminary layout completed to date, the barrier length does not appear to be an issue. The engineering feasibility of a noise barrier should be re-evaluated in the advanced design stage.

Receptor 265 is the only first row receptor. Because the noise reduction by the barrier would be at least 7 dBA, the INDOT noise reduction goal is achieved. No other receptors included in the barrier analysis were benefited (that is, received a noise reduction of at least 5 dB). To construct the barrier, it would cost an estimated $67,200 (estimating $42 per square foot), or $67,200 per benefited receptor. This is over the $30,000 per benefited receptor (in place before the project) used to determine cost-effectiveness. Therefore, the barrier is not considered cost-effective and is unreasonable. For this reason, the barrier is dismissed from consideration.

Barrier Evaluations for Receptors 363, 386, 407-411, and 418D

Barrier evaluation was not performed for Receptors 363, 386, 407-11 and 418D for engineering feasibility reasons. Because of the tight urban condition, frequent intersections, driveways, and footprint of the 10th Street/Pleasant Street roundabout, it would not be feasible to lay out a barrier of enough continuous length to be effective. The recommended distance to extend a barrier in each direction (four times the distance between the edge of roadway and receptor) cannot be attained.

5.0 CONSTRUCTION NOISE

Power-operated equipment used during construction could produce up to 95 dBA of noise. In order to minimize potentially offensive noise levels to nearby residences, it is important for construction equipment to be operated in compliance with all applicable local ordinances and regulations pertaining to construction noise. Other beneficial practices include conducting the noisiest construction activities primarily during daytime hours and informing the public of construction activities. Additional noise mitigation strategies can be found in the FHWA's Construction Noise Handbook.

6.0 CONCLUSION

Based on the studies completed to date, there are 10 impacted receptors in the project area. Following a barrier feasibility analysis, including engineering and cost considerations, no noise abatement is recommended with the future build condition.

7.0 REFERENCES

www.fhwa.dot.gov/environment/noise/noise_barriers (Updated 8/2/2017)

23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*

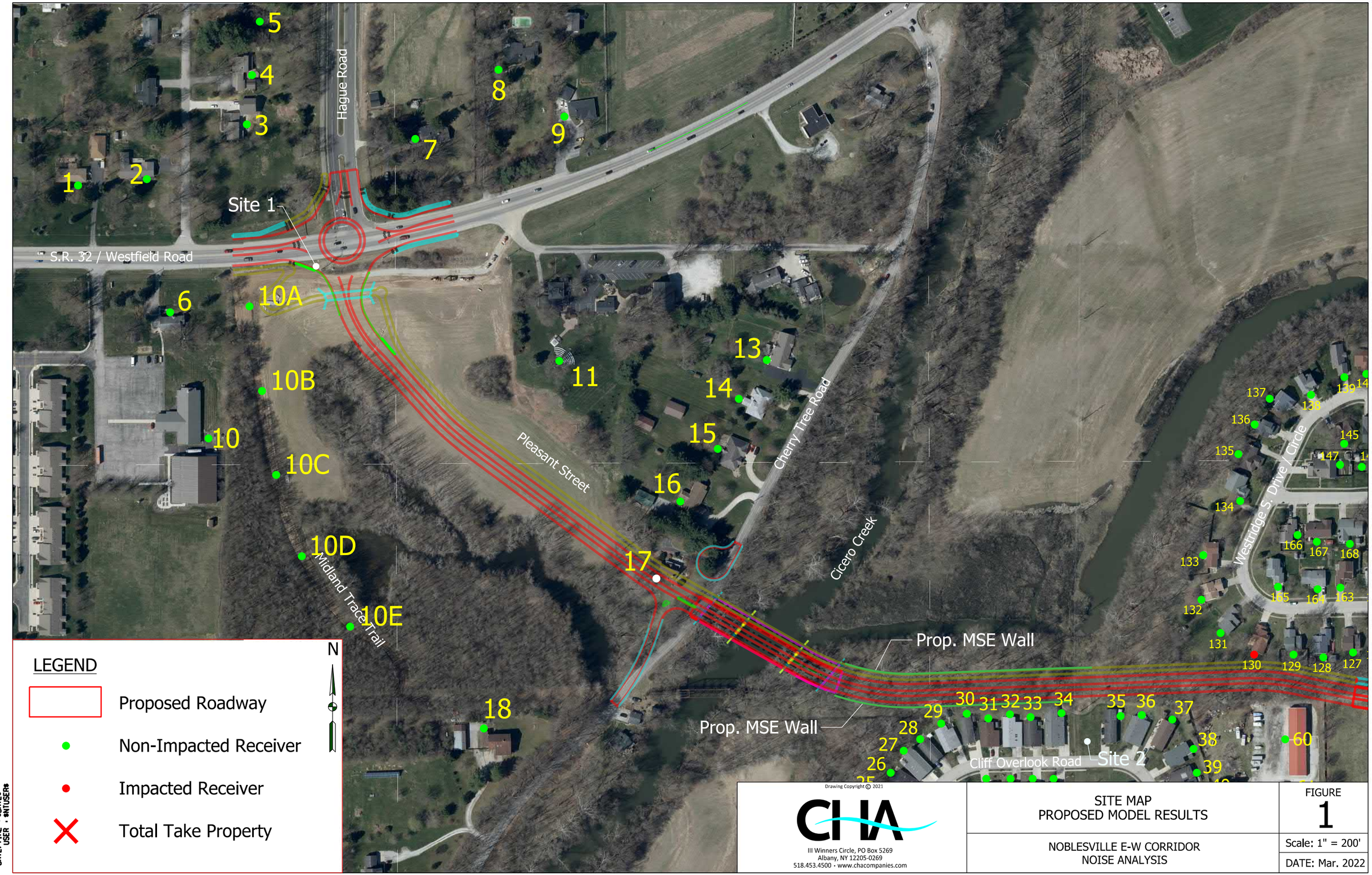
INDOT Traffic Noise Analysis Procedure, 2017.

8.0 DEFINITIONS

dBA	(decibel, A-weighted) A unit for describing the sound pressure level, weighted to the approximate range of response to the human ear.
Leq	The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period.
Type I Project	A proposed Federal-aid roadway project for the construction of a roadway on new location or the physical alteration of an existing roadway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes.

Table of Contents for Appendix

Appendix A – Site Map and Proposed Model Results



CHA
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SITE MAP
PROPOSED MODEL RESULTS

NOBLESVILLE E-W CORRIDOR
NOISE ANALYSIS

FIGURE
1

Scale: 1" = 200'

DATE: Mar. 2022

Cicero Creek

Prop. MSE Wall

Pleasant Street

Cliff Overlook Road

Site 2

Site 3

Westridge Circle

Westridge North Drive

Westridge South Drive

River Run Place

Trailview Court

Dalton Court

Doves Court

Future Roundabout
Pleasant St. & River Rd.

River Road

White River

Westbrook Village Mobile Homes

Westbrook Boulevard

LEGEND

- Proposed Roadway
- Non-Impacted Receiver
- Impacted Receiver
- Total Take Property

N

FILE NAME = $FILE$
DATE/TIME = $DATE$
USER = $NTUSER$

CHA
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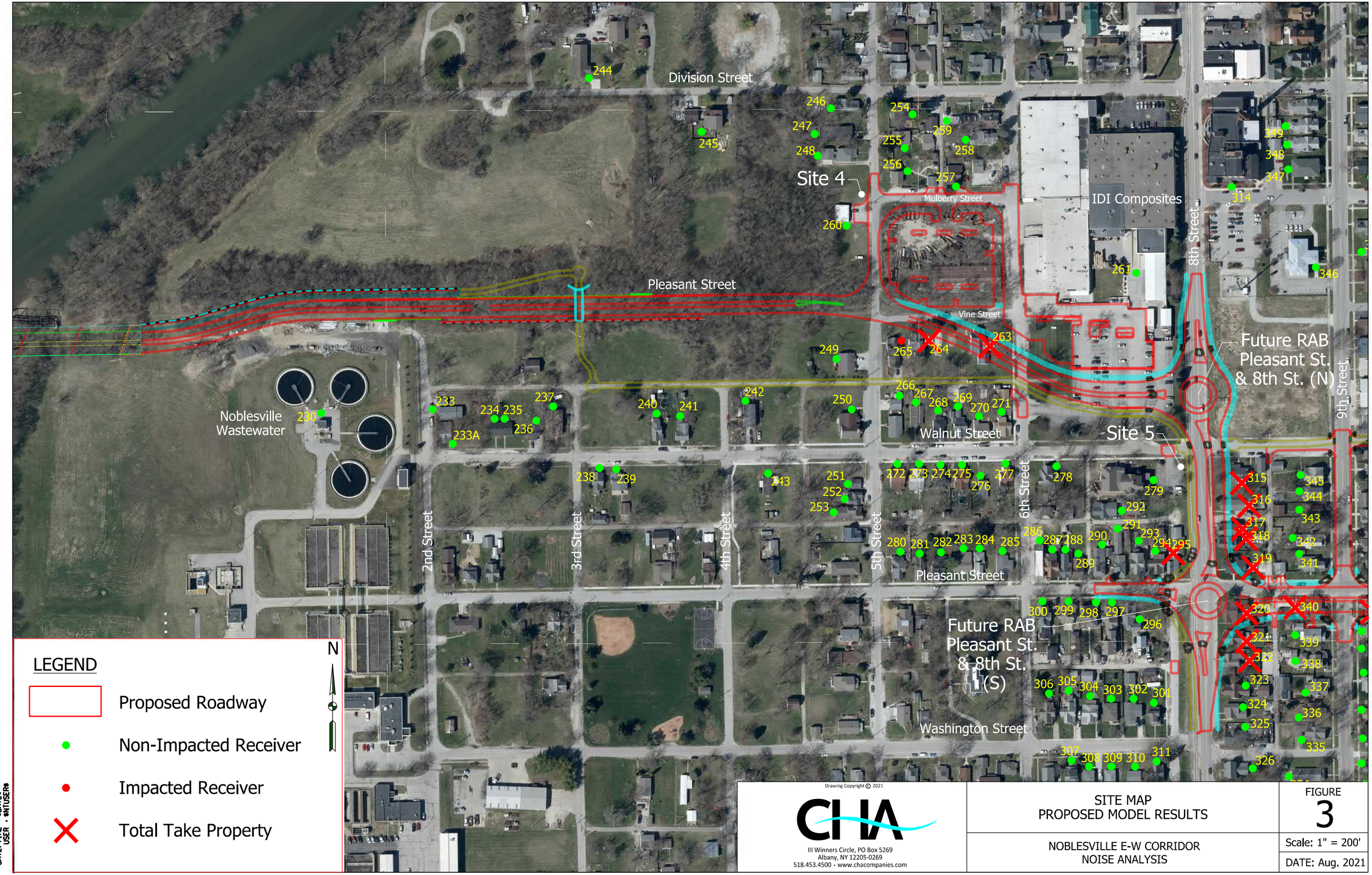
SITE MAP
PROPOSED MODEL RESULTS

FIGURE 2

NOBLESVILLE E-W CORRIDOR
NOISE ANALYSIS

Scale: 1" = 200'

DATE: Mar. 2022



LEGEND

- Proposed Roadway
- Non-Impacted Receiver
- Impacted Receiver
- Total Take Property

N

FILE NAME = $FILE$
DATE/TIME = $DATE$
USER = $NTUSER$

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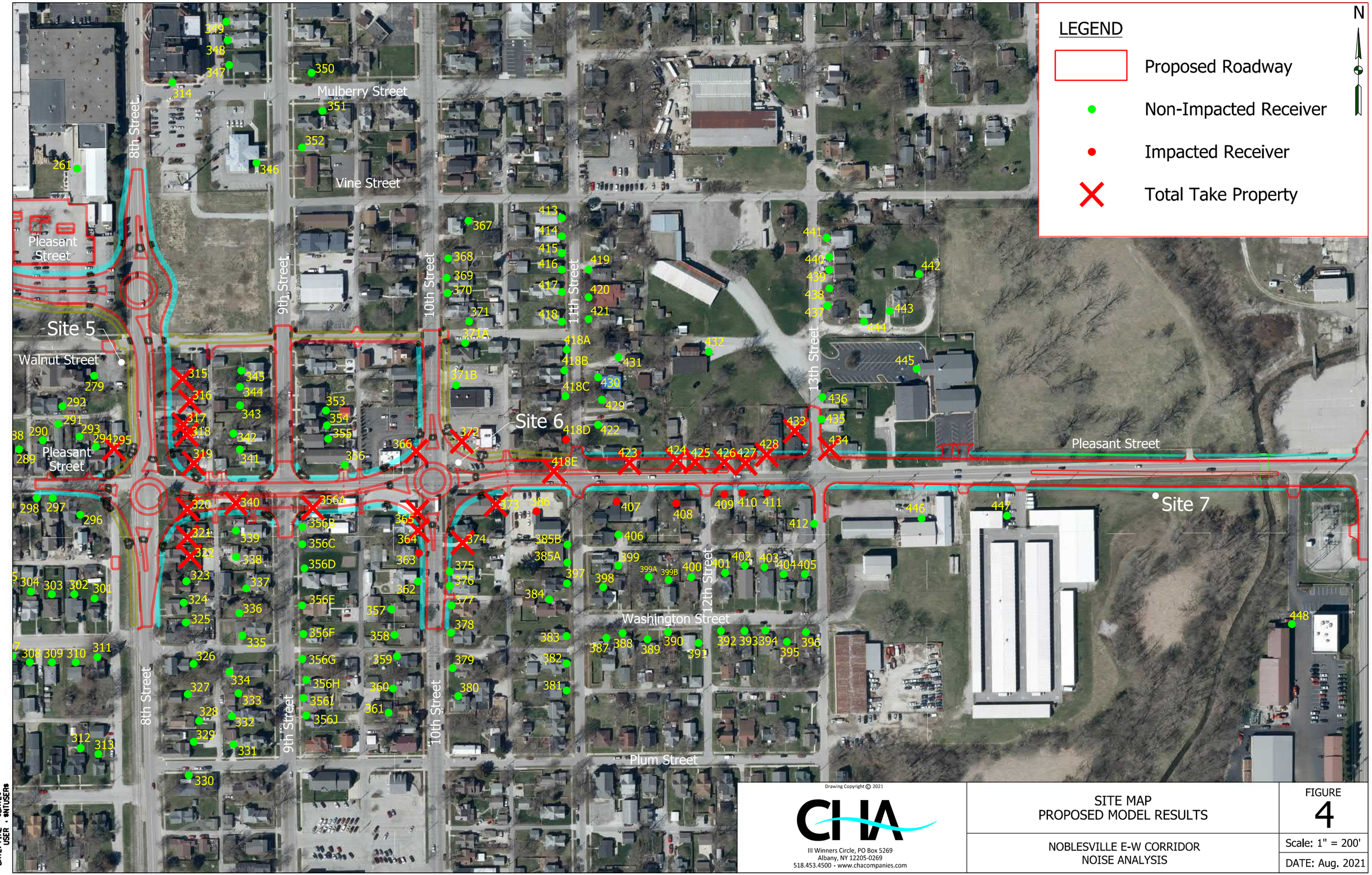
SITE MAP
PROPOSED MODEL RESULTS

NOBLESVILLE E-W CORRIDOR
NOISE ANALYSIS

FIGURE
3

Scale: 1" = 200'

DATE: Aug. 2021



FILE NAME = $FILES
DATE/TIME = $DATES
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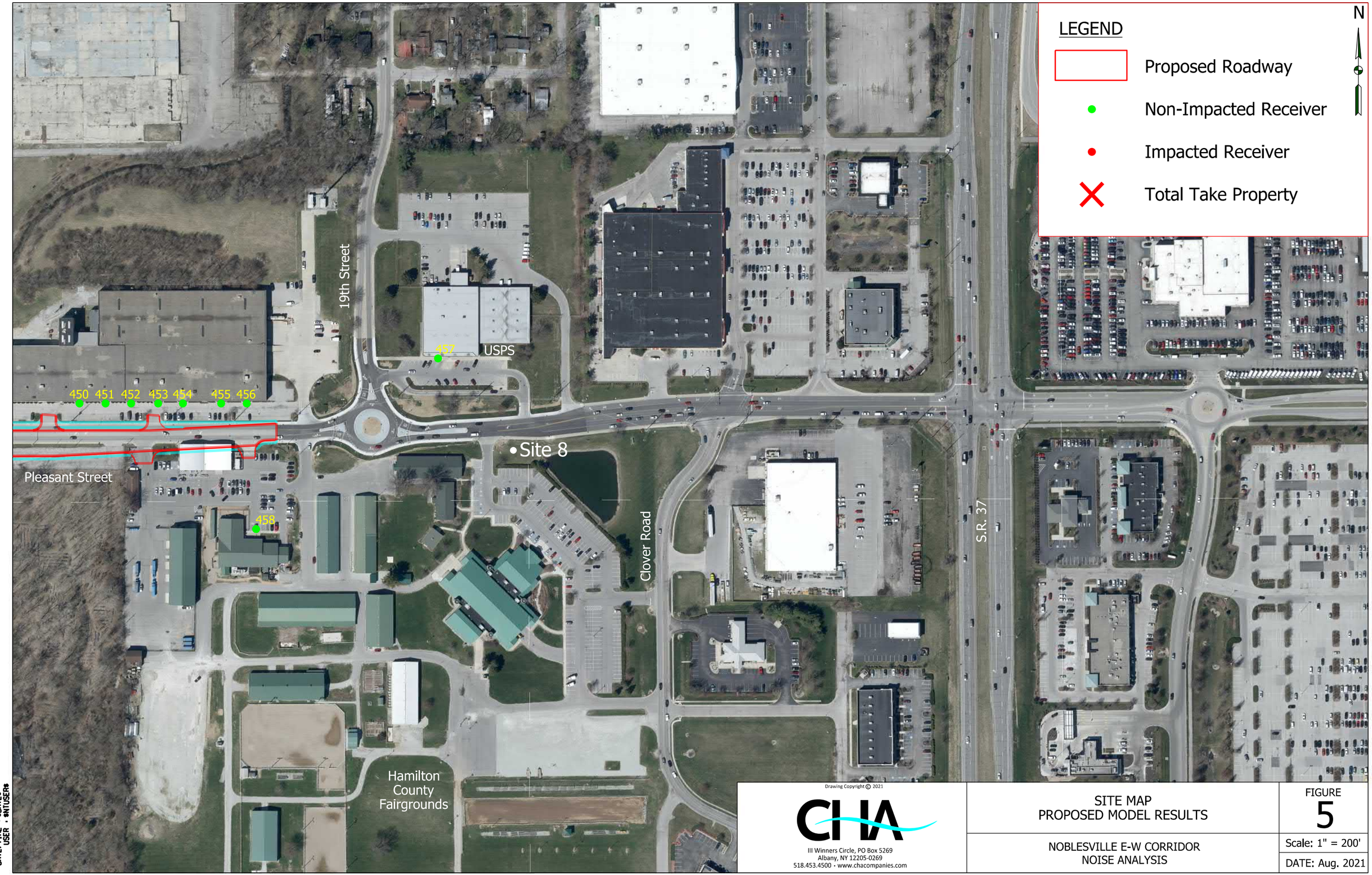
SITE MAP
PROPOSED MODEL RESULTS

NOBLESVILLE E-W CORRIDOR
NOISE ANALYSIS

FIGURE 4

Scale: 1" = 200'

DATE: Aug. 2021



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SITE MAP
PROPOSED MODEL RESULTS

NOBLESVILLE E-W CORRIDOR
NOISE ANALYSIS

FIGURE
5

Scale: 1" = 200'

DATE: Aug. 2021

Appendix B – Receptor Description / Analysis Results

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
1	1444 Westfield Road	Residence	1	64.6	61.0	-3.6	B	67.0	No
2	1404 Westfield Road	Residence	1	64.3	60.0	-4.3	B	67.0	No
3	110 Westmont Lane	Residence	1	60.5	58.3	-2.2	B	67.0	No
4	120 Westmont Lane	Residence	1	59.6	58.9	-0.7	B	67.0	No
5	130 Westmont Lane	Residence	1	57.8	58.8	1.0	B	67.0	No
6	1411 Westfield Road	Residence	1	67.6	61.9	-5.7	B	67.0	No
7	1244 S.R. 32	Residence	1	64.7	62.3	-2.4	B	67.0	No
8	1222 Westfield Road	Residence	1	59.0	57.4	-1.6	B	67.0	No
9	1212 Westfield Road	Pathways of Healing	1	65.3	63.0	-2.3	C	67.0	No
10	1413 Westfield Road	Noblesville Pilgrim Holiness Church	1	56.8	52.5	-4.3	C	67.0	No
10A	Midland Trace Trail	Trail	1	63.6	59.6	-4.0	C	67.0	No
10B	Midland Trace Trail	Trail	1	58.8	54.8	-4.0	C	67.0	No
10C	Midland Trace Trail	Trail	1	54.8	52.2	-2.6	C	67.0	No
10D	Midland Trace Trail	Trail	1	52.0	50.5	-1.5	C	67.0	No
10E	Midland Trace Trail	Trail	1	50.1	50.2	0.1	C	67.0	No
11	77 Metsker Lane	Mustard Seed Gardens	1	57.6	56.8	-0.8	C	67.0	No
12	Not used								
13	17629 Cherry Tree Road	Residence	1	48.9	47.1	-1.8	B	67.0	No
14	17605 Cherry Tree Road	Residence	1	50.8	50.8	0.0	B	67.0	No
15	17585 Cherry Tree Road	Residence	1	50.0	52.7	2.7	B	67.0	No
16	17559 Cherry Tree Road	Residence	1	49.7	57.8	8.1	B	67.0	No
17	17525 Cherry Tree Road	Residence	1				B	67.0	Total Take
18	17337 Cherry Tree Road	Residence	1	46.3	50.4	4.1	B	67.0	No
19	Westbrook Village Mobile Home Park	Residence	1	52.1	49.0	-3.1	B	67.0	No
20	Westbrook Village Mobile Home Park	Residence	1	52.1	49.5	-2.6	B	67.0	No
21	Westbrook Village Mobile Home Park	Residence	1	52.1	50.3	-1.8	B	67.0	No
22	Westbrook Village Mobile Home Park	Residence	1	52.1	50.9	-1.2	B	67.0	No
23	Westbrook Village Mobile Home Park	Residence	1	52.1	51.9	-0.2	B	67.0	No
24	Westbrook Village Mobile Home Park	Residence	1	52.1	53.1	1.0	B	67.0	No
25	Westbrook Village Mobile Home Park	Residence	1	52.1	54.3	2.2	B	67.0	No
26	Westbrook Village Mobile Home Park	Residence	1	52.1	56.0	3.9	B	67.0	No
27	Westbrook Village Mobile Home Park	Residence	1	52.1	56.5	4.4	B	67.0	No
28	Westbrook Village Mobile Home Park	Residence	1	52.1	57.2	5.1	B	67.0	No
29	Westbrook Village Mobile Home Park	Residence	1	52.1	59.4	7.3	B	67.0	No
30	Westbrook Village Mobile Home Park	Residence	1	52.1	58.8	6.7	B	67.0	No
31	Westbrook Village Mobile Home Park	Residence	1	52.1	58.8	6.7	B	67.0	No
32	Westbrook Village Mobile Home Park	Residence	1	52.1	61.3	9.2	B	67.0	No
33	Westbrook Village Mobile Home Park	Residence	1	52.1	61.3	9.2	B	67.0	No
34	Westbrook Village Mobile Home Park	Residence	1	52.1	62.1	10.0	B	67.0	No
35	Westbrook Village Mobile Home Park	Residence	1	52.1	65.5	13.4	B	67.0	No
36	Westbrook Village Mobile Home Park	Residence	1	52.1	65.9	13.8	B	67.0	No
37	Westbrook Village Mobile Home Park	Residence	1	52.1	63.0	10.9	B	67.0	No
38	Westbrook Village Mobile Home Park	Residence	1	52.1	57.9	5.8	B	67.0	No
39	Westbrook Village Mobile Home Park	Residence	1	52.1	55.7	3.6	B	67.0	No
40	Westbrook Village Mobile Home Park	Residence	1	52.1	54.7	2.6	B	67.0	No
41	Westbrook Village Mobile Home Park	Residence	1	52.1	52.7	0.6	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
42	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
43	Westbrook Village Mobile Home Park	Residence	1	52.1	45.3	-6.8	B	67.0	No
44	Westbrook Village Mobile Home Park	Residence	1	52.1	46.7	-5.4	B	67.0	No
45	Westbrook Village Mobile Home Park	Residence	1	52.1	47.2	-4.9	B	67.0	No
46	Westbrook Village Mobile Home Park	Residence	1	52.1	46.6	-5.5	B	67.0	No
47	Westbrook Village Mobile Home Park	Residence	1	52.1	47.9	-4.2	B	67.0	No
48	Westbrook Village Mobile Home Park	Residence	1	52.1	52.3	0.2	B	67.0	No
49	Westbrook Village Mobile Home Park	Residence	1	52.1	49.6	-2.5	B	67.0	No
50	Westbrook Village Mobile Home Park	Residence	1	52.1	49.5	-2.6	B	67.0	No
51	Westbrook Village Mobile Home Park	Residence	1	52.1	50.0	-2.1	B	67.0	No
52	Westbrook Village Mobile Home Park	Residence	1	52.1	50.7	-1.4	B	67.0	No
53	Westbrook Village Mobile Home Park	Residence	1	52.1	51.6	-0.5	B	67.0	No
54	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
55	Westbrook Village Mobile Home Park	Residence	1	52.1	53.4	1.3	B	67.0	No
56	Westbrook Village Mobile Home Park	Residence	1	52.1	52.0	-0.1	B	67.0	No
57	Westbrook Village Mobile Home Park	Residence	1	52.1	51.2	-0.9	B	67.0	No
58	Westbrook Village Mobile Home Park	Residence	1	52.1	50.6	-1.5	B	67.0	No
59	Westbrook Village Mobile Home Park	Residence	1	52.1	50.9	-1.2	B	67.0	No
60	Westbrook Village Mobile Home Park	Residence	1	52.1	60.5	8.4	B	67.0	No
61	Westbrook Village Mobile Home Park	Residence	1	52.1	55.8	3.7	B	67.0	No
62	Westbrook Village Mobile Home Park	Residence	1	52.1	53.1	1.0	B	67.0	No
63	Westbrook Village Mobile Home Park	Residence	1	52.1	51.6	-0.5	B	67.0	No
64	Westbrook Village Mobile Home Park	Residence	1	52.1	50.0	-2.1	B	67.0	No
65	Westbrook Village Mobile Home Park	Residence	1	52.1	54.5	2.4	B	67.0	No
66	Westbrook Village Mobile Home Park	Residence	1	52.1	53.0	0.9	B	67.0	No
67	Westbrook Village Mobile Home Park	Residence	1	52.1	50.8	-1.3	B	67.0	No
68	Westbrook Village Mobile Home Park	Residence	1	52.1	50.2	-1.9	B	67.0	No
69	Westbrook Village Mobile Home Park	Residence	1	52.1	49.7	-2.4	B	67.0	No
70	Westbrook Village Mobile Home Park	Residence	1	52.1	50.9	-1.2	B	67.0	No
71	Westbrook Village Mobile Home Park	Residence	1	52.1	51.1	-1.0	B	67.0	No
72	Westbrook Village Mobile Home Park	Residence	1	52.1	51.3	-0.8	B	67.0	No
73	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
74	Westbrook Village Mobile Home Park	Residence	1	52.1	51.4	-0.7	B	67.0	No
75	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
76	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
77	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
78	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
79	Westbrook Village Mobile Home Park	Residence	1	52.1	51.5	-0.6	B	67.0	No
80	Westbrook Village Mobile Home Park	Residence	1	52.1	51.9	-0.2	B	67.0	No
81	Westbrook Village Mobile Home Park	Residence	1	52.1	52.5	0.4	B	67.0	No
82	Westbrook Village Mobile Home Park	Residence	1	52.1	54.4	2.3	B	67.0	No
83	Westbrook Village Mobile Home Park	Residence	1	52.1	55.6	3.5	B	67.0	No
84	Westbrook Village Mobile Home Park	Residence	1	52.1	56.5	4.4	B	67.0	No
85	Westbrook Village Mobile Home Park	Residence	1	52.1	57.7	5.6	B	67.0	No
86	Westbrook Village Mobile Home Park	Residence	1	52.1	48.4	-3.7	B	67.0	No
87	Westbrook Village Mobile Home Park	Residence	1	52.1	48.4	-3.7	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
88	Westbrook Village Mobile Home Park	Residence	1	52.1	48.7	-3.4	B	67.0	No
89	Westbrook Village Mobile Home Park	Residence	1	52.1	48.8	-3.3	B	67.0	No
90	Westbrook Village Mobile Home Park	Residence	1	52.1	49.2	-2.9	B	67.0	No
91	Westbrook Village Mobile Home Park	Residence	1	52.1	49.5	-2.6	B	67.0	No
92	Westbrook Village Mobile Home Park	Residence	1	52.1	50.1	-2.0	B	67.0	No
93	7919 Doves Court	Residence	1	52.1	57.9	5.8	B	67.0	No
94	7919 Doves Court	Residence	1	52.1	58.0	5.9	B	67.0	No
95	7935 Doves Court	Residence	1	52.1	58.4	6.3	B	67.0	No
96	7935 Doves Court	Residence	1	52.1	58.3	6.2	B	67.0	No
97	7949 Doves Court	Residence	1	52.1	58.9	6.8	B	67.0	No
98	7949 Doves Court	Residence	1	52.1	59.0	6.9	B	67.0	No
99	7965 Doves Court	Residence	1	52.1	59.2	7.1	B	67.0	No
100	7965 Doves Court	Residence	1	52.1	59.5	7.4	B	67.0	No
101	7979 Doves Court	Residence	1	52.1	59.9	7.8	B	67.0	No
102	7979 Doves Court	Residence	1	52.1	61.5	9.4	B	67.0	No
103	7886 Doves Court	Residence	1				B	67.0	Total Take
104	7886 Doves Court	Residence	1				B	67.0	Total Take
105	7902 Doves Court	Residence	1				B	67.0	Total Take
106	7902 Doves Court	Residence	1				B	67.0	Total Take
107	7916 Doves Court	Residence	1				B	67.0	Total Take
108	7916 Doves Court	Residence	1				B	67.0	Total Take
109	7932 Doves Court	Residence	1				B	67.0	Total Take
110	7932 Doves Court	Residence	1				B	67.0	Total Take
111	7946 Doves Court	Residence	1				B	67.0	Total Take
112	7946 Doves Court	Residence	1				B	67.0	Total Take
113	7962 Doves Court	Residence	1				B	67.0	Total Take
114	7962 Doves Court	Residence	1				B	67.0	Total Take
115	7976 Doves Court	Residence	1				B	67.0	Total Take
116	7976 Doves Court	Residence	1				B	67.0	Total Take
117	17350 River Road	Residence	1				B	67.0	Total Take
118	701 Westridge South Drive	Residence	1	52.1	62.7	10.6	B	67.0	No
119	709 Westridge South Drive	Residence	1	52.1	60.4	8.3	B	67.0	No
120	717 Westridge South Drive	Residence	1	52.1	59.9	7.8	B	67.0	No
121	725 Westridge South Drive	Residence	1	52.1	59.5	7.4	B	67.0	No
122	733 Westridge South Drive	Residence	1	52.1	59.2	7.1	B	67.0	No
123	741 Westridge South Drive	Residence	1	52.1	59.6	7.5	B	67.0	No
124	749 Westridge South Drive	Residence	1	52.1	59.9	7.8	B	67.0	No
125	757 Westridge South Drive	Residence	1	52.1	60.7	8.6	B	67.0	No
126	765 Westridge South Drive	Residence	1	52.1	60.6	8.5	B	67.0	No
127	773 Westridge South Drive	Residence	1	52.1	63.2	11.1	B	67.0	No
128	781 Westridge South Drive	Residence	1	52.1	65.6	13.5	B	67.0	No
129	789 Westridge South Drive	Residence	1	52.1	65.9	13.8	B	67.0	No
130	797 Westridge South Drive	Residence	1	52.1	67.0		B	67.0	Yes
131	805 Westridge South Drive	Residence	1	52.1	61.6	9.5	B	67.0	No
132	813 Westridge South Drive	Residence	1	52.1	56.9	4.8	B	67.0	No
133	821 Westridge South Drive	Residence	1	52.1	53.5	1.4	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
134	837 Westridge South Drive	Residence	1	52.1	48.5	-3.6	B	67.0	No
135	841 Westridge Circle	Residence	1	52.1	47.4	-4.7	B	67.0	No
136	843 Westridge Circle	Residence	1	52.1	46.4	-5.7	B	67.0	No
137	847 Westridge Circle	Residence	1	52.1	45.7	-6.4	B	67.0	No
138	849 Westridge Circle	Residence	1	52.1	45.4	-6.7	B	67.0	No
139	851 Westridge Circle	Residence	1	52.1	45.0	-7.1	B	67.0	No
140	853 Westridge Circle	Residence	1	52.1	45.0	-7.1	B	67.0	No
141	855 Westridge Circle	Residence	1	52.1	44.9	-7.2	B	67.0	No
142	857 Westridge Circle	Residence	1	52.1	45.3	-6.8	B	67.0	No
143	859 Westridge Circle	Residence	1	52.1	44.4	-7.7	B	67.0	No
144	856 Westridge Circle	Residence	1	52.1	46.6	-5.5	B	67.0	No
145	848 Westridge Circle	Residence	1	52.1	46.9	-5.2	B	67.0	No
146	860 Westridge Circle	Residence	1	52.1	47.3	-4.8	B	67.0	No
147	870 Westridge North Drive	Residence	1	52.1	47.3	-4.8	B	67.0	No
148	850 Westridge North Drive	Residence	1	52.1	47.8	-4.3	B	67.0	No
149	840 Westridge North Drive	Residence	1	52.1	48.8	-3.3	B	67.0	No
150	830 Westridge North Drive	Residence	1	52.1	49.4	-2.7	B	67.0	No
151	820 Westridge North Drive	Residence	1	52.1	51.5	-0.6	B	67.0	No
152	810 Westridge North Drive	Residence	1	52.1	53.2	1.1	B	67.0	No
153	802 Westridge North Drive	Residence	1	52.1	59.1	7.0	B	67.0	No
154	702 Westridge South Drive	Residence	1	52.1	62.1	10.0	B	67.0	No
155	710 Westridge South Drive	Residence	1	52.1	57.5	5.4	B	67.0	No
156	718 Westridge South Drive	Residence	1	52.1	55.4	3.3	B	67.0	No
157	726 Westridge South Drive	Residence	1	52.1	53.9	1.8	B	67.0	No
158	734 Westridge South Drive	Residence	1	52.1	53.6	1.5	B	67.0	No
159	742 Westridge South Drive	Residence	1	52.1	53.5	1.4	B	67.0	No
160	750 Westridge South Drive	Residence	1	52.1	53.5	1.4	B	67.0	No
161	758 Westridge South Drive	Residence	1	52.1	53.5	1.4	B	67.0	No
162	766 Westridge South Drive	Residence	1	52.1	53.4	1.3	B	67.0	No
163	774 Westridge South Drive	Residence	1	52.1	54.0	1.9	B	67.0	No
164	786 Westridge South Drive	Residence	1	52.1	53.6	1.5	B	67.0	No
165	798 Westridge South Drive	Residence	1	52.1	53.7	1.6	B	67.0	No
166	891 Westridge North Drive	Residence	1	52.1	49.6	-2.5	B	67.0	No
167	881 Westridge North Drive	Residence	1	52.1	50.1	-2.0	B	67.0	No
168	873 Westridge North Drive	Residence	1	52.1	49.6	-2.5	B	67.0	No
169	865 Westridge North Drive	Residence	1	52.1	50.2	-1.9	B	67.0	No
170	863 Westridge North Drive	Residence	1	52.1	50.4	-1.7	B	67.0	No
171	861 Westridge North Drive	Residence	1	52.1	50.4	-1.7	B	67.0	No
172	851 Westridge North Drive	Residence	1	52.1	50.8	-1.3	B	67.0	No
173	841 Westridge North Drive	Residence	1	52.1	51.0	-1.1	B	67.0	No
174	831 Westridge North Drive	Residence	1	52.1	51.8	-0.3	B	67.0	No
175	825 Westridge North Drive	Residence	1	52.1	53.6	1.5	B	67.0	No
176	811 Westridge North Drive	Residence	1	52.1	55.9	3.8	B	67.0	No
177	801 Westridge North Drive	Residence	1	52.1	63.7	11.6	B	67.0	No
178	17485 River Road	Residence	1	52.1	54.8	2.7	B	67.0	No
179	870 Watermead Drive	Apartments	4	52.1	58.0	5.9	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
180	17470 River Road	Residence	1	52.1	59.5	7.4	B	67.0	No
180A	0 River Run Place	Park (River Road and River Run Place)	10	57.6	58.5	0.9	C	67.0	No
180B	0 River Run Place	Park (River Road and River Run Place)	10	54.1	55.5	1.4	C	67.0	No
181	8222 River Run Place	Residence	1	52.1	52.8	0.7	B	67.0	No
182	8232 River Run Place	Residence	1	52.1	51.7	-0.4	B	67.0	No
183	8242 River Run Place	Residence	1	52.1	51.0	-1.1	B	67.0	No
184	8252 River Run Place	Residence	1	52.1	50.9	-1.2	B	67.0	No
185	8262 River Run Place	Residence	1	52.1	51.0	-1.1	B	67.0	No
186	8272 River Run Place	Residence	1	52.1	51.0	-1.1	B	67.0	No
187	8292 River Run Place	Residence	1	52.1	50.3	-1.8	B	67.0	No
188	17483 Dalton Court	Residence	1	52.1	50.6	-1.5	B	67.0	No
189	17493 Dalton Court	Residence	1	52.1	49.7	-2.4	B	67.0	No
190	17503 Dalton Court	Residence	1	52.1	49.2	-2.9	B	67.0	No
191	17500 Dalton Court	Residence	1	52.1	49.2	-2.9	B	67.0	No
192	17490 Dalton Court	Residence	1	52.1	49.3	-2.8	B	67.0	No
193	17480 Dalton Court	Residence	1	52.1	55.3	3.2	B	67.0	No
194	17470 Dalton Court	Residence	1	52.1	55.4	3.3	B	67.0	No
195	17460 Dalton Court	Residence	1	52.1	56.3	4.2	B	67.0	No
196	17450 Dalton Court	Residence	1	52.1	57.4	5.3	B	67.0	No
197	17488 Dalton Court	Residence	1	52.1	58.8	6.7	B	67.0	No
198	17426 Dalton Court	Residence	1	52.1	61.3	9.2	B	67.0	No
199	17420 Dalton Court	Residence	1	52.1	62.1	10.0	B	67.0	No
200	17403 Dalton Court	Residence	1	52.1	61.7	9.6	B	67.0	No
201	17446 Trailview Circle	Residence	1	52.1	60.2	8.1	B	67.0	No
202	17444 Trailview Circle	Residence	1	52.1	62.6	10.5	B	67.0	No
203	17442 Trailview Circle	Residence	1	52.1	62.1	10.0	B	67.0	No
204	17440 Trailview Circle	Residence	1	52.1	60.9	8.8	B	67.0	No
205	17438 Trailview Circle	Residence	1	52.1	60.8	8.7	B	67.0	No
206	17436 Trailview Circle	Residence	1	52.1	60.4	8.3	B	67.0	No
207	17434 Trailview Circle	Residence	1	52.1	61.4	9.3	B	67.0	No
208	17432 Trailview Circle	Residence	1	52.1	61.9	9.8	B	67.0	No
209	17428 Trailview Circle	Residence	1	52.1	64.5	12.4	B	67.0	No
210	17431 Trailview Circle	Residence	1	52.1	57.6	5.5	B	67.0	No
211	17433 Trailview Circle	Residence	1	52.1	55.5	3.4	B	67.0	No
212	17435 Trailview Circle	Residence	1	52.1	54.8	2.7	B	67.0	No
213	17437 Trailview Circle	Residence	1	52.1	54.7	2.6	B	67.0	No
214	17439 Trailview Circle	Residence	1	52.1	54.0	1.9	B	67.0	No
215	17445 Trailview Circle	Residence	1	52.1	51.8	-0.3	B	67.0	No
216	17465 Trailview Circle	Residence	1	52.1	51.0	-1.1	B	67.0	No
217	17475 Trailview Circle	Residence	1	52.1	49.1	-3.0	B	67.0	No
218	17485 Trailview Circle	Residence	1	52.1	48.9	-3.2	B	67.0	No
219	17456 Trailview Circle	Residence	1	52.1	55.8	3.7	B	67.0	No
220	17466 Trailview Circle	Residence	1	52.1	54.0	1.9	B	67.0	No
221	17476 Trailview Circle	Residence	1	52.1	53.2	1.1	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
222	17486 Trailview Circle	Residence	1	52.1	52.3	0.2	B	67.0	No
223	17443 Dalton Court	Residence	1	52.1	51.4	-0.7	B	67.0	No
224	17465 Dalton Court	Residence	1	52.1	51.0	-1.1	B	67.0	No
225	17340 River Road	Residence	1	52.1	62.3	10.2	B	67.0	No
226	17310 River Road	Residence	1	52.1	58.9	6.8	B	67.0	No
227	17260 River Road	Residence	1	52.1	56.4	4.3	B	67.0	No
228	17254 River Road	Boggs Wrecker Service	1	52.1	55.1	3.0	F	67.0	No
229	17270 River Road	Residence	1	52.1	62.6	10.5	B	67.0	No
230	0 S 2nd Street	Noblesville Wastewater facility	1	52.1	57.5	5.4	F	67.0	No
231	Not used							67.0	No
232	Not used							67.0	No
233	620 S. 2nd Street	Residence	1	65.5	56.3	-9.2	B	67.0	No
233A	212 Walnut Street	Residence	1	65.5	53.0	-12.5	B	67.0	No
234	262 Walnut Street	Residence	1	65.5	55.6	-9.9	B	67.0	No
235	264 Walnut Street	Residence	1	65.5	55.5	-10.0	B	67.0	No
236	272 Walnut Street	Residence	1	65.5	55.1	-10.4	B	67.0	No
237	294 Walnut Street	Residence	1	65.5	56.1	-9.4	B	67.0	No
238	311 Walnut Street	Residence	1	65.5	53.9	-11.6	B	67.0	No
239	329 Walnut Street	Residence	1	65.5	53.8	-11.7	B	67.0	No
240	360 Walnut Street	Residence	1	65.5	55.7	-9.8	B	67.0	No
241	376 Walnut Street	Residence	1	65.5	55.5	-10.0	B	67.0	No
242	420 S. 4th Street	Residence	1	65.5	56.2	-9.3	B	67.0	No
243	429 Walnut Street	Residence	1	65.5	51.6	-13.9	B	67.0	No
244	400 Division Street	Residence	1	65.5	50.3	-15.2	B	67.0	No
245	385 Division Street	Residence	1	65.5	52.3	-13.2	B	67.0	No
246	407 S. 5th Street	Residence	1	65.5	50.6	-14.9	B	67.0	No
247	437 S. 5th Street	Residence	1	65.5	52.3	-13.2	B	67.0	No
248	463 S. 5th Street	Residence	1	65.5	53.7	-11.8	B	67.0	No
249	635 S. 5th Street	Residence	1	65.5	61.9	-3.6	B	67.0	No
250	695 S. 5th Street	Residence	1	65.5	58.1	-7.4	B	67.0	No
251	723 S. 5th Street	Residence	1	65.5	52.9	-12.6	B	67.0	No
252	735 S. 5th Street	Residence	1	65.5	50.8	-14.7	B	67.0	No
253	747 S. 5th Street	Residence	1	65.5	50.4	-15.1	B	67.0	No
254	510 Division Street	Residence	1	65.5	50.1	-15.4	B	67.0	No
255	448 S. 5th Street	Residence	1	65.5	50.7	-14.8	B	67.0	No
256	508 Mulberry Street	Residence	1	65.5	52.5	-13.0	B	67.0	No
257	554 Mulberry Street	Residence	1	65.5	52.7	-12.8	B	67.0	No
258	439 S. 6th Street	Residence	1	65.5	49.5	-16.0	B	67.0	No
259	411 S. 6th Street	Residence	1	65.5	49.9	-15.6	B	67.0	No
260	497 S. 5th Street	Residence	1	65.5	58.8	-6.7	B	67.0	No
261	0 S. 8th Street	IDI Composites	1	65.5	58.8	-6.7	F		No
262	Not used							67.0	No
263	579 Vine Street	Residence	1				B	67.0	Total Take
264	529 Vine Street	Residence	1				B	67.0	Total Take
265	507 Vine Street	Residence	1	65.5	70.4	4.9	B	67.0	Yes
266	698 S. 5th Street	Residence	1	65.5	59.6	-5.9	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
267	530 Walnut Street	Residence	1	65.5	59.5	-6.0	B	67.0	No
268	542 Walnut Street	Residence	1	65.5	59.6	-5.9	B	67.0	No
269	560 Walnut Street	Residence	1	65.5	60.7	-4.8	B	67.0	No
270	576 Walnut Street	Residence	1	65.5	60.7	-4.8	B	67.0	No
271	594 Walnut Street	Residence	1	65.5	63.0	-2.5	B	67.0	No
272	509 Walnut Street	Residence	1	65.5	55.2	-10.3	B	67.0	No
273	529 Walnut Street	Residence	1	65.5	55.7	-9.8	B	67.0	No
274	543 Walnut Street	Residence	1	65.5	56.3	-9.2	B	67.0	No
275	561 Walnut Street	Residence	1	65.5	56.9	-8.6	B	67.0	No
276	575 Walnut Street	Residence	1	65.5	52.5	-13.0	B	67.0	No
277	593 Walnut Street	Residence	1	65.5	58.2	-7.3	B	67.0	No
278	609 Walnut Street	Residence	1	65.5	59.3	-6.2	B	67.0	No
279	675 Walnut Street	Residence	1	63.2	60.7	-2.5	B	67.0	No
280	508 Pleasant Street	Residence	1	47.1	51.9	4.8	B	67.0	No
281	530 Pleasant Street	Residence	1	46.9	51.8	4.9	B	67.0	No
282	544 Pleasant Street	Residence	1	48.0	52.2	4.2	B	67.0	No
283	560 Pleasant Street	Residence	1	48.8	52.8	4.0	B	67.0	No
284	574 Pleasant Street	Residence	1	49.4	53.1	3.7	B	67.0	No
285	596 Pleasant Street	Residence	1	51.1	53.7	2.6	B	67.0	No
286	608 Pleasant Street	Residence	1	52.1	54.8	2.7	B	67.0	No
287	620 Pleasant Street	Residence	1	52.7	54.8	2.1	B	67.0	No
288	624 Pleasant Street	Residence	1	53.0	54.9	1.9	B	67.0	No
289	630 Pleasant Street	Residence	1	53.3	54.9	1.6	B	67.0	No
290	648 Pleasant Street	Residence	1	55.6	56.3	0.7	B	67.0	No
291	662 Pleasant Street	Residence	1	57.8	57.4	-0.4	B	67.0	No
292	678 Pleasant Street	Residence	1	58.5	57.5	-1.0	B	67.0	No
293	684 Pleasant Street	Residence	1	59.9	58.6	-1.3	B	67.0	No
294	684 Pleasant Street	Residence	1	61.5	60.3	-1.2	B	67.0	No
295	694 Pleasant Street	Residence	1				B	67.0	Total Take
296	673 Pleasant Street	Residence	1	59.5	60.3	0.8	B	67.0	No
297	659 Pleasant Street	Residence	1	56.8	57.2	0.4	B	67.0	No
298	643 Pleasant Street	Residence	1	55.7	56.2	0.5	B	67.0	No
299	625 Pleasant Street	Residence	1	55.4	55.2	-0.2	B	67.0	No
300	609 Pleasant Street	Residence	1	57.9	54.2	-3.7	B	67.0	No
301	698 Washington Street	Residence	1	60.8	59.9	-0.9	B	67.0	No
302	678 Washington Street	Residence	1	57.9	57.3	-0.6	B	67.0	No
303	660 Washington Street	Residence	1	55.4	55.3	-0.1	B	67.0	No
304	646 Washington Street	Residence	1	53.6	54.0	0.4	B	67.0	No
305	630 Washington Street	Residence	1	52.2	53.0	0.8	B	67.0	No
306	608 Washington Street	Residence	1	50.8	52.1	1.3	B	67.0	No
307	625 Washington Street	Residence	1	51.7	52.0	0.3	B	67.0	No
308	645 Washington Street	Residence	1	52.8	52.6	-0.2	B	67.0	No
309	667 Washington Street	Residence	1	54.8	54.1	-0.7	B	67.0	No
310	677 Washington Street	Residence	1	57.6	56.2	-1.4	B	67.0	No
311	697 Washington Street	Residence	1	61.3	59.7	-1.6	B	67.0	No
312	678 Plum Street	Residence	1	58.8	57.4	-1.4	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
313	698 Plum Street	Residence	1	61.1	59.6	-1.5	B	67.0	No
314	498 S. 8th Street	Mill Top Banquet and Conference Center	1	63.0	58.8	-4.2	C	67.0	No
315	813 S. 8th Street	Residence	1				B	67.0	Total Take
316	738 S. 8th Street	Residence	1				B	67.0	Total Take
317	752 S. 8th Street	Residence	1				B	67.0	Total Take
318	764 S. 8th Street	Residence	1				B	67.0	Total Take
319	798 S. 8th Street	Residence	1				B	67.0	Total Take
320	806 S. 8th Street	Residence	1				B	67.0	Total Take
321	824 S. 8th Street	Residence	1				B	67.0	Total Take
322	842 S. 8th Street	Residence	1				B	67.0	Total Take
323	856 S. 8th Street	Residence	1	61.0	61.6	0.6	B	67.0	No
324	872 S. 8th Street	Residence	1	61.2	60.9	-0.3	B	67.0	No
325	892 S. 8th Street	Residence	1	60.9	60.3	-0.6	B	67.0	No
326	908 S. 8th Street	Residence	1	60.3	59.4	-0.9	B	67.0	No
327	928 S. 8th Street	Residence	1	60.8	59.8	-1.0	B	67.0	No
328	954 S. 8th Street	Residence	1	59.2	58.2	-1.0	B	67.0	No
329	998 S. 8th Street	Residence	1	59.6	58.5	-1.1	B	67.0	No
330	1008 S. 8th Street	Residence	1	60.0	58.8	-1.2	B	67.0	No
331	997 S. 9th Street	Residence	1	55.3	54.6	-0.7	B	67.0	No
332	959 S. 9th Street	Residence	1	55.6	55.0	-0.6	B	67.0	No
333	937 S. 9th Street	Residence	1	55.1	54.6	-0.5	B	67.0	No
334	907 S. 9th Street	Residence	1	56.2	55.6	-0.6	B	67.0	No
335	897 S. 9th Street	Residence	1	55.2	55.2	0.0	B	67.0	No
336	875 S. 9th Street	Residence	1	55.9	56.1	0.2	B	67.0	No
337	859 S. 9th Street	Residence	1	55.5	56.2	0.7	B	67.0	No
338	841 S. 9th Street	Residence	1	57.4	58.7	1.3	B	67.0	No
339	827 S. 9th Street	Residence	1	58.6	62.0	3.4	B	67.0	No
340	807 S. 9th Street	Residence	1				B	67.0	Total Take
341	797 S. 9th Street	Residence	1	60.5	60.3	-0.2	B	67.0	No
342	765 S. 9th Street	Residence	1	59.2	59.6	0.4	B	67.0	No
343	739 S. 9th Street	Residence	1	57.9	58.4	0.5	B	67.0	No
344	721 S. 9th Street	Residence	1	57.7	58.1	0.4	B	67.0	No
345	709 S. 9th Street	Residence	1	57.6	57.6	0.0	B	67.0	No
346	501 S. 9th Street	Residence	1	50.3	49.9	-0.4	B	67.0	No
347	499 S. 9th Street	Residence	1	54.7	52.2	-2.5	B	67.0	No
348	469 S. 9th Street	Residence	1	53.7	50.9	-2.8	B	67.0	No
349	453 S. 9th Street	Residence	1	53.4	50.5	-2.9	B	67.0	No
350	498 S. 9th Street	Residence	1	54.8	53.0	-1.8	B	67.0	No
351	516 S. 9th Street	Residence	1	54.6	52.9	-1.7	B	67.0	No
352	550 S. 9th Street	Residence	1	50.4	51.7	1.3	B	67.0	No
353	744 S. 9th Street	Residence	1	57.0	58.5	1.5	B	67.0	No
354	760 S. 9th Street	Residence	1	58.2	59.3	1.1	B	67.0	No
355	766 S. 9th Street	Residence	1	59.4	60.1	0.7	B	67.0	No
356	930 Pleasant Street	Residence	1	62.9	64.2	1.3	B	67.0	No
356A	806 S. 9th Street	Residence	1				B	67.0	Total Take

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
356B	824 S. 9th Street	Residence	1	60.1	62.3	2.2	B	67.0	No
356C	840 S. 9th Street	Residence	1	57.5	58.5	1.0	B	67.0	No
356D	860 S. 9th Street	Residence	1	54.9	56.2	1.3	B	67.0	No
356E	876 S. 9th Street	Residence	1	52.8	54.4	1.6	B	67.0	No
356F	898 S. 9th Street	Residence	1	51.8	53.3	1.5	B	67.0	No
356G	908 S. 9th Street	Residence	1	51.3	52.6	1.3	B	67.0	No
356H	936 S. 9th Street	Residence	1	50.6	51.7	1.1	B	67.0	No
356I	948 S. 9th Street	Residence	1	50.5	51.4	0.9	B	67.0	No
356J	960 S. 9th Street	Residence	1	49.9	50.7	0.8	B	67.0	No
357	875 S. 10th Street	Residence	1	54.1	56.7	2.6	B	67.0	No
358	897 S. 10th Street	Residence	1	54.0	56.5	2.5	B	67.0	No
359	907 S. 10th Street	Residence	1	53.9	56.1	2.2	B	67.0	No
360	935 S. 10th Street	Residence	1	52.3	54.2	1.9	B	67.0	No
361	965 S. 10th Street	Residence	1	50.7	52.4	1.7	B	67.0	No
362	859 S. 10th Street	Residence	1	62.7	64.6	1.9	B	67.0	No
363	839 S. 10th Street	Residence	1	63.8	66.2	2.4	B	67.0	Yes
364	823 S. 10th Street	Residence	1				B	67.0	Total Take
365	807 S. 10th Street	Firehouse Pizza	1				E	72.0	Total Take
366	797 S. 10th Street	El Camino Real Noblesville	1				E	72.0	Total Take
367	612 S. 10th Street	Residence	1	50.0	54.2	4.2	B	67.0	No
368	628 S. 10th Street	Residence	1	59.2	62.2	3.0	B	67.0	No
369	654 S. 10th Street	Residence	1	59.5	62.6	3.1	B	67.0	No
370	672 S. 10th Street	Residence	1	59.5	62.6	3.1	B	67.0	No
371	698 S. 10th Street	Residence	1	54.7	58.8	4.1	B	67.0	No
371A	712 S. 10th Street	Residence	3	56.4	60.2	3.8	B	67.0	No
371B	726 S. 10th Street	Commercial Building	1	60.4	61.8	1.4	C	67.0	No
372	798 S. 10th Street	Dairy Queen	1				E	72.0	Total Take
373	808 S. 10th Street	Office Building	1				E	72.0	Total Take
374	824 S. 10th Street	Residence	1				B	67.0	Total Take
375	858 S. 10th Street	Residence	1	62.1	65.4	3.3	B	67.0	No
376	872 S. 10th Street	Residence	1	61.9	65.0	3.1	B	67.0	No
377	876 S. 10th Street	Residence	1	61.5	64.4	2.9	B	67.0	No
378	898 S. 10th Street	Residence	1	61.7	64.3	2.6	B	67.0	No
379	912 S. 10th Street	Residence	1	61.1	63.3	2.2	B	67.0	No
380	960 S. 10th Street	Residence	1	57.9	60.6	2.7	B	67.0	No
381	919 S. 11th Street	Residence	1	45.9	48.5	2.6	B	67.0	No
382	915 S. 11th Street	Residence	1	46.9	49.9	3.0	B	67.0	No
383	897 S. 11th Street	Residence	1	48.0	51.4	3.4	B	67.0	No
384	885 S. 11th Street	Residence	1	50.2	54.9	4.7	B	67.0	No
385A	847 S. 11th Street	Residence	1	52.5	55.8	3.3	B	67.0	No
385B	847 S. 11th Street	Residence	1	54.5	57.5	3.0	B	67.0	No
386	825 S. 11th Street	Pleasant View Baptist Church	1	62.1	66.6	4.5	C	67.0	Yes
387	912 S. 11th Street	Residence	1	47.4	51.1	3.7	B	67.0	No
388	1133 Washington Street	Residence	1	47.2	51.1	3.9	B	67.0	No
389	1153 Washington Street	Residence	1	46.5	50.7	4.2	B	67.0	No
390	1173 Washington Street	Residence	1	46.5	50.8	4.3	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
391	905 S. 12th Street	Residence	1	42.9	46.6	3.7	B	67.0	No
392	1209 Washington Street	Residence	1	45.9	50.6	4.7	B	67.0	No
393	1215 Washington Street	Residence	1	45.8	50.7	4.9	B	67.0	No
394	1265 Washington Street	Residence	1	45.7	50.8	5.1	B	67.0	No
395	1271 Washington Street	Residence	1	42.5	46.8	4.3	B	67.0	No
396	909 S. 13th Street	Residence	1	45.6	50.8	5.2	B	67.0	No
397	853 S. 11th Street	Residence	1	50.9	54.4	3.5	B	67.0	No
398	884 S. 11th Street	Residence	1	50.5	54.2	3.7	B	67.0	No
399	848 S. 11th Street	Residence	1	51.9	55.6	3.7	B	67.0	No
399A	1152 Washington Street	Residence	1	50.4	54.7	4.3	B	67.0	No
399B	1172 Washington Street	Residence	1	49.8	54.5	4.7	B	67.0	No
400	1174 Washington Street	Residence	1	49.7	54.8	5.1	B	67.0	No
401	1208 Washington Street	Residence	1	49.5	55.0	5.5	B	67.0	No
402	1230 Washington Street	Residence	1	49.8	55.7	5.9	B	67.0	No
403	1236 Washington Street	Residence	1	49.7	55.6	5.9	B	67.0	No
404	1272 Washington Street	Residence	1	49.3	55.2	5.9	B	67.0	No
405	1298 Washington Street	Residence	1	49.3	54.9	5.6	B	67.0	No
406	840 S. 11th Street	Residence	1	55.0	58.7	3.7	B	67.0	No
407	824 S. 11th Street	Residence	1	65.0	69.3	4.3	B	67.0	Yes
408	809 S. 12th Street	Residence	1	60.4	68.7	8.3	B	67.0	Yes
409	1209 Pleasant Street	Residence	1	61.3	70.4	9.1	B	67.0	Yes
410	1219 Pleasant Street	Residence	1	61.3	70.8	9.5	B	67.0	Yes
411	1227 Pleasant Street	Residence	1	62.1	70.9	8.8	B	67.0	Yes
412	1295 Pleasant Street	Residence	2	56.2	62.3	6.1	B	67.0	No
413	611 S. 11th Street	Residence	1	48.4	52.0	3.6	B	67.0	No
414	631 S. 11th Street	Residence	1	46.1	50.8	4.7	B	67.0	No
415	637 S. 11th Street	Residence	1	46.4	51.4	5.0	B	67.0	No
416	653 S. 11th Street	Residence	1	46.8	51.9	5.1	B	67.0	No
417	669 S. 11th Street	Residence	1	47.4	52.6	5.2	B	67.0	No
418	685 S. 11th Street	Residence	1	48.5	54.0	5.5	B	67.0	No
418A	707 S. 11th Street	Residence	1	49.6	55.4	5.8	B	67.0	No
418B	723 S. 11th Street	Residence	1	50.8	56.6	5.8	B	67.0	No
418C	737 S. 11th Street	Residence	1	52.6	58.6	6.0	B	67.0	No
418D	759 S. 11th Street	Residence	1	59.0	66.9	7.9	B	67.0	Yes
418E	795 S. 11th Street	Residence	1				B	67.0	Total Take
419	654 S. 11th Street	Residence	1	46.7	51.5	4.8	B	67.0	No
420	670 S. 11th Street	Residence	1	47.5	52.6	5.1	B	67.0	No
421	684 S. 11th Street	Residence	1	48.2	53.5	5.3	B	67.0	No
422	756 S. 11th Street	Residence	1	56.2	62.7	6.5	B	67.0	No
423	798 S. 11th Street	Residence	1				B	67.0	Total Take
424	1180 Pleasant Street	Residence	1				B	67.0	Total Take
425	1210 Pleasant Street	Residence	1				B	67.0	Total Take
426	1230 Pleasant Street	Residence	1				B	67.0	Total Take
427	1250 Pleasant Street	Residence	1				B	67.0	Total Take
428	1260 Pleasant Street	Residence	1				B	67.0	Total Take
429	744 S. 11th Street	Residence	1	52.5	58.6	6.1	B	67.0	No

NOISE IMPACT SUMMARY (All Noise Levels are Reported in dBA L_{eq})									
Receptor	Address	Description	# Receptors	Existing Noise Level	Future Noise Level	Difference (+ / -)	NAC Category	NAC Leq(h)	Impacted?
430	726 S. 11th Street	Residence	1	50.6	56.6	6.0	B	67.0	No
431	706 S. 11th Street	Residence	1	49.2	55.4	6.2	B	67.0	No
432	747 S. 13th Street	Residence	1	47.8	55.9	8.1	B	67.0	No
433	1270 Pleasant Street	Residence	1				B	67.0	Total Take
434	796 S. 13th Street	Residence	1				B	67.0	Total Take
435	784 S. 13th Street	Residence	1	52.6	61.8	9.2	B	67.0	No
436	772 S. 13th Street	Residence	1	50.2	58.3	8.1	B	67.0	No
437	678/680 S. 13th Street	Residence	1	45.6	52.3	6.7	B	67.0	No
438	672/674 S. 13th Street	Residence	1	44.9	51.2	6.3	B	67.0	No
439	640/644 S. 13th Street	Residence	1	44.5	50.3	5.8	B	67.0	No
440	636/638 S. 13th Street	Residence	1	44.1	49.7	5.6	B	67.0	No
441	624 S. 13th Street	Residence	1	43.8	49.0	5.2	B	67.0	No
442	686 S. 13th Street	Residence	1	44.7	51.0	6.3	B	67.0	No
443	684 S. 13th Street	Residence	1	45.8	52.8	7.0	B	67.0	No
444	682 S. 13th Street	Residence	1	46.3	53.5	7.2	B	67.0	No
445	1338 Pleasant Street	Noblesville Baptist Church	1	47.9	54.6	6.7	C	67.0	No
446	1337 Pleasant Street	Simple Engine & Machine	1	59.0	65.4	6.4	E	72.0	No
447	1401 Pleasant Street	U Haul	1	54.8	61.2	6.4	E	72.0	No
448	1575 Pleasant Street	Noblesville Building Corporation	1	47.2	54.7	7.5	E	72.0	No
449	Not used								
450	1700 Pleasant Street	Commercial Strip	1	62.2	66.4	4.2	E	72.0	No
451	1700 Pleasant Street	Commercial Strip	1	62.3	66.4	4.1	E	72.0	No
452	1700 Pleasant Street	Commercial Strip	1	62.3	66.2	3.9	E	72.0	No
453	1700 Pleasant Street	Commercial Strip	1	62.4	66.2	3.8	E	72.0	No
454	1700 Pleasant Street	Commercial Strip	1	62.7	66.1	3.4	E	72.0	No
455	1700 Pleasant Street	Commercial Strip	1	63.4	66.4	3.0	E	72.0	No
456	1700 Pleasant Street	Commercial Strip	1	63.5	66.8	3.3	E	72.0	No
457	1900 Pleasant Street	USPS	1	56.9	59.6	2.7	E	72.0	No
458	2003 Pleasant Street	Hamilton County Fairgrounds	49	53.6	59.0	5.4	E	72.0	No
Total Category B Land Use Impacts									9
Total Category C Land Use Impacts									1
Total No. of Impacted Receivers									10

RED Indicates receptors impacted by the proposed project.

Appendix C – Traffic Data Input Table

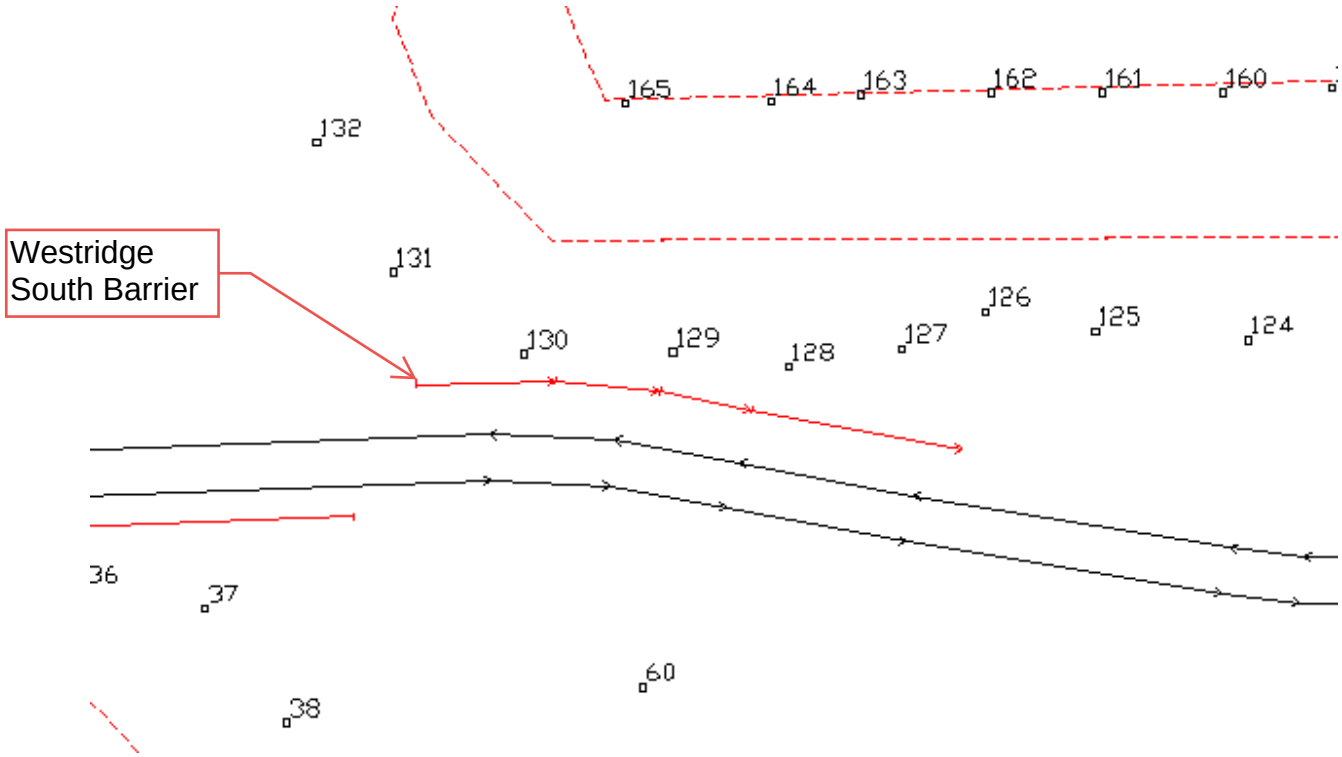
Traffic Data Input Table										
Road	Segment		Existing[1] (2018 or 2021) Condition				Future Condition (2045)			
	Begin	End	Existing DHV (veh/hour)[2]	Existing Truck %	Posted Speed (mph)	Speed Used (mph)	Future (2045) DHV (veh/hour)	Future (2045) Truck %	Posted/ Design Speed (mph)	Speed Used (mph)
EB Pleasant St.	West of 6th St.	6th St.	7	0	20	20	12	0	20	25
EB Pleasant St.	6th St.	8th St.	7	0	20	20				
EB Pleasant St.	8th St.	9th St.	331	0	20	20	978	1	20	30
EB Pleasant St.	9th St.	10th St.	300	0	20	20	978	1	20	30
EB Pleasant St.	10th St.	13th St.	452	1	20	20	1270	1	35	45
EB Pleasant St.	13th St.	16th St.	452	1	30	35				
EB Pleasant St.	16th St.	19th St.	475	2	30	35				
EB Pleasant St.	19th St. Roundabout		475	2	30	20	1140	1	30	20
EB Pleasant St.	East of 19th St.		448	2	30	35	1057	1	30	35
EB Pleasant St.	S.R. 32	River Road	N/A	N/A	N/A	N/A	657	1	35	45
EB Pleasant St.	River Road	8th St.	N/A	N/A	N/A	N/A	870	1	35	45
WB Pleasant St.	19th St. Roundabout		534	1	30	20-35	1050	1	30	20-35
WB Pleasant St.	19th St.	16th St.	432	1	30	35	1052	1	35	45
WB Pleasant St.	16th St.	West of 16th St.	435	1	30	35				
WB Pleasant St.	West of 6th St.	11th St.	380	4	20-30	20-35				
WB Pleasant St.	11th St.	10th St.	428	1	20	20				
WB Pleasant St.	10th St.	9th St.	348	1	20	20	886	1	20	30
WB Pleasant St.	9th St.	8th St.	348	1	20	20				
WB Pleasant St.	8th St.	6th St.	31	0	20	20	29	0	20	25
WB Pleasant St.	8th St.	River Road	N/A	N/A	N/A	N/A	941	1	35	45
WB Pleasant St.	River Road	S.R. 32	N/A	N/A	N/A	N/A	521	1	35	45
NB 19th St.	At Pleasant St.		242	0	30	35	338	0	30	35
SB 19th St.	At Pleasant St.		101	0	30	35	179	1	30	35
WB Walnut St.	At 8th St.		16	25	20	20	12	0	20	20
EB Walnut St.	At 8th St.		12	0	20	20	12	0	20	20
NB 10th St.	Plum St.	Pleasant St.	348	1	25	25	776	0	25	30
NB 10th St.	Pleasant St.	Mulberry St.	328	0	25	25	722	0	25	25
SB 10th St.	Mulberry St.	Pleasant St.	300	1	25	25	456	1	25	25
SB 10th St.	Pleasant St.	Plum St.	252	1	25	25	480	0	25	30
NB 8th St.	Plum St.	Pleasant St.	446	1	30	50	N/A	N/A	N/A	N/A
NB 8th St.	Pleasant St.	Mulberry St.	488	7	30	50	N/A	N/A	N/A	N/A
NB 8th St.	Plum St.	Pleasant St. South RAB	N/A	N/A	N/A	N/A	785	1	30	35
NB 8th St.	Pleasant St. South RAB	Pleasant St. North RAB	N/A	N/A	N/A	N/A	795	1	30	30
NB 8th St.	Pleasant St. North RAB	Mulberry St.	N/A	N/A	N/A	N/A	678	1	30	35
SB 8th St.	Mulberry St.	Pleasant St.	636	7	30	50	N/A	N/A	N/A	N/A
SB 8th St.	Pleasant St.	Plum St.	499	3	30	50	N/A	N/A	N/A	N/A
SB 8th St.	Mulberry St.	Pleasant St. North RAB	N/A	N/A	N/A	N/A	706	1	30	35
SB 8th St.	Pleasant St. North RAB	Pleasant St. South RAB	N/A	N/A	N/A	N/A	1712	1	30	30
SB 8th St.	Pleasant St. South RAB	Plum St.	N/A	N/A	N/A	N/A	827	1	30	35
NB River Road	Westbrook Blvd.	Watermead Dr.	216	18.5	40	40	N/A	N/A	40	40
NB River Road	Westbrook Blvd.	Pleasant St.	N/A	N/A	N/A	N/A	507	1	40	40
NB River Road	Pleasant St.	Watermead Dr.	N/A	N/A	N/A	N/A	668	1	40	40
SB River Road	Watermead Dr.	Westbrook Blvd.	200	8	40	40	N/A	N/A	40	40
SB River Road	Watermead Dr.	Pleasant St.	N/A	N/A	N/A	N/A	474	1	40	40
SB River Road	Pleasant St.	Westbrook Blvd.	N/A	N/A	N/A	N/A	522	1	40	40
EB S.R. 32	West of Hague Rd.		776	7	40	55	1552	3	40	55
EB S.R. 32	East of Hague Rd.		660	7	40	55	979	3	40	55
WB S.R. 32	East of Hague Rd.		776	9	40	55	986	3	40	55
WB S.R. 32	West of Hague Rd.		780	9	40	55	1265	3	40	55
NB Hague Rd.	At S.R. 32		216	11	40	55	592	1	40	55
SB Hague Rd.	At S.R. 32		124	0	40	55	128	1	40	55
NB Clover Rd.	At Pleasant St.		257	1	25	35	611	1	25	35
SB Clover Rd.	At Pleasant St.		303	1	25	35	712	1	25	35

Notes:

1. Speed used for input into TNM 2.5 is generally based on field observation rather than speed limit. For roadways not directly observed, the speed limit is used. This practice produces more realistic results from the noise model.
2. Traffic counts from field measurements used to validate model. The 2018 Corridor Study was used to supplement traffic information for streets that were not directly observed.

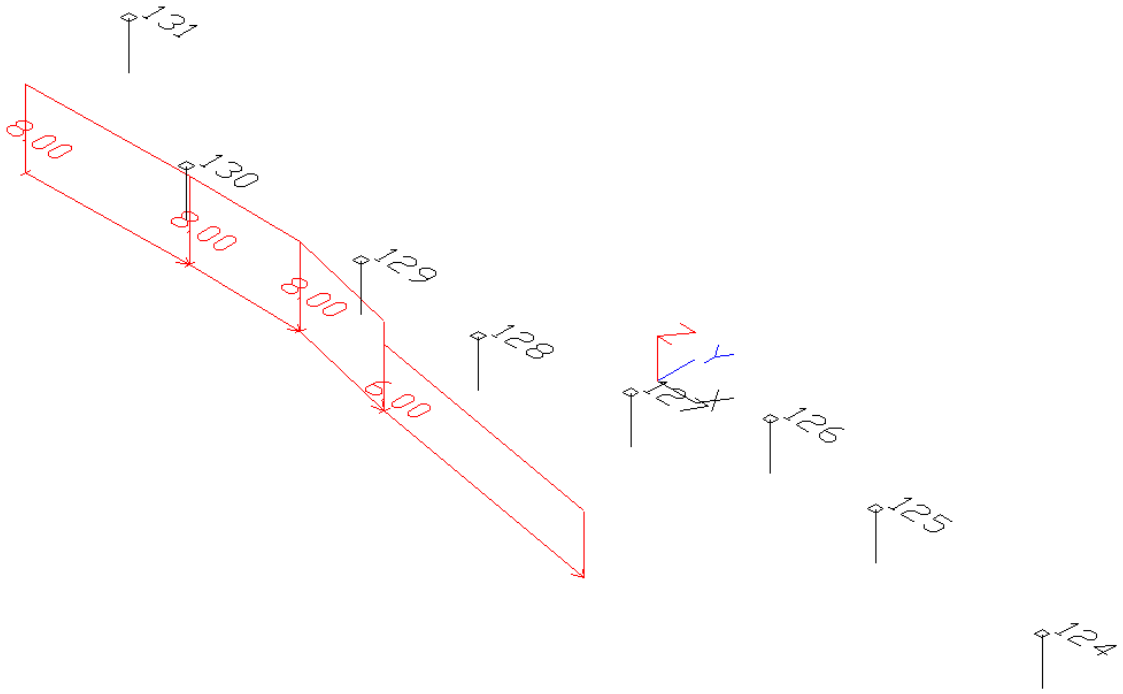
Appendix D – Barrier Analysis

Barrier Analysis – Westridge South Drive Barrier



Roadway:	——→	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	⊢——→	Contour Zone:	polygon
Building Row:	— —	Parallel Barrier:	═══
Terrain Line:	———	Skew Section:	—→

Barrier Analysis – Westridge South Drive Barrier



CHA
BJA

TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRAC Pleasant Street Noise Analysis
RUN: Proposed Model
BARRIER DESIGN: Westridge South

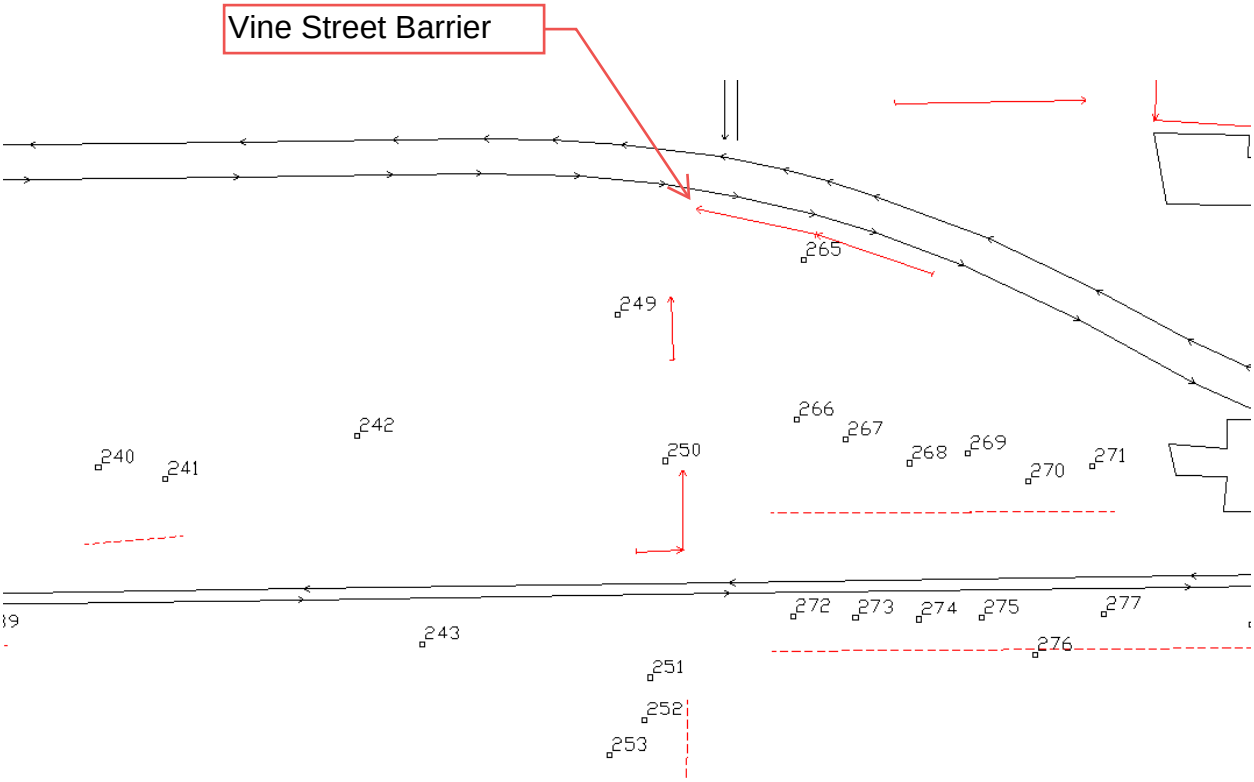
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

			No Barrier					With Barrier			
Receiver Name	Receptors	Existing LAeq1h dBA	LAeq1h dBA	Crit'n dBA	Calculated dB	Sub'l Inc dB	Impact	LAeq1h dBA	Reduction dB	Goal dB	Calculated minus Goal dB
124	1	0	59.7	66	59.7	15	----	59.6	0.1	7	-6.9
125	1	0	60.4	66	60.4	15	----	59.9	0.5	7	-6.5
126	1	0	60.2	66	60.2	15	----	59	1.2	7	-5.8
127	1	0	63.1	66	63.1	15	----	59.8	3.3	7	-3.7
128	1	0	65.7	66	65.7	15	----	59.3	6.4	7	-0.6
129	1	0	65.8	66	65.8	15	----	56.8	9.0	7	2
130	1	0	66.8	66	66.8	15	Snd Lvl	57.9	8.9	7	1.9
131	1	0	61.2	66	61.2	15	----	59.7	1.5	7	-5.5

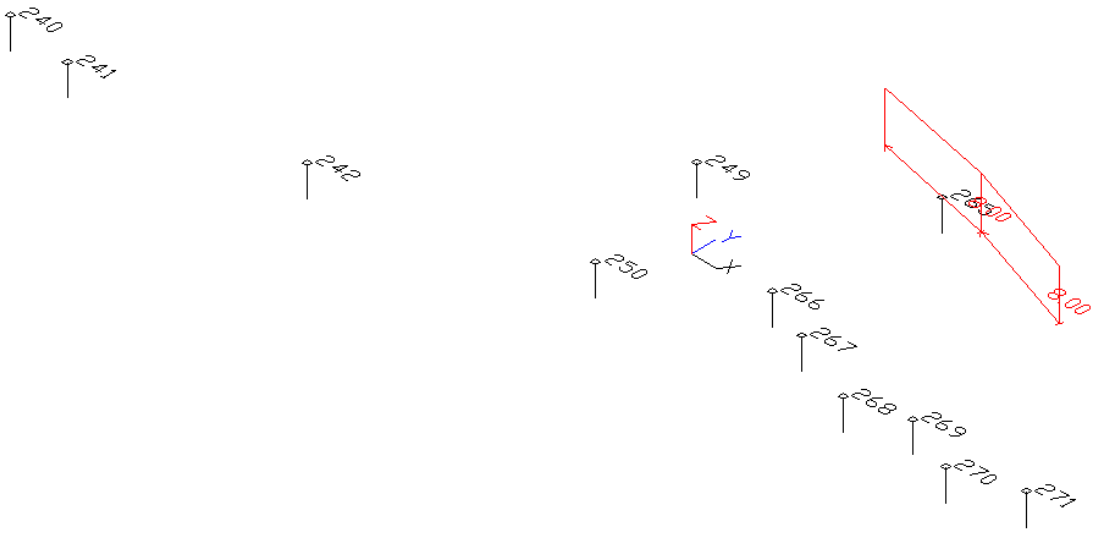
Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	8	0.1	3.9	9
All Impacted	1	8.9	8.9	8.9
All that meet NR G	2	8.9	9	9

Barrier Analysis – Vine Street Barrier



Roadway:	→	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	⊢→	Contour Zone:	polygon
Building Row:	— —	Parallel Barrier:	═══
Terrain Line:	———	Skew Section:	—→

Barrier Analysis – Vine Street Barrier



CHA
BJA

TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRA(Pleasant Street Noise Analysis
RUN: Proposed Model
BARRIER DESIGN: Vine Street

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

			No Barrier					With Barrier			
Receiver Name	Receptors	Existing LAeq1h dBA	1h dBA	Crit'n dBA	Calculated dB	Sub'l Inc dB	Impact	LAeq1h dBA	Reduction dB	Goal dB	Calculated minus Goal dB
240	1	0	55.7	66	55.7	15	----	55.7	0	7	-7
241	1	0	55.5	66	55.5	15	----	55.4	0.1	7	-6.9
242	1	0	56.2	66	56.2	15	----	56	0.2	7	-6.8
249	1	0	61.9	66	61.9	15	----	61.2	0.7	7	-6.3
250	1	0	58.1	66	58.1	15	----	56.8	1.3	7	-5.7
265	1	0	70.4	66	70.4	15	Snd Lvl	62.9	7.5	7	0.5
266	1	0	59.6	66	59.6	15	----	57.7	1.9	7	-5.1
267	1	0	59.5	66	59.5	15	----	58	1.5	7	-5.5
268	1	0	59.6	66	59.6	15	----	58.6	1	7	-6
269	1	0	60.7	66	60.7	15	----	60.1	0.6	7	-6.4
270	1	0	60.7	66	60.7	15	----	60.4	0.3	7	-6.7
271	1	0	63	66	63	15	----	62.8	0.2	7	-6.8

Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	12	0	1.3	7.5
All Impacted	1	7.5	7.5	7.5
All that meet NR G	1	7.5	7.5	7.5

Appendix E.1 – Field Measurements

PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Littin / Wiemeyer

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	80.1	63.6	#noise; trucks with trailer x 2,
10	79.5	64.1	car engine & squeal, box truck x 3,
15	79.5	63.8	semi-trailers, truck engine
			rev, Hummer, car electric
			engine start

Battery Voltage Check
initial _____ Volts
Final _____ Volts

Calibration
initial: 113.4
Final: 113.9

Noise Meter
Serial No. NXF090058

Manufacturer: Quest
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From / Owned By: IE Monitoring Instruments

Meter Response Rate: Fast or (Slow)
(Circle one)

MONTH: 12 / DAY: 15 / YEAR: 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

trail

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
38%	30.0	YES (NO)	06

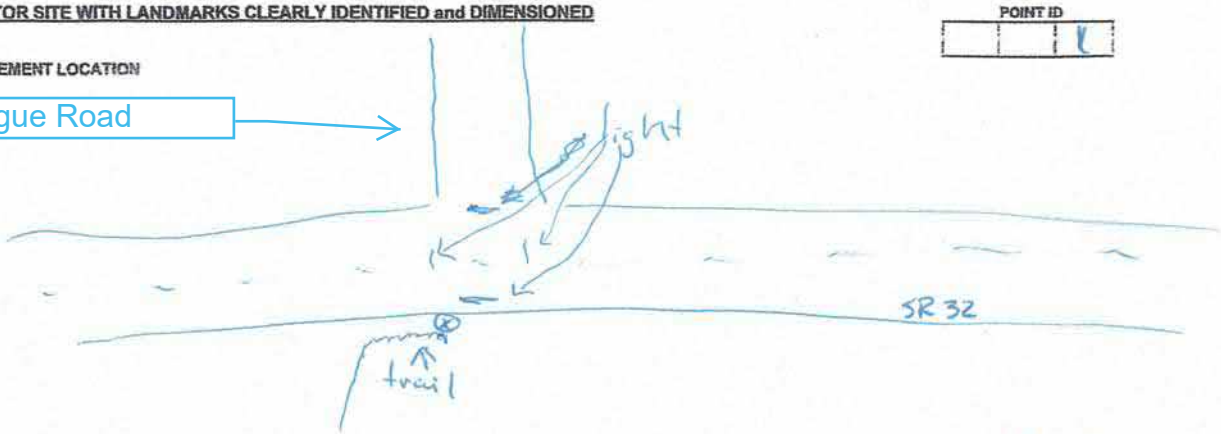
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
17 : 24	79.5	63.8 .

FINISH (24 HR. CLOCK)	L
17 : 39	.

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 1

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Litten/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	60.1	52.1	* noise; flags waving off/on during,
10	61.7	52.3	people talking, car, car door x2,
15	61.7	52.1	house door squeak, person up
			metal stairs, car loud muffler

Battery Voltage Check
Initial _____ Volts
Final _____ Volts

Calibration
Initial: 113.9
Final: 113.9

Noise Meter
Serial No. NXF090058

Manufacturer: Quest
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From / Owned By: IE Monitoring Instruments

Meter Response Rate: Fast or Slow (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
40.90	31.1	YES (NO)	2

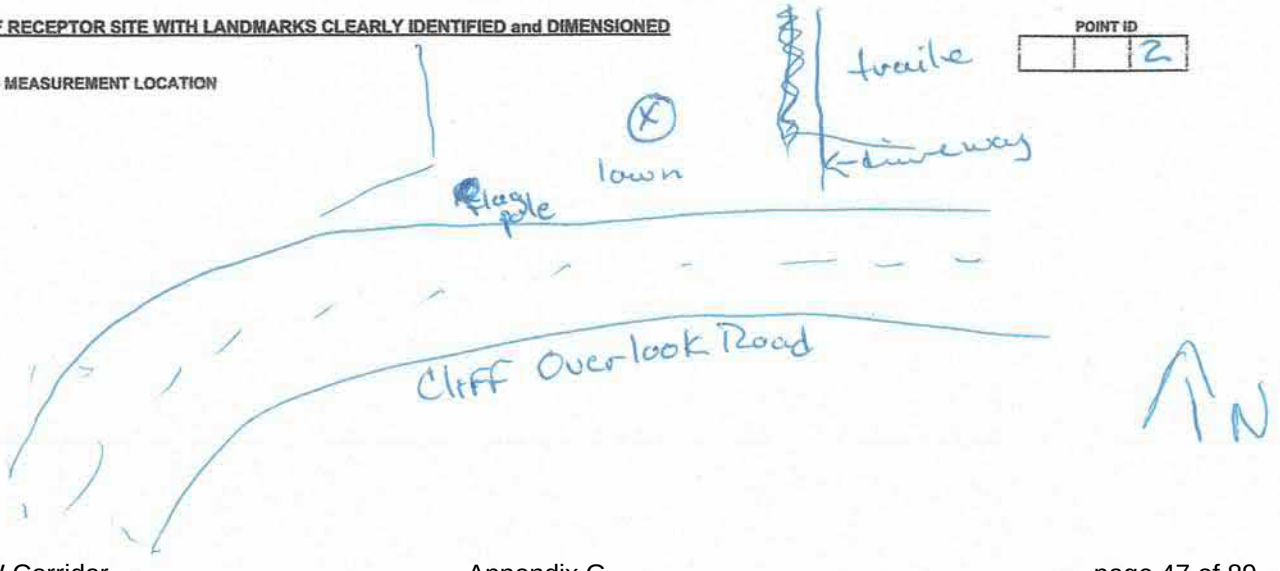
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
16 : 49	61.7	52.1 .

FINISH (24 HR. CLOCK)	L__
17 : 04	.

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

⊗ = MEASUREMENT LOCATION

POINT ID: 2



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 059473

MEASUREMENT BY: Leitzinger/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	81.4	66.7	* noise, construction trucks, dog bark from
10	93.1	67.9	0:39 to 7:25, semitrailer, concrete
15	87.8	66.9	truck, semitrailer, (3) trucks with
			trailers (bump), car accelerating
			on turnout of neighborhood

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 113.8
Final: 113.8

Noise Meter
Serial No. NW F090058

Manufacturer: Quest
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: EE Monitoring Instruments

Meter Response Rate: Fast or Slow (Circle one)

MONTH: 12 / DAY: 15 / YEAR: 2020

COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
38%	31.2	YES (NO)	0

START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
16:18	93.1	66.7

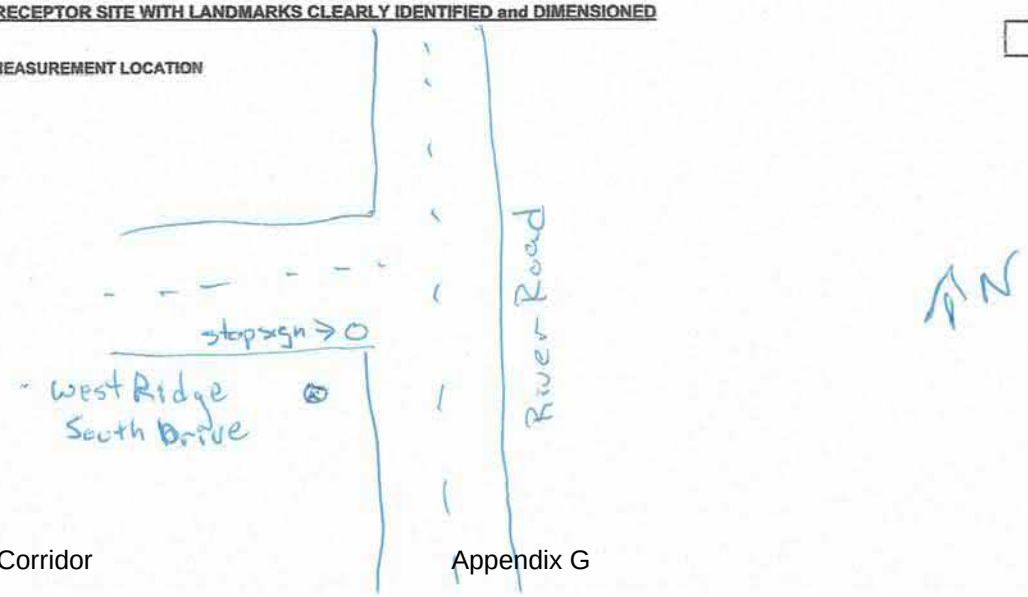
FINISH (24 HR. CLOCK): 16:33

L__:

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 3

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 059473

MEASUREMENT BY: Littin / Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	67.8	65.1	* noise; wind chimes throughout
10	66.1	65.4	study, constant/door, people talking
15	67.7	65.5	plane, car start, door shut

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 113.9
Final: 113.9

Noise Meter
Serial No. NYF090058

Manufacturer: Quest
Model #: Noise Pro DL-X
ANSII Type: I or II
Meter Source: Rented From / Owned By: IE Monitoring Instruments

Meter Response Rate: Fast or Slow (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
43%	30.2	YES / NO	05

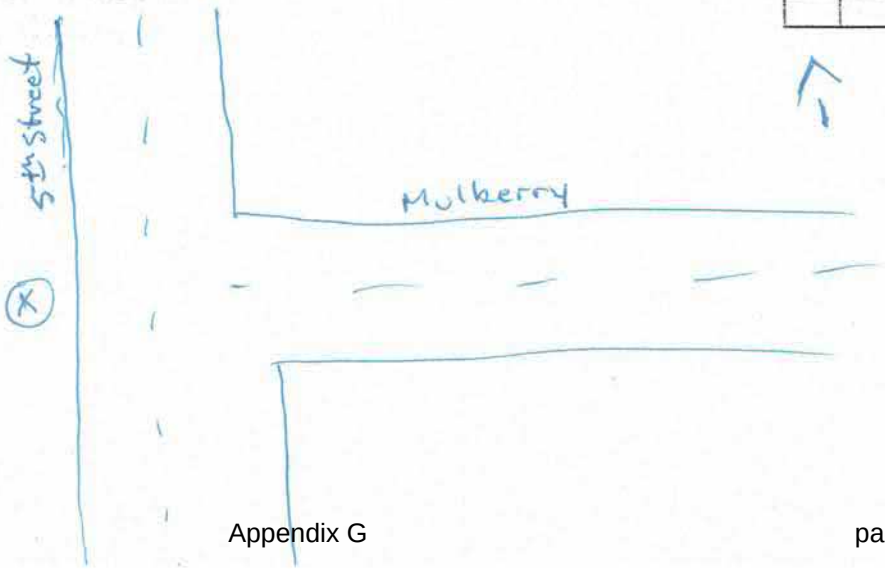
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
15:33	67.8	65.4

FINISH (24 HR. CLOCK)	L___
15:48	

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID 4

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Littin/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	71.2	57.1	* noise; talking, squeaky brakes,
10	80.1	58.9	car honk, school bus, semi-idle
15	73.4	57.3	& brakes for 1 minute 5 seconds
			at 9:20-10:25, dump truck

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 114.0
Final: 114.0

Noise Meter
Serial No. NXF090058

Manufacturer: Quest
Model #: NoisePro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By IE Monitoring Instruments

Meter Response Rate: Fast or (Slow) (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER 20

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
50	32.2	YES (NO)	06

START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
14:58	79.9	57.3

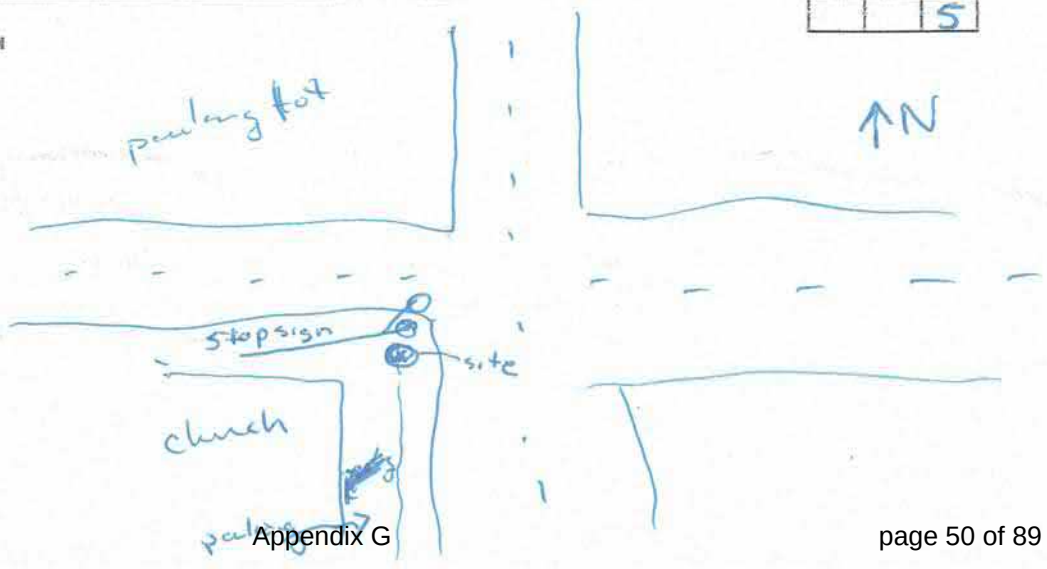
FINISH (24 HR. CLOCK) 15:13

L___

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID 5

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Gittin/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	81.2	63.9	* noise's big trucks excelleration squeeky brakes, truck idle, truck with trailer bounce, squeaky brakes turning, semi trailer semi-alone, engine load and muffler
10	84.1	67.7	
15	83.8	64.1	

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 113.6
Final: 113.9

Noise Meter
Serial No. NKF090058

Manufacturer: Quest
Model #: NoisePro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: IE Monitoring Instrumen

Meter Response Rate: Fast or Slow (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
38.70	33.6	YES (NO)	07

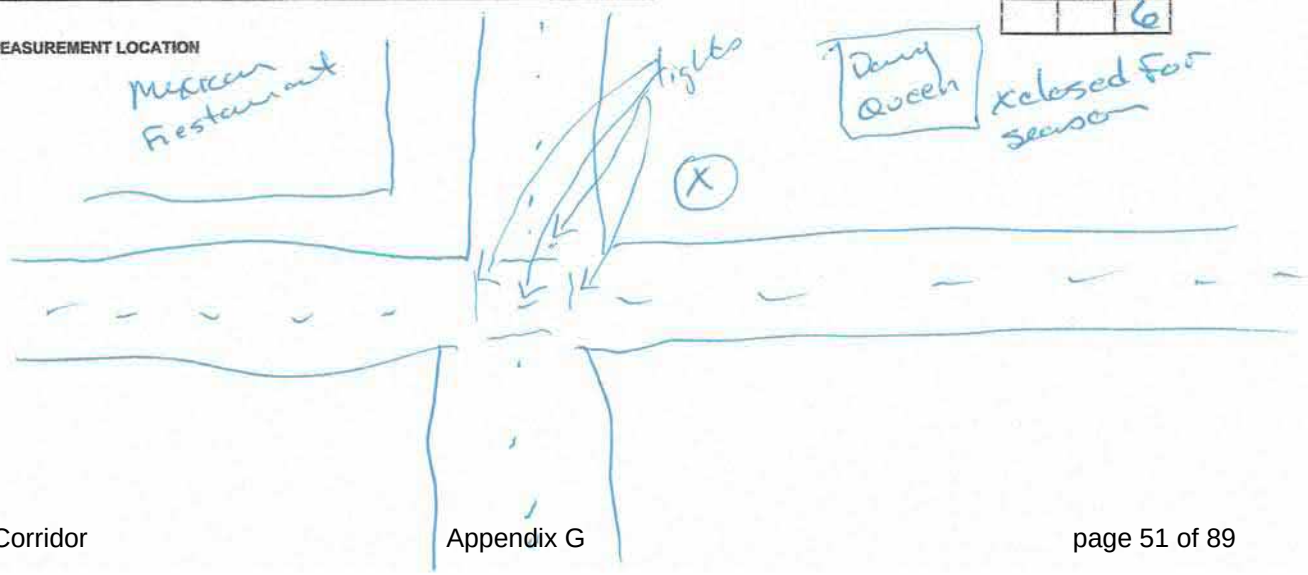
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
14:12	83.1	63.2

FINISH (24 HR. CLOCK)	L
14:27	

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 6

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Gittin/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	78.4	63.2	* noise; IPL truck, Jeep - exhaust,
10	69.1	64.5	unit fell @ 5:00 minutes caught, box
15	71.1	62.7	truck

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 113.9
Final: 113.9

Noise Meter
Serial No. NXF090058

Manufacturer: Quest
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: IE Monitoring Instruments

Meter Response Rate: Fast or Slow (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY: 40%

TEMP. (F): 33.2

PRECIP: YES / NO (NO)

WIND (MPH): 5

START (24 HR. CLOCK): 13:41

FINISH (24 HR. CLOCK): 13:56

L_{max}: 74.8

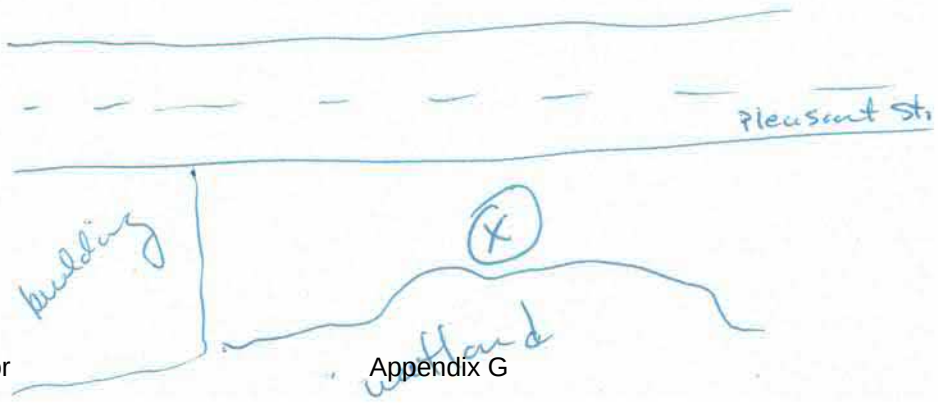
L_{eq} or L_{av}: 62.7

L__:

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 7

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Noblesville E-W Corridor

PROJECT NUMBER: 0594731

MEASUREMENT BY: Littin/Winebrenner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	81.2	69.8	* airplane at 5:04
10	87.3	66.2	* dog at 9:59
15	76.2	67.1	
			* other noise; loud truck exhaust, plow,
			gator/tractor Fairgrounds, squeaky wrecks

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 113.8
Final: 113.8

Noise Meter
Serial No. NXF090058

Manufacturer: Quest
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By IE Monitoring Instruments

Meter Response Rate: Fast or (Slow) (Circle one)

MONTH 12 / DAY 15 / YEAR 2020

COVER SHEET NUMBER

NYSDOT P.I.N.

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS (Lawn)

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
40 90	32 01	YES (NO)	10

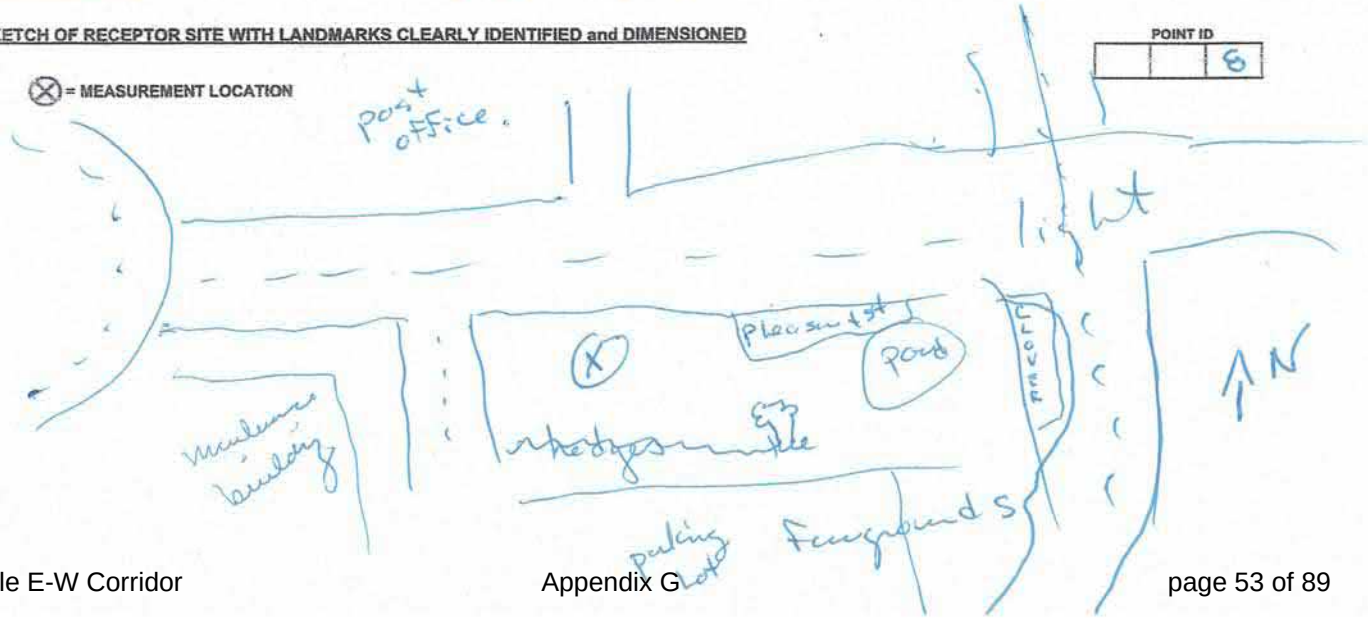
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
12 : 57	93.2	65.6 .

FINISH (24 HR. CLOCK)	L
13 : 12	.

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 8

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Pleasant Street - Site #1 (SR32 and Hague)
PROJECT NUMBER: 059473
MEASUREMENT BY: Trevor Wieseke, Robert Wineriner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	88.1	76.9	Cement truck and dump truck 1:38/2:00/3:42
10	90.6	78.8	Plane 5:45, people talking 6:30, Semi 8:24
15	92.0	78.2	Semi 11:20, Bus 11:35, Dump truck 11:48/12:4; Plane 13:45

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 114.0
Final: 114.0

Noise Meter
Serial No. 91X10 80006

Manufacturer: Quest technologies
Model #: NoisePro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: CHA

Meter Response Rate: Fast or Slow (Circle one)

MONTH: 04 / DAY: 16 / YEAR: 21
COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER (Trail)

SOFT - LOOSE, GRANULAR, SANDY SOILS, VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
50.0	58.0	YES / (NO)	06

START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
14:31	92.0	78.2

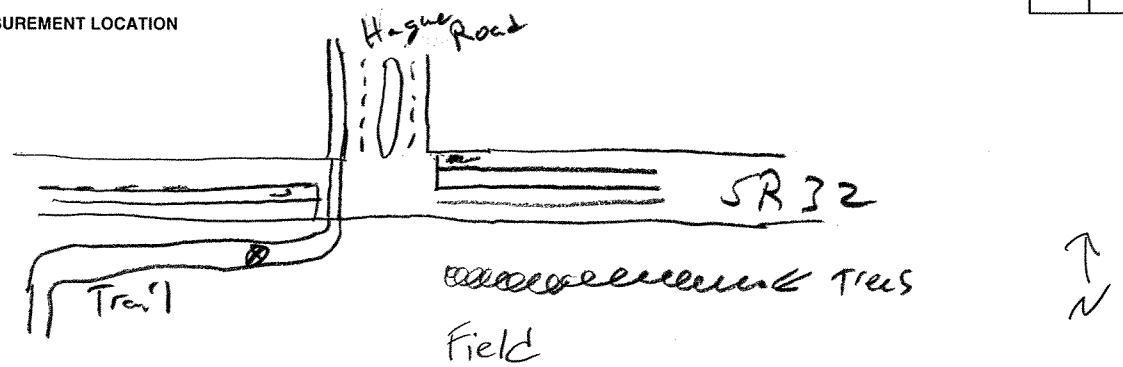
FINISH (24 HR. CLOCK): 14:46

L__:

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID:

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Pleasant Street - Site #4 (5th St. + Mulberry St.)

PROJECT NUMBER: 059473

MEASUREMENT BY: Trevor Wieseke, Robert Culnebriner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	75.5	62.0	Dog Barking 1:45, Drilling at IDII 3:53
10	75.5	61.1	
15	75.5	60.6	

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 114.1
Final: 114.0

Noise Meter
Serial No. 11X10800006

Manufacturer: Quest Technologies
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: CHA

Meter Response Rate: Fast or (Slow) (Circle one)

MONTH: 04 / DAY: 16 / YEAR: 21

COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
49.0	60.0	YES (NO)	05

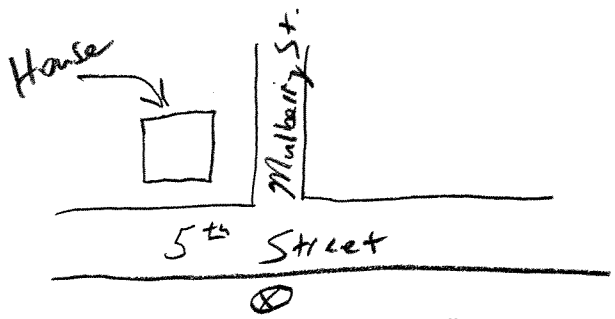
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
15 : 34	75.5	60.6

FINISH (24 HR. CLOCK)	L__
15 : 49	

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID:

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Pleasant Street - Site #5 MEASUREMENT BY: Trevor Wieseke

PROJECT NUMBER: 059473 (Church South of IDI) Robert Winebrinner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	87.1	72.4	Big truck 2:20, Small Bus 2:54
10	87.1	72.1	Semi truck 5:58, Motorcycle 9:00
15	87.1	71.5	trash truck at 10:20

Battery Voltage Check
Initial _____ Volts
Final _____ Volts

Calibration
Initial: 114.0
Final: 114.0

Noise Meter
Serial No. 7IX1080006

Manufacturer: Quest Technologies
Model #: Noise Pro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: CHA

Meter Response Rate: Fast or (Slow) (Circle one)

Bank #1 Heavy truck
Bank #2 Motorcycle

MONTH: 04 / DAY: 16 / YEAR: 21

COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

(HARD) - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

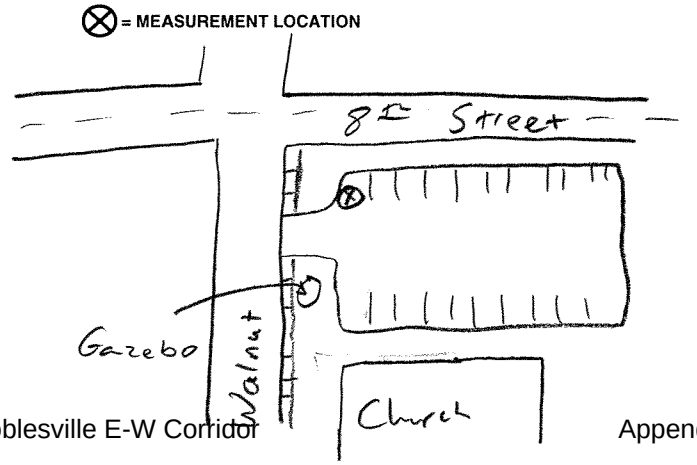
% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
51.0	56.0	YES (NO)	07

START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
13:30	87	71.5

FINISH (24 HR. CLOCK)	L__
13:45	

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID: 5



PROJECT NAME: Pleasant Street - Site #7 (Uhaul)

PROJECT NUMBER: 059473

MEASUREMENT BY: Trevor Wieseke, Robert Winebrinner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	80.8	70.3	Small Bus 3:35
10	91.8	73.9	Semi 5:42, motorcycle 9:10, plane 9:20
15	91.8	72.7	Cement truck 13:05, Car w/bass 10:20, Scooter at 12:25

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 114.0
Final: 114.0

Noise Meter
Serial No. MX1080006

Manufacturer: Quest Technologies
Model #: NoisePro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: CHA

Meter Response Rate: Fast or (Slow) (Circle one)

MONTH: 04 / DAY: 16 / YEAR: 21

COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY: 48.0

TEMP. (F): 60.0

PRECIP: YES (NO)

WIND (MPH): 06

START (24 HR. CLOCK): 16 : 16

FINISH (24 HR. CLOCK): 16 : 31

L_{max}: 91.8

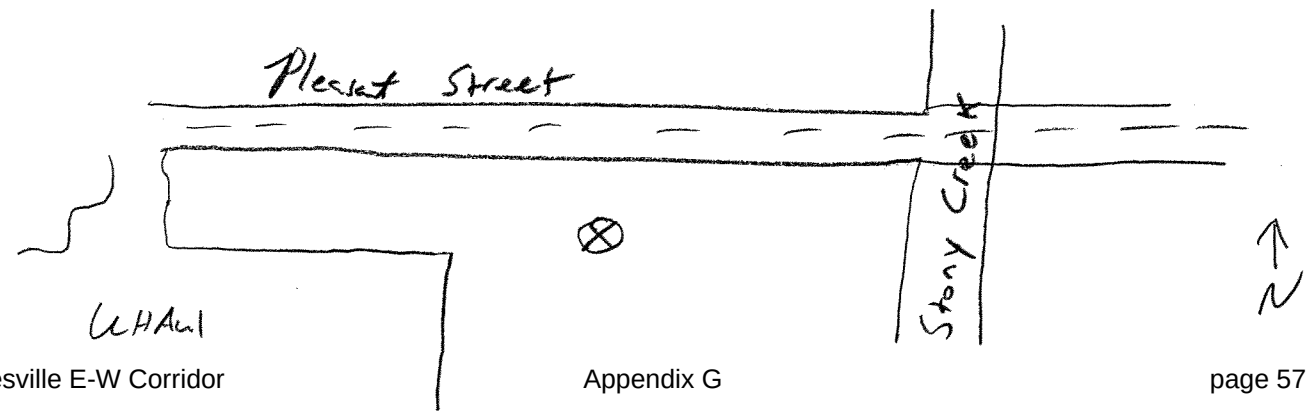
L_{eq} or L_{av}: 72.7

L__:

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID:

⊗ = MEASUREMENT LOCATION



PROJECT NAME: Pleasant Street - Site #8 (Post office Drive)

PROJECT NUMBER: 059473

MEASUREMENT BY: Trevor Wieseke, Robert Winebrinner

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

METROLOGGER DATA SHEET

TIME INTERVAL	L_{max}	L_{eq} or L_{av}	COMMENTS / INDIVIDUALLY IDENTIFIED NOISE SOURCES
5	82.9	72.0	Loud Postal Truck - 3:00
10	82.9	72.5	Loud Postal truck - 6:00 and 7:00
15	82.9	72.3	Semi 13:00 / Loading Dumpster at 14:00

Battery Voltage Check
Initial ____ Volts
Final ____ Volts

Calibration
Initial: 114.0
Final: 114.0

Noise Meter
Serial No. NX1080006

Manufacturer: Quest Technologies
Model #: NoisePro DLX
ANSII Type: I or II
Meter Source: Rented From/Owned By: CHA

Meter Response Rate: Fast or Slow (Circle one)

MONTH: 04 / DAY: 16 / YEAR: 21

COVER SHEET NUMBER:

NYSDOT P.I.N.:

Area Between Roadway and Receptor
(Circle one or identify varying conditions in Sketch)

HARD - ASPHALT, CONCRETE, PACKED DIRT, BODY OF WATER, CRUSTED SNOW COVER

SOFT - LOOSE, GRANULAR, SANDY SOILS VEGETATIVE COVER, POWDER SNOW, BRUSH, LAWN, GRASS

% REL. HUMIDITY	TEMP. (F)	PRECIP	WIND (MPH)
59.0	53.0	YES (NO)	10

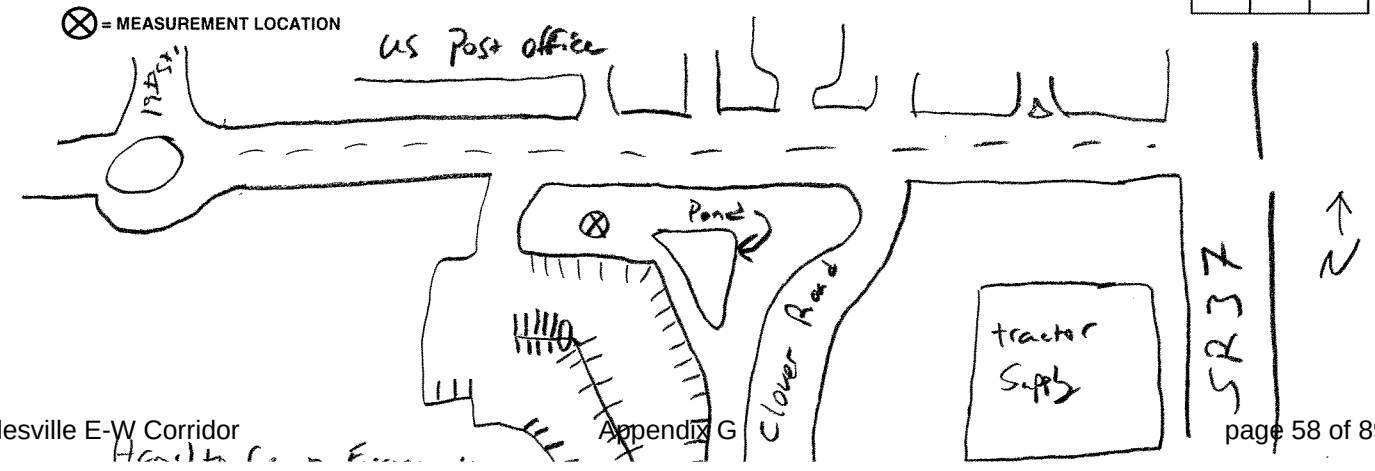
START (24 HR. CLOCK)	L_{max}	L_{eq} or L_{av}
11 : 39	82.9	72.3

FINISH (24 HR. CLOCK): 11 : 54

L__: ____.____

SKETCH OF RECEPTOR SITE WITH LANDMARKS CLEARLY IDENTIFIED and DIMENSIONED

POINT ID:



Appendix E.2 – Model Validation

CHA
BJA

TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/C Pleasant Street Noise Analysis
RUN: Existing Model

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

ATMOSPHE 68 deg F, 50% RH

			No Barrier					With Barrier			
		Field LAeq1h	Calculated LAeq1h	Crit'n	Calculated	Sub'l Inc	Impact	LAeq1h	Reduction	Goal	Calculated minus Goal
Site 1	1	78.2	73.7	66	-4.5	15	Snd Lvl	73.7	0	8	-8
Site 2	1	52.1	42.3	66	-9.8	15	----	42.3	0	8	-8
Site 3	1	66.9	65.6	66	-1.3	15	----	65.6	0	8	-8
Site 4	1	65.5	45.2	66	-20.3	15	----	45.2	0	8	-8
Site 5	1	71.5	70.5	66	-1.0	15	Snd Lvl	70.5	0	8	-8
Site 6	1	64.1	66.4	66	2.3	15	Snd Lvl	66.4	0	8	-8
Site 7	1	62.7	62.4	66	-0.3	15	----	62.4	0	8	-8
Site 8	1	67.1	64.5	66	-2.6	15	----	64.5	0	8	-8

See report discussion for notes on Sites 1, 2 and 4

Appendix F – Traffic Counts

Site 1

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\SR 32 and Hague.ppd
Start Date: 12/15/2020
Start Time: 7:00:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	HAGUE Southbound				SR 32 Westbound				HAGUE Northbound				SR 32 Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
07:00 PM	30	0	8	0	17	154	0	0	0	0	0	0	0	140	41	0
% Cars	100.00%	0.00%	100.00%	0.00%	100.00%	97.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	96.43%	95.12%	0.00%
% Trucks	0.00%	0.00%	0.00%	0.00%	0.00%	2.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.57%	4.88%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 2

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Cliff.ppd
Start Date: 12/15/2020
Start Time: 6:15:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	CLIFF Southbound				CLIFF Westbound				CLIFF Northbound				CLIFF Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
06:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
% Cars	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
% Trucks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 3

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\River and Westridge.ppd
Start Date: 12/15/2020
Start Time: 6:00:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	RIVER Southbound				WESTRIDGE Westbound				RIVER Northbound				WESTRIDGE Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
06:00 PM	1	49	0	0	0	0	0	0	0	53	1	0	1	0	1	0
% Cars	100.00%	83.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	81.13%	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
% Trucks	0.00%	16.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.87%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 4

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Mulberry and 5th.ppd
Start Date: 12/15/2020
Start Time: 5:15:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	5TH Southbound				MULBERRY Westbound				5TH Northbound				MULBERRY Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
05:15 PM	0	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0
% Cars	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
% Trucks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 5

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Walnut and 8th.ppd
Start Date: 12/15/2020
Start Time: 4:30:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	8TH Southbound				WALNUT Westbound				8TH Northbound				WALNUT Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
04:30 PM	1	185	1	0	0	0	0	0	1	124	1	0	6	1	2	0
% Cars	100.00%	98.38%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	97.58%	100.00%	0.00%	83.33%	100.00%	100.00%	0.00%
% Trucks	0.00%	1.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.42%	0.00%	0.00%	16.67%	0.00%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 6

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Pleasant and 10th.ppd
Start Date: 12/15/2020
Start Time: 3:45:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	10TH Southbound				PLEASANT Westbound				10TH Northbound				PLEASANT Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
03:45 PM	5	58	13	0	26	81	1	0	30	56	1	1	5	70	0	0
% Cars	100.00%	98.28%	100.00%	0.00%	100.00%	98.77%	0.00%	0.00%	96.67%	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%
% Trucks	0.00%	1.72%	0.00%	0.00%	0.00%	1.23%	100.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 7

Total C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Pleasant.ppd
Start Date: 12/15/2020
Start Time: 3:00:00 PM
Site Code: 00000000
Comment 1: Noise Study Count
Comment 2:
Comment 3:
Comment 4:

	Southbound				PLEASANT Westbound				Northbound				PLEASANT Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
03:00 PM	0	0	0	0	0	95	0	0	0	0	0	0	0	128	0	0
% Cars	0.00%	0.00%	0.00%	0.00%	0.00%	95.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	97.66%	0.00%	0.00%
% Trucks	0.00%	0.00%	0.00%	0.00%	0.00%	4.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.34%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Site 8

File Name: C:\Users\5873\OneDrive - CHA Consulting, Inc\Environmental Counts\Pleasant and PO Drive.ppd
Start Date: 12/15/2020
Start Time: 2:15:00 PM
Site Code: 00000000
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	PO DRIVE Southbound				PLEASANT Westbound				PO DRIVE Northbound				PLEASANT Eastbound			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
02:15 PM	27	0	31	0	0	131	3	0	0	0	1	0	0	112	0	0
% Cars	100.00%	0.00%	100.00%	0.00%	0.00%	99.24%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	97.32%	0.00%	0.00%
% Trucks	0.00%	0.00%	0.00%	0.00%	0.00%	0.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.68%	0.00%	0.00%
% Motorcy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Indianapolis, IN, 46225

Site 1

SR 32 and Hague

File Name : SR 32 and Hague
Site Code : 00000000
Start Date : 4/16/2021
Page No : 1

Groups Printed- Passenger Cars - Heavy Trucks - Motorcycles

	HAGUE From North					SR 32 From East					HAGUE From South					SR 32 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	23	0	8	0	31	13	171	0	0	184	0	0	0	0	0	0	156	38	0	194	409
Grand Total	23	0	8	0	31	13	171	0	0	184	0	0	0	0	0	0	156	38	0	194	409
Apprch %	74.2	0	25.8	0		7.1	92.9	0	0		0	0	0	0		0	80.4	19.6	0		
Total %	5.6	0	2	0	7.6	3.2	41.8	0	0	45	0	0	0	0	0	0	38.1	9.3	0	47.4	
Passenger Cars	23	0	8	0	31	13	152	0	0	165	0	0	0	0	0	0	144	35	0	179	375
% Passenger Cars	100	0	100	0	100	100	88.9	0	0	89.7	0	0	0	0	0	0	92.3	92.1	0	92.3	91.7
Heavy Trucks	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	11	3	0	14	32
% Heavy Trucks	0	0	0	0	0	0	10.5	0	0	9.8	0	0	0	0	0	0	7.1	7.9	0	7.2	7.8
Motorcycles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Motorcycles	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0.6	0	0	0.5	0.5

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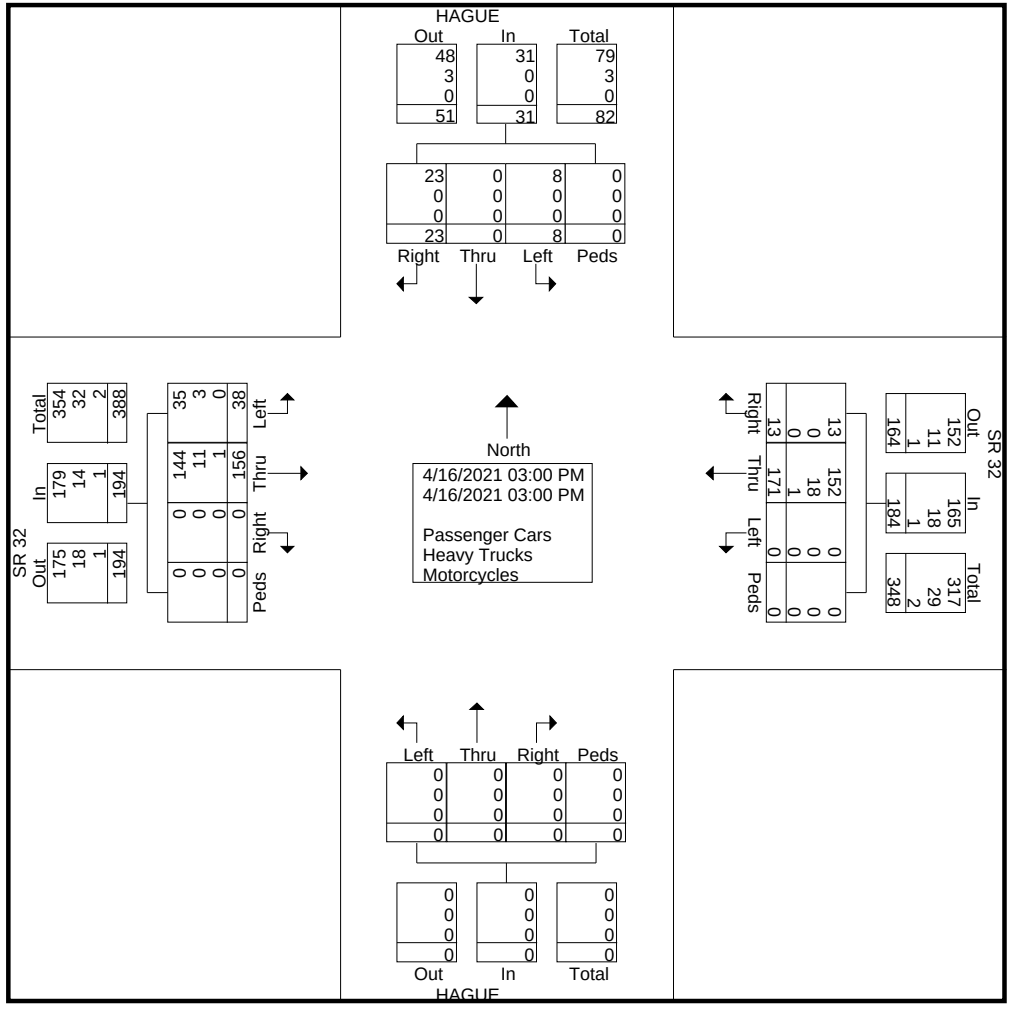
Site 1

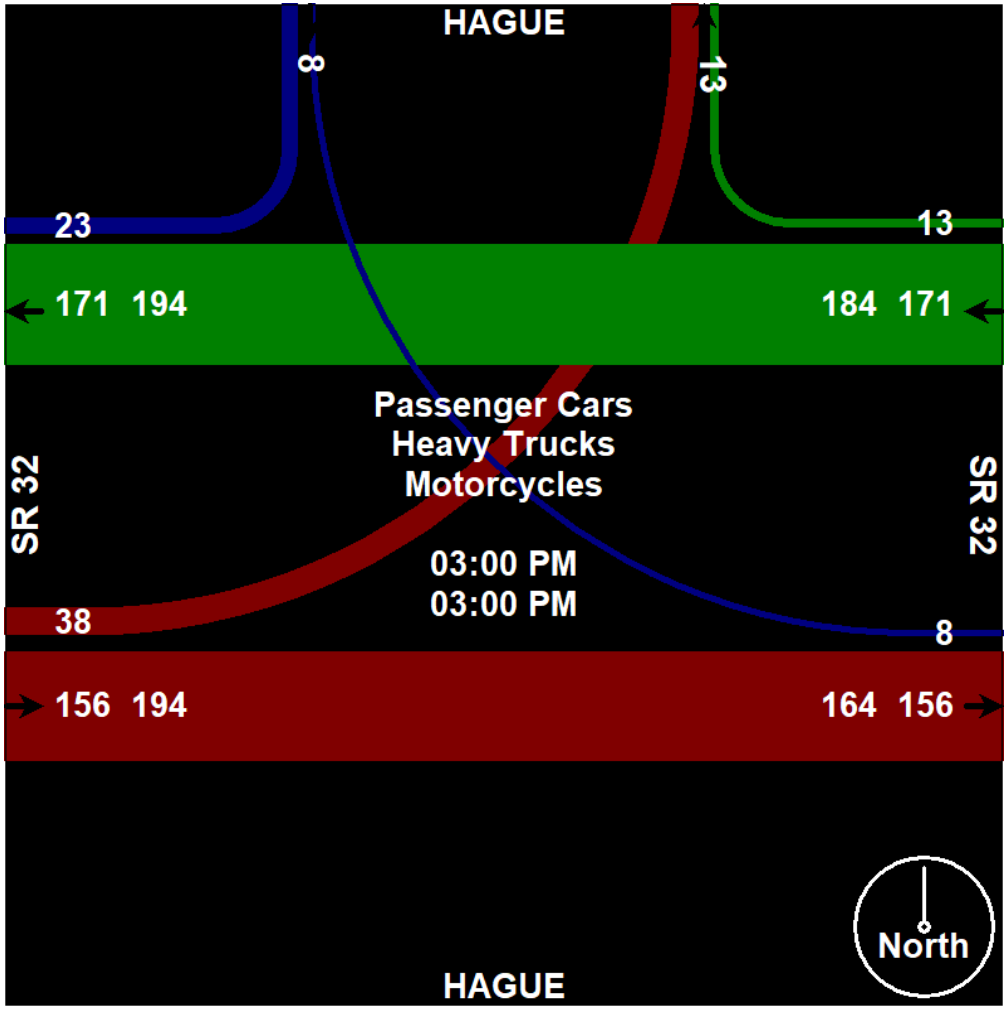
SR 32 and Hague

File Name : SR 32 and Hague
Site Code : 00000000
Start Date : 4/16/2021
Page No : 2



SR 32 and Hague

File Name : SR 32 and Hague
Site Code : 00000000
Start Date : 4/16/2021
Page No : 3



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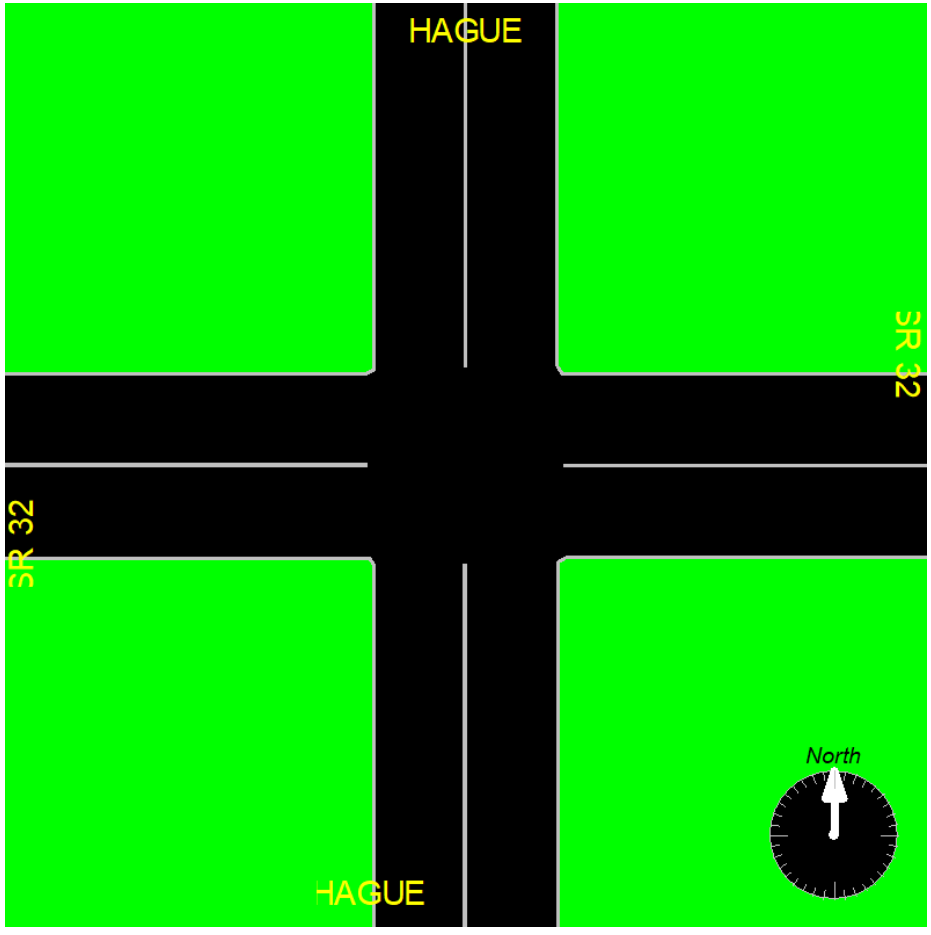
Site 1

SR 32 and Hague

File Name : SR 32 and Hague
Site Code : 00000000
Start Date : 4/16/2021
Page No : 4



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Site 4

5th and Mulberry

File Name : 5th and Mulberrry
Site Code : 00000000
Start Date : 4/16/2021
Page No : 1

Groups Printed- Passenger Cars - Heavy Trucks - Motorcycles

	5TH From North					MULBERRY From East					5TH From South					MULBERRY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	
Passenger Cars	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Passenger Cars	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	100
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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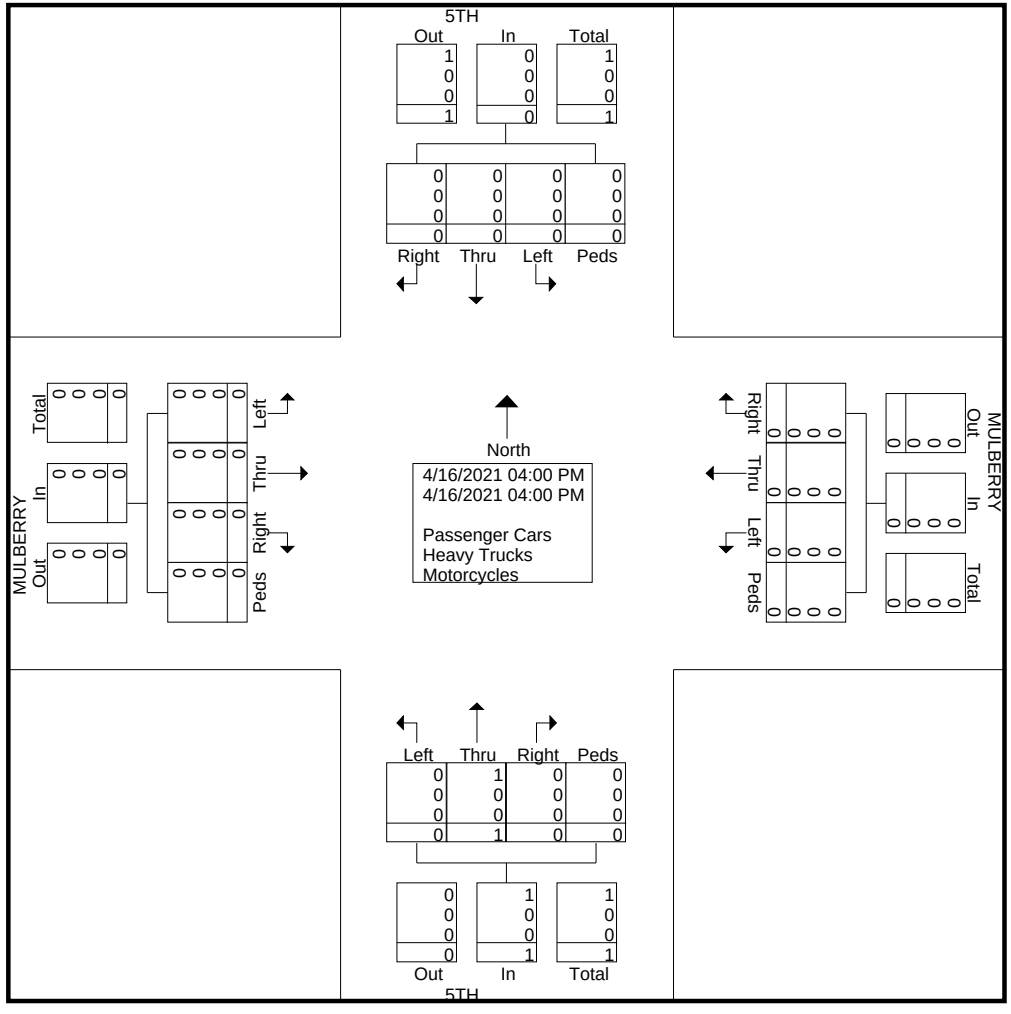
Site 4

5th and Mulberry

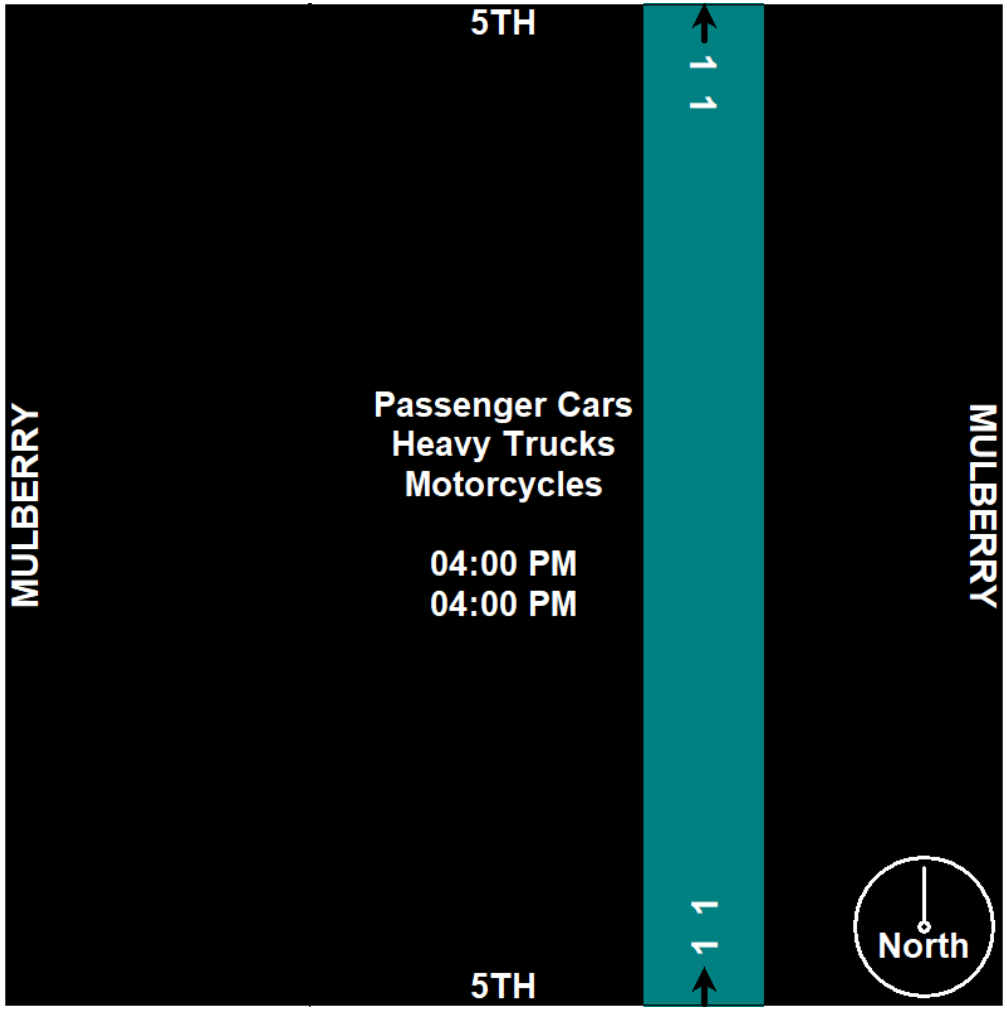
File Name : 5th and Mulberrry
Site Code : 00000000
Start Date : 4/16/2021
Page No : 2



Site 4

5th and Mulberry

File Name : 5th and Mulberrry
Site Code : 00000000
Start Date : 4/16/2021
Page No : 3



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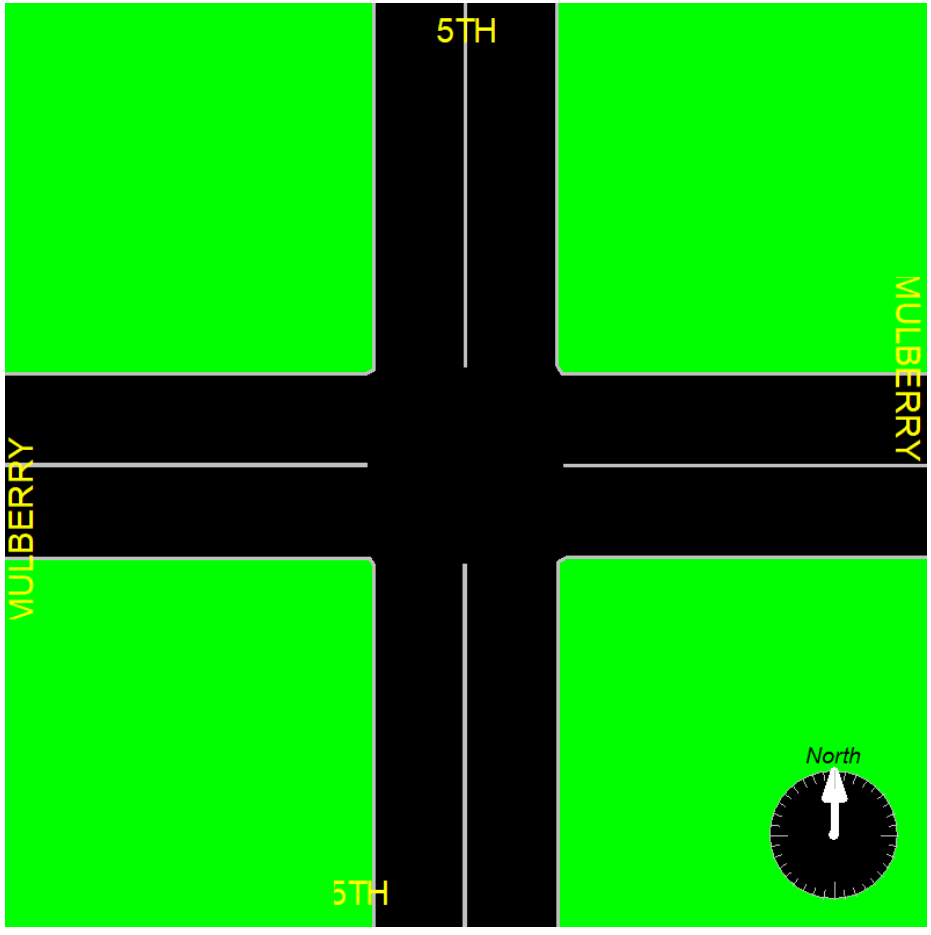
Site 4

5th and Mulberry

File Name : 5th and Mulberrry
Site Code : 00000000
Start Date : 4/16/2021
Page No : 4



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Site 5

8th and Walnut

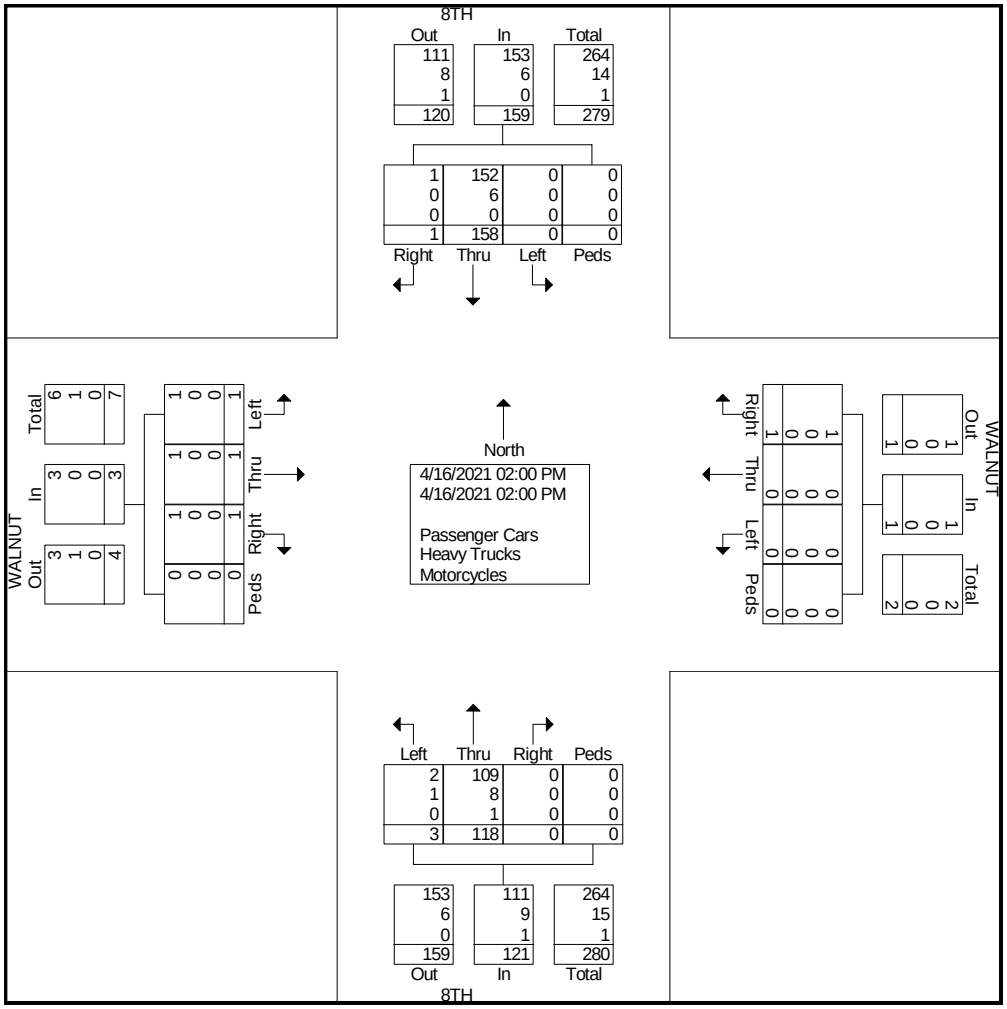
File Name : 8th and Walnut
Site Code : 00000000
Start Date : 4/16/2021
Page No : 1

Groups Printed- Passenger Cars - Heavy Trucks - Motorcycles

	8TH From North					WALNUT From East					8TH From South					WALNUT From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	1	158	0	0	159	1	0	0	0	1	0	118	3	0	121	1	1	1	0	3	284
Grand Total	1	158	0	0	159	1	0	0	0	1	0	118	3	0	121	1	1	1	0	3	284
Apprch %	0.6	99.4	0	0		100	0	0	0		0	97.5	2.5	0		33.3	33.3	33.3	0		
Total %	0.4	55.6	0	0	56	0.4	0	0	0	0.4	0	41.5	1.1	0	42.6	0.4	0.4	0.4	0	1.1	
Passenger Cars	1	152	0	0	153	1	0	0	0	1	0	109	2	0	111	1	1	1	0	3	268
% Passenger Cars	100	96.2	0	0	96.2	100	0	0	0	100	0	92.4	66.7	0	91.7	100	100	100	0	100	94.4
Heavy Trucks	0	6	0	0	6	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	15
% Heavy Trucks	0	3.8	0	0	3.8	0	0	0	0	0	0	6.8	33.3	0	7.4	0	0	0	0	0	5.3
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0.8	0	0	0	0	0	0.4

8th and Walnut

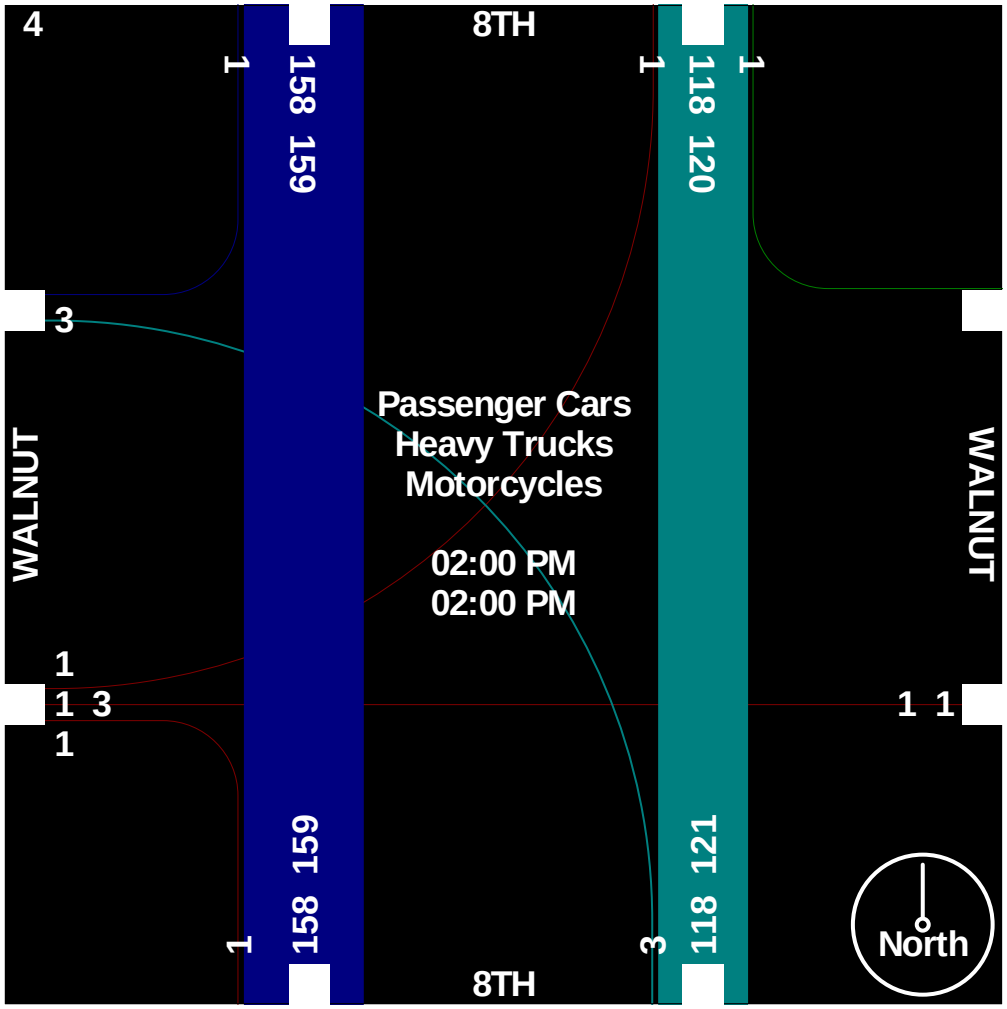
File Name : 8th and Walnut
Site Code : 00000000
Start Date : 4/16/2021
Page No : 2



Site 5

8th and Walnut

File Name : 8th and Walnut
Site Code : 00000000
Start Date : 4/16/2021
Page No : 3



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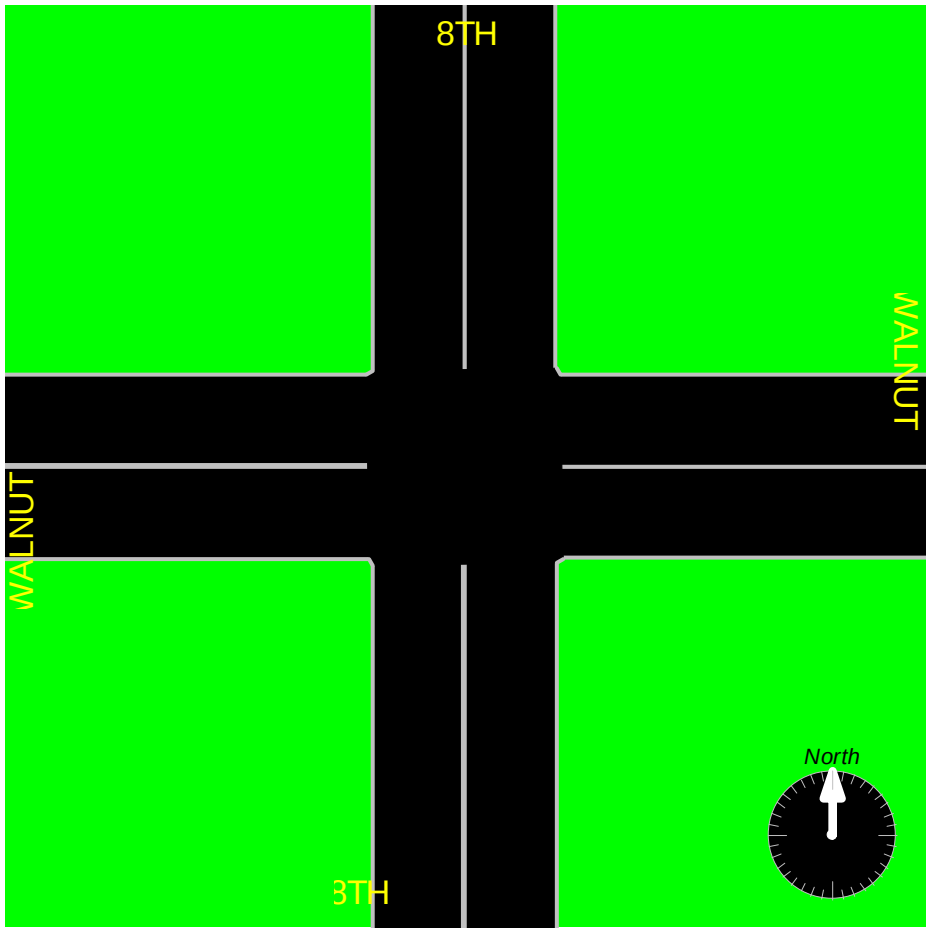
Site 5

8th and Walnut

File Name : 8th and Walnut
Site Code : 00000000
Start Date : 4/16/2021
Page No : 4



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Site 7

A and Pleasant

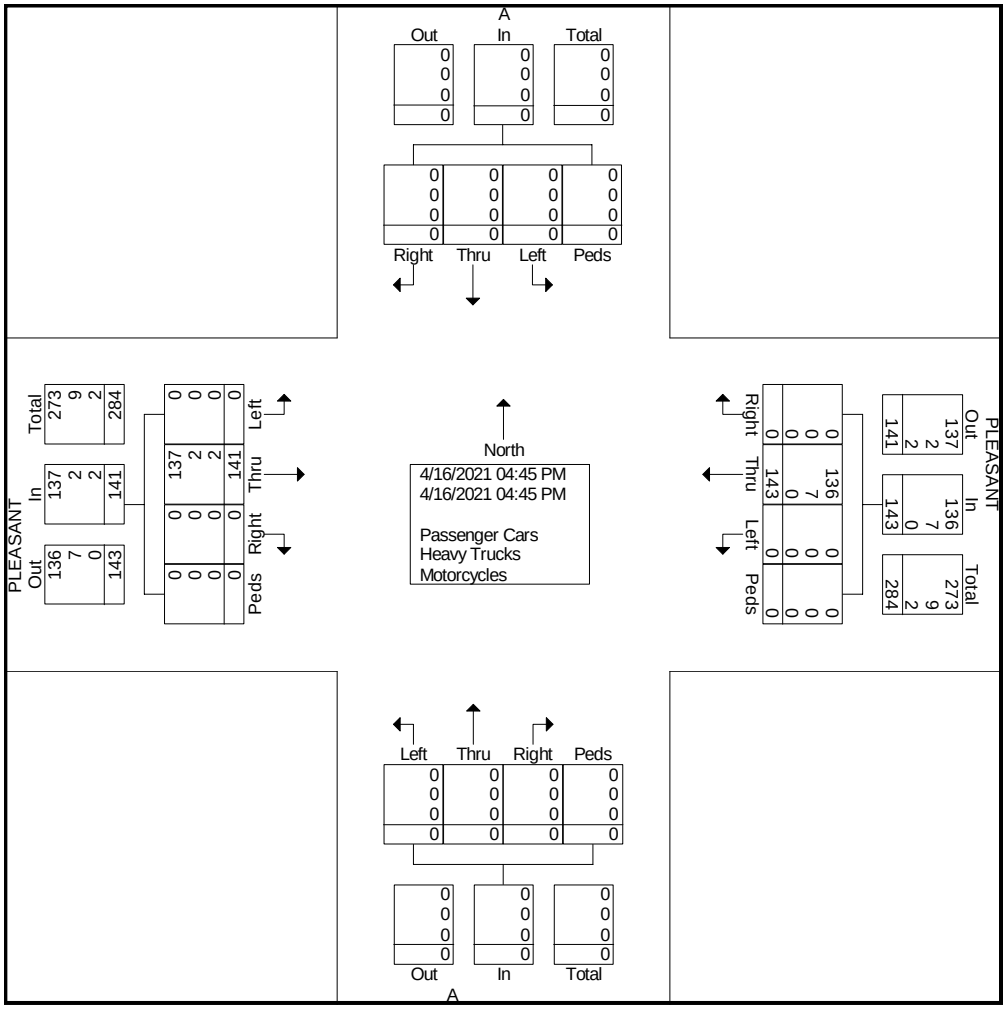
File Name : A and Pleasant
Site Code : 00000000
Start Date : 4/16/2021
Page No : 1

Groups Printed- Passenger Cars - Heavy Trucks - Motorcycles

	A From North					PLEASANT From East					A From South					PLEASANT From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:45 PM	0	0	0	0	0	0	143	0	0	143	0	0	0	0	0	0	141	0	0	141	284
Total	0	0	0	0	0	0	143	0	0	143	0	0	0	0	0	0	141	0	0	141	284
Grand Total	0	0	0	0	0	0	143	0	0	143	0	0	0	0	0	0	141	0	0	141	284
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	50.4	0	0	50.4	0	0	0	0	0	0	49.6	0	0	49.6	
Passenger Cars	0	0	0	0	0	0	136	0	0	136	0	0	0	0	0	0	137	0	0	137	273
% Passenger Cars	0	0	0	0	0	0	95.1	0	0	95.1	0	0	0	0	0	0	97.2	0	0	97.2	96.1
Heavy Trucks	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
% Heavy Trucks	0	0	0	0	0	0	4.9	0	0	4.9	0	0	0	0	0	0	1.4	0	0	1.4	3.2
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4	0	0	1.4	0.7

A and Pleasant

File Name : A and Pleasant
Site Code : 00000000
Start Date : 4/16/2021
Page No : 2



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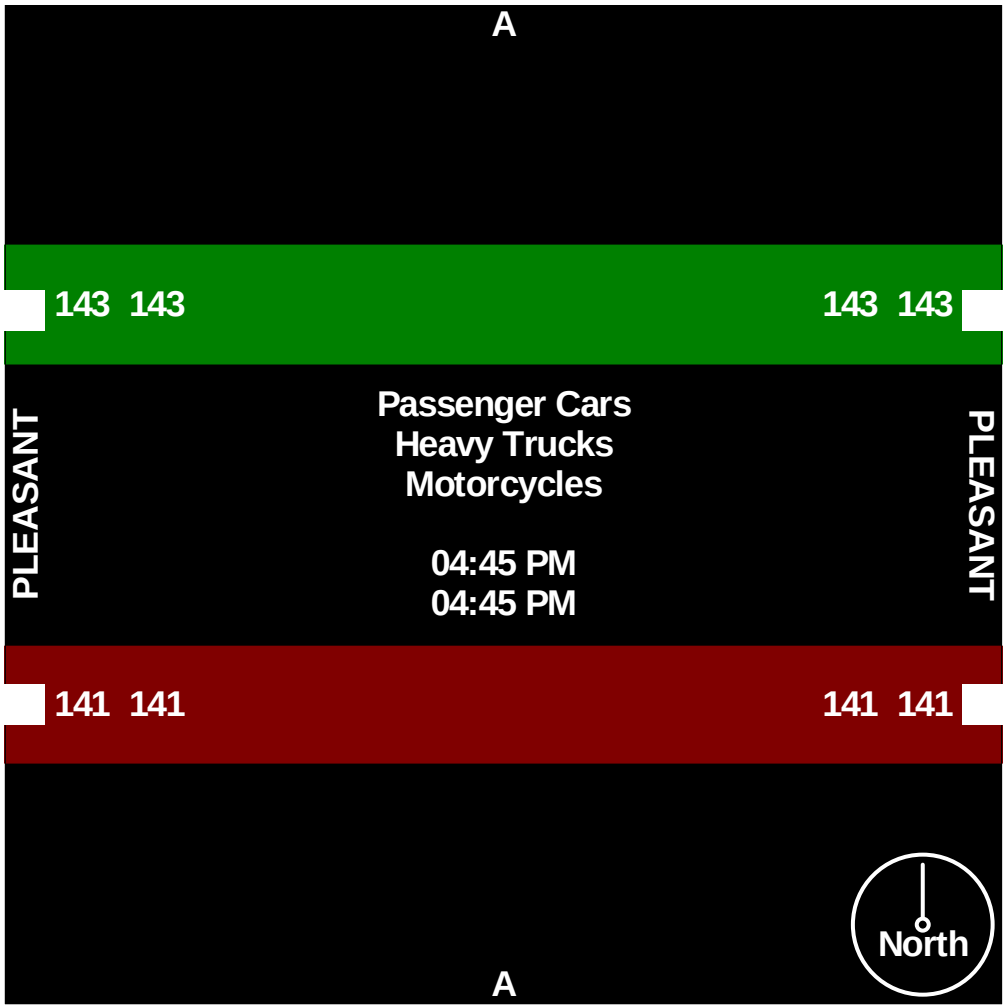
Site 7

A and Pleasant

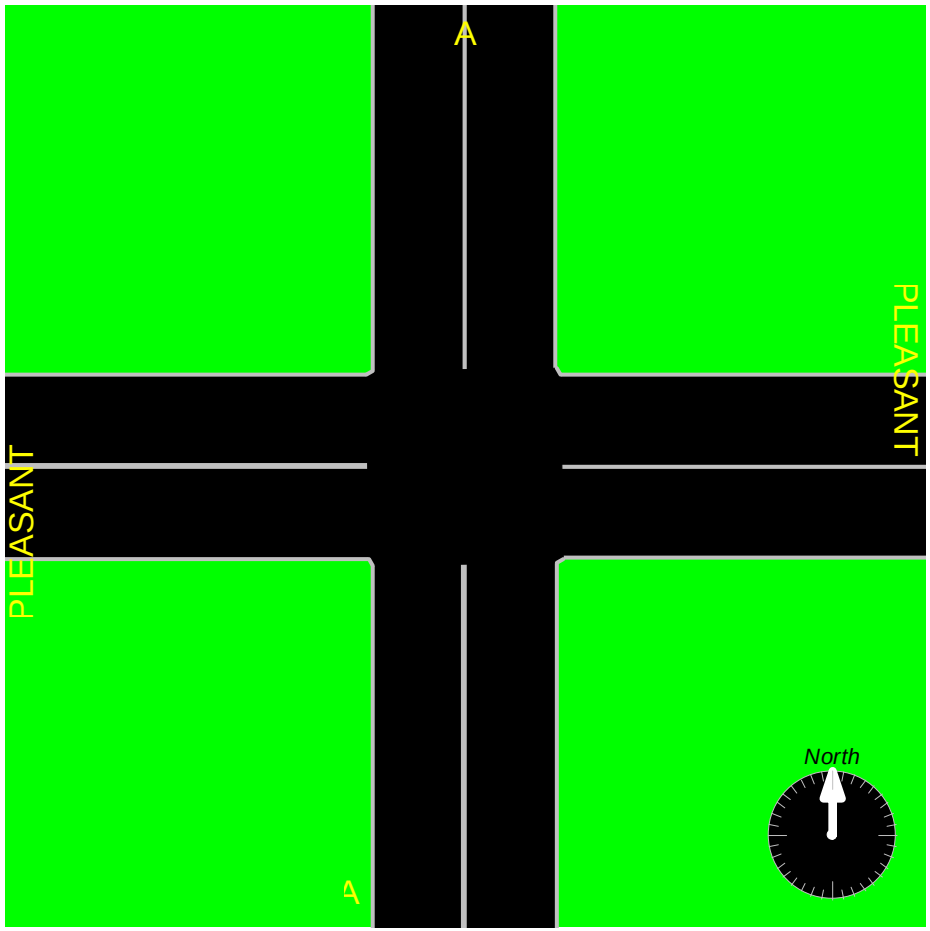
File Name : A and Pleasant
Site Code : 00000000
Start Date : 4/16/2021
Page No : 3



Site 7

A and Pleasant

File Name : A and Pleasant
Site Code : 00000000
Start Date : 4/16/2021
Page No : 4



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Site 8

Pleasant and PO Dr

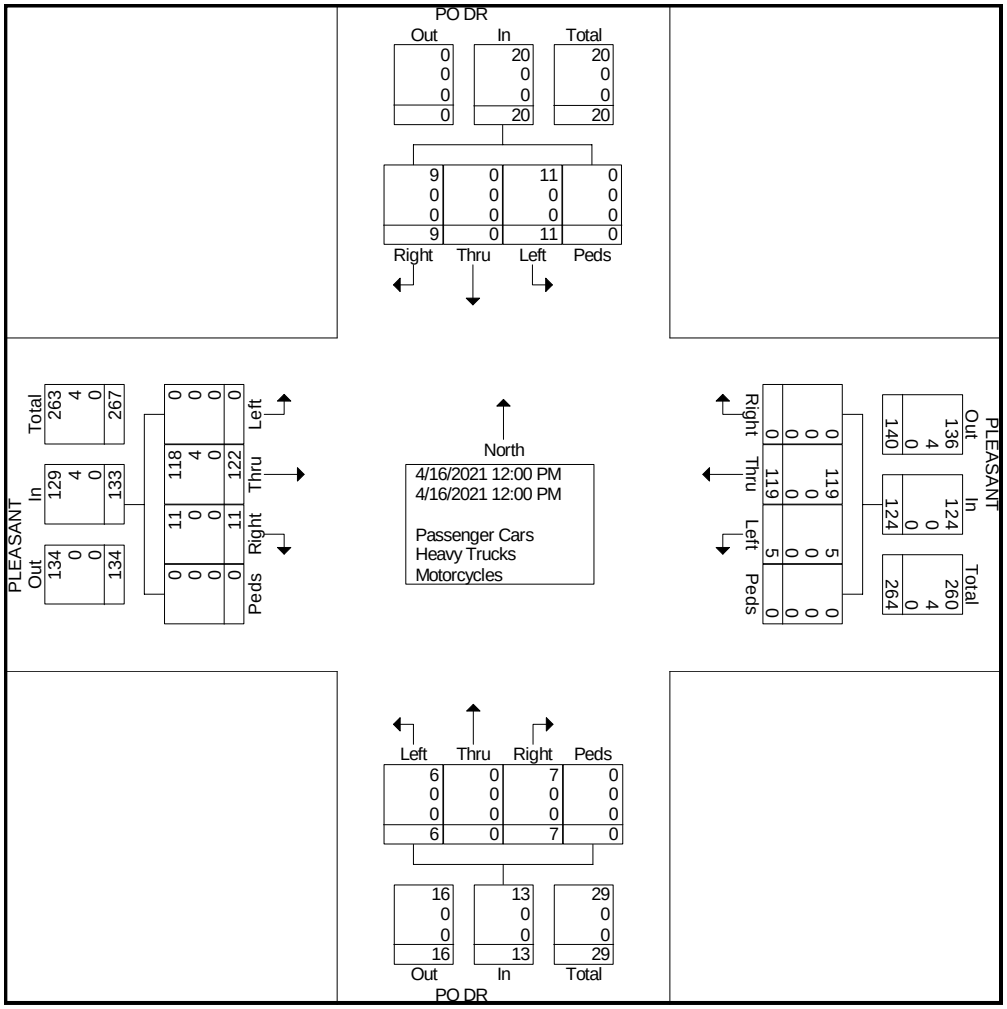
File Name : Pleasant and PO Dr
Site Code : 00000000
Start Date : 4/16/2021
Page No : 1

Groups Printed- Passenger Cars - Heavy Trucks - Motorcycles

	PO DR From North					PLEASANT From East					PO DR From South					PLEASANT From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	9	0	11	0	20	0	119	5	0	124	7	0	6	0	13	11	122	0	0	133	290
Grand Total	9	0	11	0	20	0	119	5	0	124	7	0	6	0	13	11	122	0	0	133	290
Apprch %	45	0	55	0		0	96	4	0		53.8	0	46.2	0		8.3	91.7	0	0		
Total %	3.1	0	3.8	0	6.9	0	41	1.7	0	42.8	2.4	0	2.1	0	4.5	3.8	42.1	0	0	45.9	
Passenger Cars	9	0	11	0	20	0	119	5	0	124	7	0	6	0	13	11	118	0	0	129	286
% Passenger Cars	100	0	100	0	100	0	100	100	0	100	100	0	100	0	100	100	96.7	0	0	97	98.6
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	0	0	3	1.4
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pleasant and PO Dr

File Name : Pleasant and PO Dr
Site Code : 00000000
Start Date : 4/16/2021
Page No : 2



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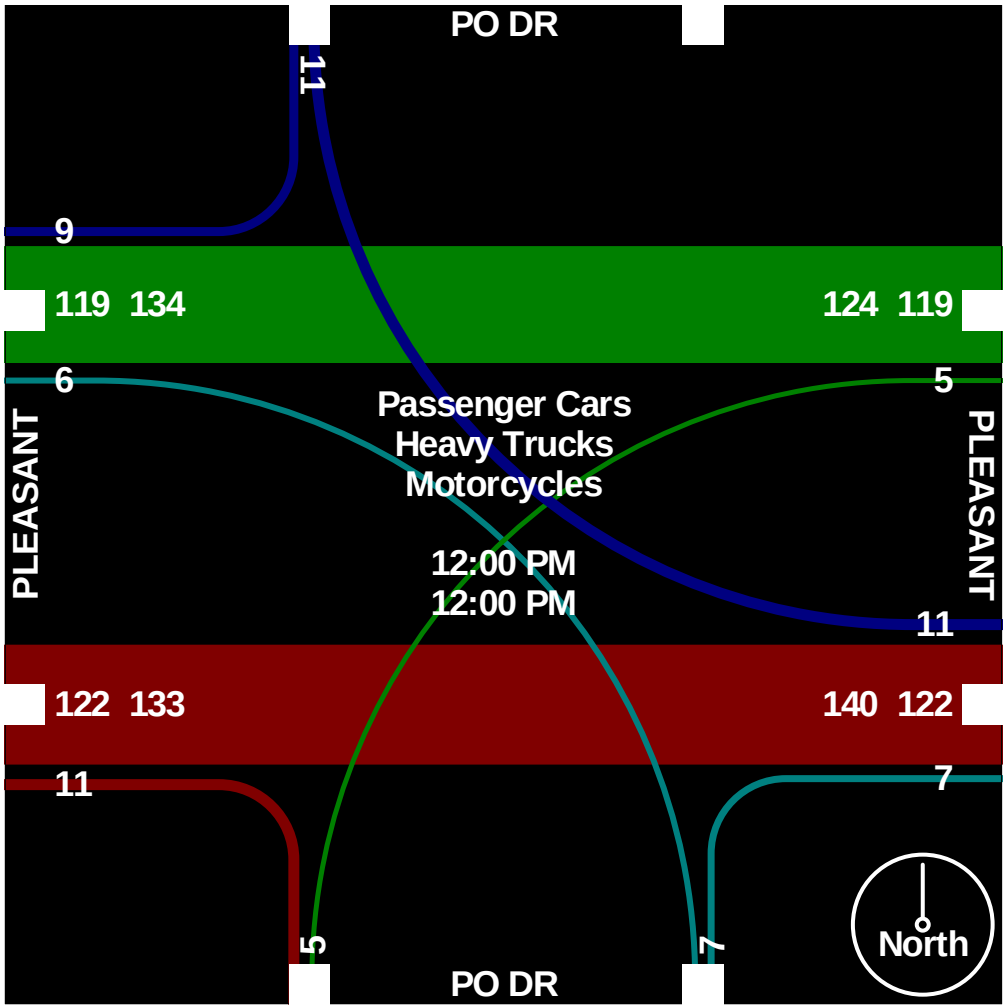
Start Date : 4/16/2021
Page No : 3



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File Name : Pleasant and PO Dr
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Start Date : 4/16/2021
Page No : 4