Detailed Noise Analysis Report

SC Highway 41 Corridor Improvements Project

Charleston and Berkeley Counties,
South Carolina

August 10, 2020

Prepared for Charleston County

Prepared by HDR Engineering, Inc.

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Executive Summary

To accommodate an increase in traffic volume, Charleston County, the Town of Mount Pleasant, and South Carolina Department of Transportation (SCDOT) are partnering to improve roadway capacity and ease traffic congestion along an approximate 4.6-mile stretch of Highway 41 (SC 41) (Figure 1). The project study area has been defined as SC 41 from US 17 in Mt. Pleasant across the new Wando River Bridge to Clements Ferry Road in Berkeley County. The existing section of SC 41 within the study area is a two-lane roadway with grassed shoulders and roadside ditches. Signalized intersections are located at SC 41 and US 17, SC 41 and Bessemer Road, SC 41 and Rivertowne Parkway/Dunes West Boulevard, and SC 41 and Clements Ferry Road. The project includes improvements to the intersection of SC 41 and US 17 and completion of the tie in of Gregory Ferry Road to SC 41 near US 17. The study corridor also includes US 17 from the intersection with Hamlin Road to the entrance to Oakland Plantation and an expanded study area around Laurel Hill County Park and the Phillips Community between Bessemer Road and Dunes West Boulevard.

While there is no federal funding for the SC 41 Corridor Improvements project, a federal Clean Water Act Section 404 permit is required to construct the project because of anticipated impacts to wetlands and waters of the United States. Therefore, the project's design scope must be established in accordance with the National Environmental Policy Act (NEPA) process. The U.S. Army Corps of Engineers (USACE) will be the Lead Federal Agency for the project upon their review of the project's permit application and associated environmental report.

This Detailed Noise Analysis was prepared to assess noise impacts from the two reasonable alternatives, Alternative 1 and Alternative 7a, being considered by Charleston County (see Figures 1 and 2). The project team used SCDOT policies and FHWA regulations to prepare the noise study because USACE does not have a noise analysis policy and these policies and regulations represent an accepted method of assessing noise impacts for transportation projects. The SCDOT Traffic Noise Abatement Policy constitutes the official SCDOT noise policy and procedures for the purpose of meeting the requirements of Title 23 of the Code of Federal Regulations (CFR) Part 772 and applicable state laws. This analysis conforms to Federal Highway Administration (FHWA) Regulation 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise," and all applicable state laws.

The existing (2019) and design year (2045) traffic noise levels for the Existing, No-Build, and Build Alternatives were predicted for 1378 receivers using the FHWA's latest traffic noise modeling software, TNM 2.5. The table below provides a summary of the impacts for the two Build Alternatives. The results of the noise analysis indicate traffic-related noise impacts occur for 60 receivers under Build Alternative 1 and 103 receivers under Build Alternative 7A.

Impact Summary

		Year 2045 Build Alternatives	
Activity Category		Alternative 1	Alternative 7A
A	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.	0	0
B	Residential	58	100
C	Active sports 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, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	0	1
D	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.	0	0
E	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	2	2
Total		60	103

Barrier Analysis Summary

Maps of the locations of the investigated noise barriers are provided in Appendix B.

- **Alternative 1:** Based on the detailed noise analysis of 19 potential barriers to shield impacts in Alternative 1, 15 barriers were found to be not feasible due to access and safety issues, four barriers were found to be feasible but not reasonable, and no barriers were found to be feasible and reasonable.

- **Alternative 7a:** Based on the detailed noise analysis of 16 potential barriers to shield impacts in Alternative 7a, eight barriers were found to be not feasible due to access and safety issues, six barriers were found to be feasible but not reasonable, and two barriers were found to be feasible and reasonable pending the selection of an alternative and the public involvement process.

Construction Impacts

The major construction elements of this project are expected to be earth removal, hauling, grading, and paving. Construction noise impacts – some of them potentially substantial – may occur due to the close proximity of numerous noise-sensitive receivers to project construction activities. It is the recommendation of this traffic noise analysis that all reasonable efforts should be made to minimize exposure of noise-sensitive areas to construction noise impacts.

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1.0 Introduction

1.1 Project Description

To accommodate an increase in traffic volume, Charleston County, the Town of Mount Pleasant, and South Carolina Department of Transportation (SCDOT) are partnering to improve roadway capacity and ease traffic congestion along an approximate 4.6-mile stretch of Highway 41 (SC 41) (Figure 1). This section of SC 41 serves as a minor arterial that has experienced an increase in traffic due to regional growth, and currently sustains operations that exceed capacity and are projected to worsen over time. As a designated hurricane evacuation route and key corridor in and out of Mount Pleasant, SC 41 will continue to experience significant use and increased traffic congestion.

The project study area has been defined as SC 41 from US 17 in Mt. Pleasant across the new Wando River Bridge to Clements Ferry Road in Berkeley County. The existing section of SC 41 within the study area is a two-lane roadway with grassed shoulders and roadside ditches. Signalized intersections are located at SC 41 and US 17, SC 41 and Bessemer Road, SC 41 and Rivertowne Parkway/Dunes West Boulevard, and SC 41 and Clements Ferry Road.

The project includes improvements to the intersection of SC 41 and US 17 and completion of the tie in of Gregory Ferry Road to SC 41 near US 17. The study corridor also includes US 17 from the intersection with Hamlin Road to the entrance to Oakland Plantation and an expanded study area around Laurel Hill County Park and the Phillips Community between Bessemer Road and Dunes West Boulevard. The purpose of the expanded study area is to fully evaluate the potential project effects on the County Park, adjacent communities, and associated roadways. The study corridor also includes a 300-foot wide corridor on either side of the centerline on Dunes West Boulevard and Bessemer Road.

Residential communities along SC 41 include the Phillips Community, Dunes West, Park West, Rivertowne, Planter's Pointe, The Colonnade, Brickyard Plantation, and Horlbeck Creek (Figure 2). Additionally, the project study area includes crossings over Horlbeck, Mill, and Wagner Creeks. While the study corridor includes the Wando River, no construction is anticipated within or directly adjacent to the river since the SC 41 bridge was recently replaced in 2017.

While there is no federal funding for the SC 41 Corridor Improvements project, a federal Clean Water Act Section 404 permit is required to construct the project because of anticipated impacts to wetlands and waters of the United States. Therefore, the project's design scope must be established in accordance with the National Environmental Policy Act (NEPA) process. Under the NEPA process, an extensive environmental review must take place in order to complete a rigorous analysis of the project area and to examine reasonable alternatives for the improvements. The environmental review is done in order to avoid, minimize or mitigate environmental impacts and to ensure public participation is incorporated into the decision making process. The U.S. Army Corps of Engineers (USACE) will be the Lead Federal Agency for the project upon their review of the project's permit application and associated environmental report.

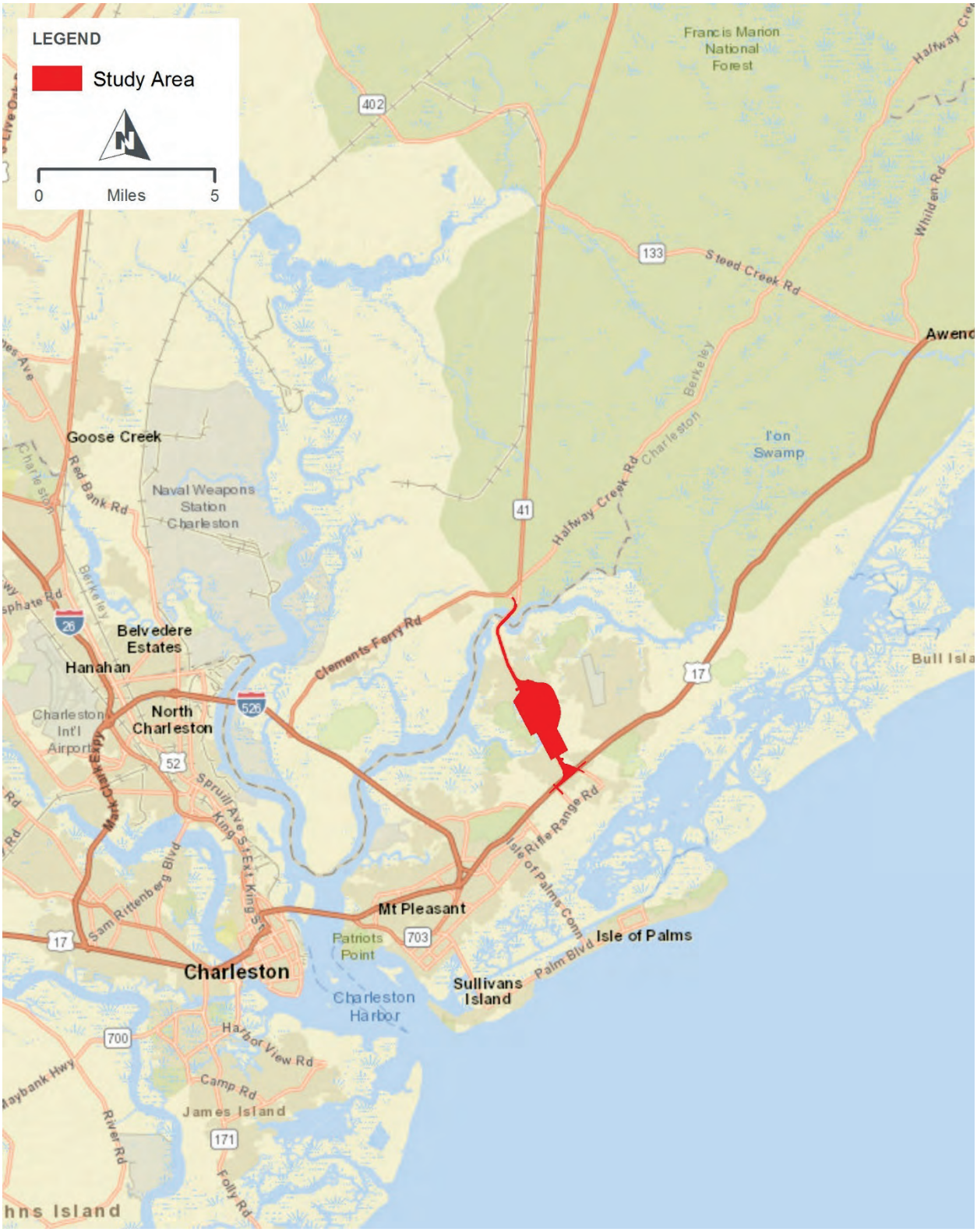

Figure 1. Project Vicinity

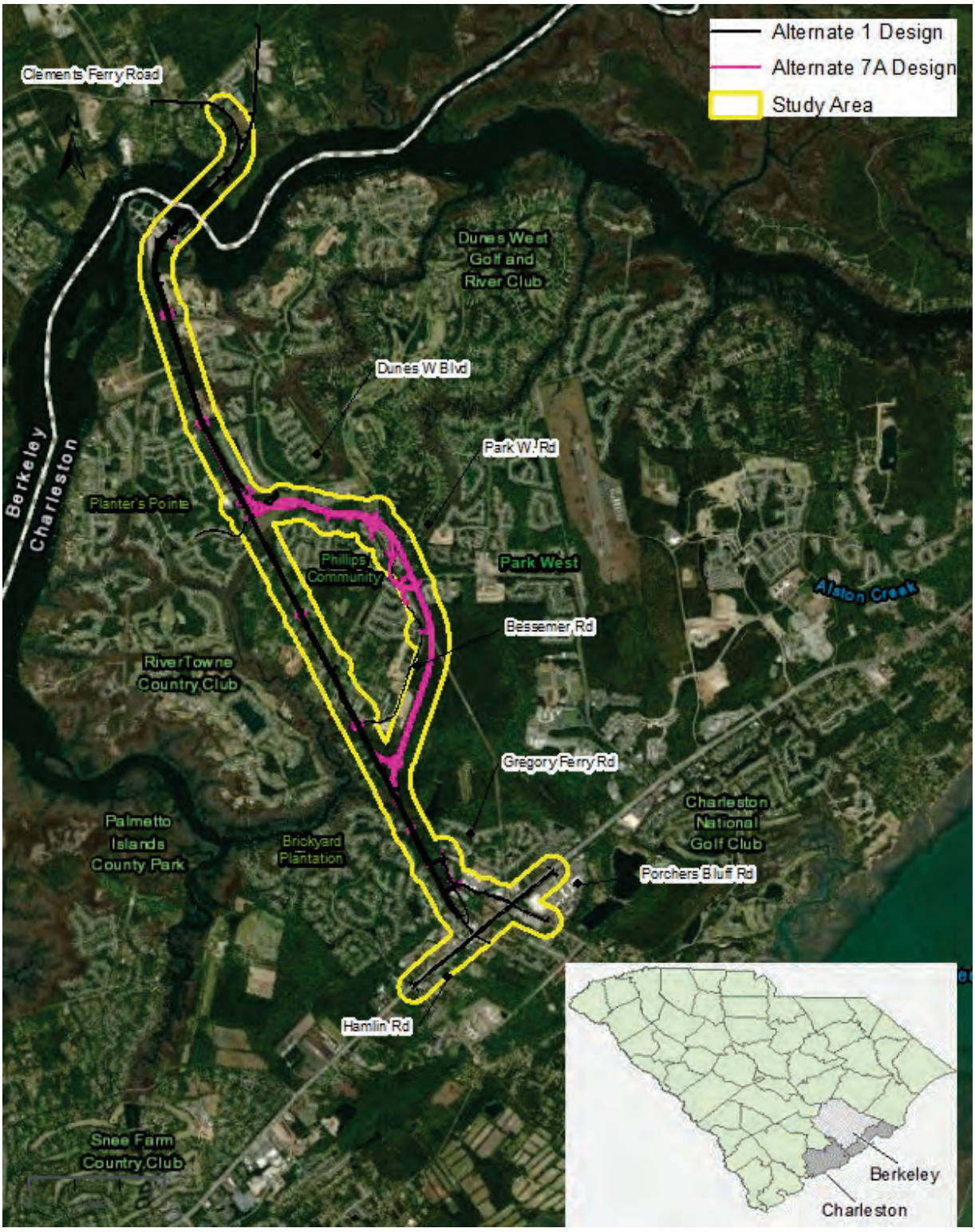

Figure 2. Project Location and Study Areas

1.2 Purpose

This Detailed Noise Analysis was prepared to assess noise impacts from the two reasonable alternatives, Alternative 1 and Alternative 7a, being considered by Charleston County (see Figures 1 and 2). The project team used SCDOT policies and FHWA regulations to prepare the noise study because USACE does not have a noise analysis policy and these policies and regulations represent an accepted method of assessing noise impacts for transportation projects. The SCDOT Traffic Noise Abatement Policy constitutes the official SCDOT noise policy and procedures for the purpose of meeting the requirements of Title 23 of the Code of Federal Regulations (CFR) Part 772 and applicable state laws. This analysis conforms to Federal Highway Administration (FHWA) Regulation 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise," and all applicable state laws.

1.3 Need for Improvement

The primary purpose of the proposed SC 41 corridor improvements project is to reduce traffic congestion within the SC 41 corridor to accommodate future traffic projections. The secondary purposes of the proposed SC 41 corridor improvements project are to:

- enhance safety throughout the corridor,
- improve transportation system and community connections,
- provide bicycle and pedestrian accommodations,
- minimize community and environmental impacts.

The proposed project is needed to address anticipated local and regional growth, increased traffic congestion, safety and emergency response concerns, and inadequate interconnections of transportation modes, including pedestrian and bicycle facilities.

2.0 Methodology

The Federal Highway Administration (FHWA) Traffic Noise Model, TNM2.5 was used to calculate existing noise levels and predict future design year noise levels for four distinct scenarios consisting of the current year (2019) Existing Alternative, design year (2045) No-Build Alternative, Alternative 1, and Alternative 7a. Inputs to this model include noise sensitive receiver locations, existing and future roadway alignments, and features such as buildings, ground zones, and elevation. In addition, traffic volumes including vehicle mix and posted speeds were used. The noise analysis for this project was prepared in accordance with the SCDOT *Traffic Noise Abatement Policy*, dated August 2014 (effective September 1, 2014) to comply with the amended 23 CFR 772 which became effective July 2011.

2.1 Characteristics of Noise

Noise is typically defined as "any sound that is created when object moves, causing vibrations or waves in air molecules."[1] The basic parameters of noise that affect humans are:

- Intensity of level
- Frequency content
- Variation with time

[1] Source: SCDOT Traffic Noise Abatement Policy, South Carolina Department of Transportation. September 1, 2014.

Typical urban and suburban environments are comprised of "background noise" that consists of common sounds such as traffic, air conditioners, cell phones, bird calls, and other familiar sounds. People's reaction to sounds above normal background noise depends on the intensity, the frequency, and the variation in the sound level.

Intensity is determined by the level[2] of sound, which is expressed in units of decibel (dB). On a relative basis, a 3 dB positive change in sound level generally represents a barely perceptible change in a common outdoor setting, to someone with average hearing. A 5-dB positive change present a "noticeable" change, and a 10-dB positive change is typically perceived as a doubling in loudness.

Because the sensitivity of human hearing varies with frequency, the A-weighting system is commonly used. Sound levels measured using this weighting system are called "A-weighted" sound levels. The A-weighted decibel, abbreviated dBA is a widely accepted proper unit for describing environmental noise.

Many factors affect noise. Traffic noise level at a site depends on many site features (distance, land cover, topography, etc.) and traffic characteristic (volume, vehicle type, speed, truck numbers, etc.) of proposed roadways. Noise levels from trucks are much greater than noise levels from automobiles. Assuming similar vehicle mix and travel speeds, a doubling in traffic volume produces a doubling in the sound energy. A doubling in sound energy corresponds to a barely perceptible 3-dBA increase in nose level.

Noise is measured in a logarithmic unit called a decibel (dBA), measured on a scale of 1 to 180, providing a range for the sound levels that fall within the normal range of hearing. Figure 3 provides an overview of several different types of noises and what the sound level is in dBA.

2.2 Model and Noise Metrics

The noise level descriptor used by SCDOT is the L_{eq}. L_{eq} is 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, with $L_{eq\,(h)}$ being the hourly value of the $L_{eq.}$ Figure 3 illustrates how traffic noise levels relate to other sound sources.

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.5, was used to predict noise levels, perform noise barrier analysis, if needed, and develop noise contours.

[2] The number of decibels is calculated as ten times the base-10 logarithm of the square of the ratio of the mean-square sound pressure (often frequency weighted), and the reference mean-squared sound pressure of 20 µPa, the threshold of human hearing.

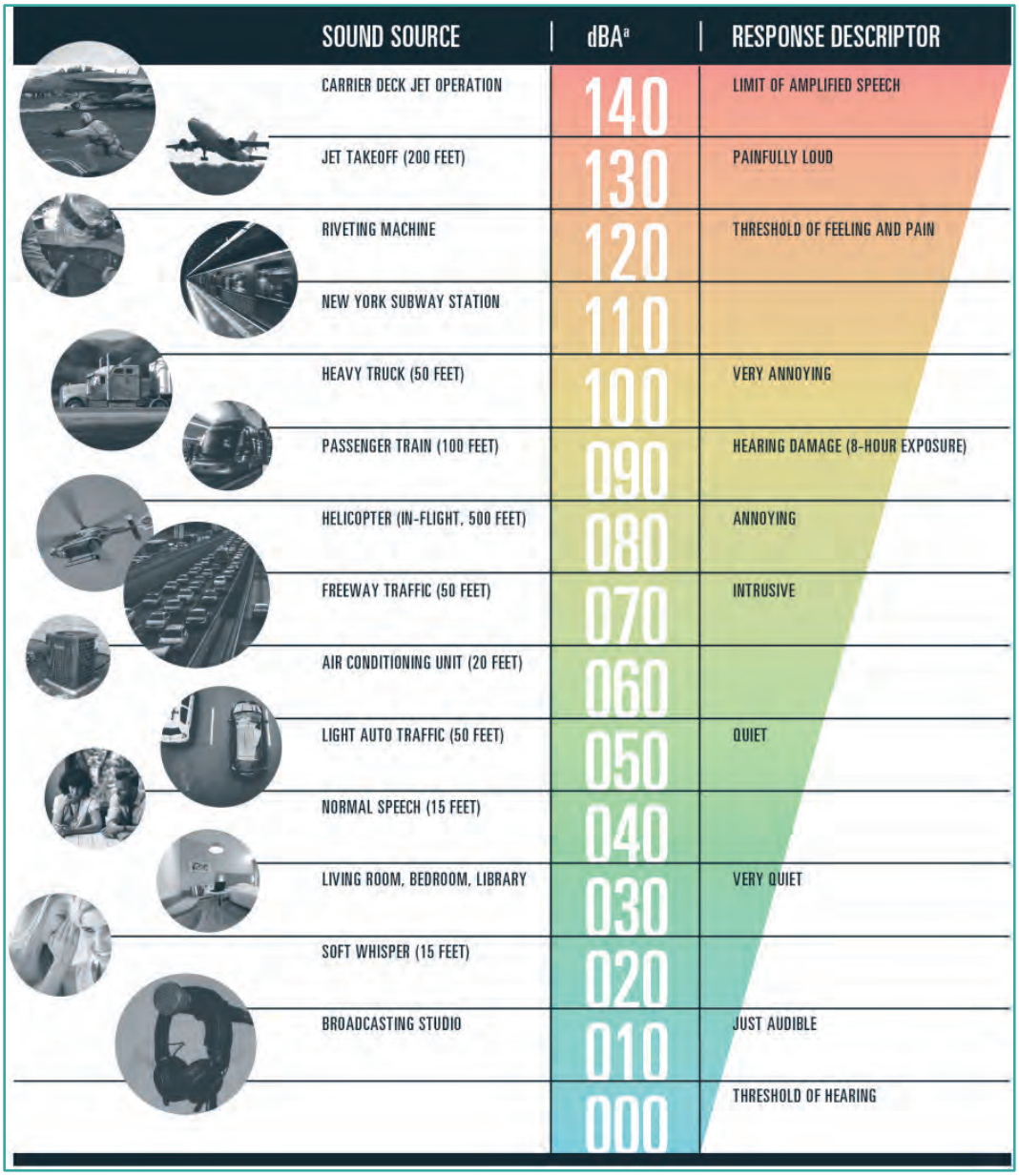

Figure 3. Weighted Noise Levels and Human Response

2.3 Traffic Data

Traffic noise consists of three primary parts: tire/pavement noise, engine noise, and exhaust noise. Of these sources, tire noise is typically the most unpleasant at unimpeded travel speeds. Sporadic traffic noises such as horns, squealing brakes, screeching tires, etc. are considered abnormal and are not included within the predictive model algorithm. Traffic noise is not constant; it varies in time depending upon the number, speed, type, and frequency of vehicles that pass by a given receptor. A receptor is a discrete or representative location of a noise sensitive site or land area (“receiver”). Furthermore, since traffic noise emissions are different for various types of vehicles; the TNM algorithm distinguishes between source noise emissions from the following vehicle types: automobiles, medium trucks, heavy trucks, buses, and motorcycle (see Table 1).

Table 1: Traffic Noise Model (TNM) Vehicle Classification Types

TNM Vehicle Type	Description
Autos	All vehicles with two axles and four tires, including passenger cars and light trucks, weighing 10,000 pounds or less
Medium Trucks	All vehicles having two axles and six tires, weighing between 10,000 and 26,000 pounds
Heavy Trucks	All vehicles having three or more axles, weighing more than 26,000 pounds
Buses	All vehicles designed to carry more than nine passengers
Motorcycles	All vehicles with two or three tires and an open-air driver / passenger compartment

Sources: FHWA Measurement of Highway-Related Noise, § 5.1.3 Vehicle Types
FHWA Traffic Monitoring Guide § 4.1 Classification Schemes

The traffic volume, vehicle mix and vehicle speeds were based on information provided by Stantec. For both the existing (2019) and the design year (2045), worst noise hour traffic volumes, along with posted speeds, were used as input data in the noise prediction model. The traffic parameters used in the noise model for prediction of future noise levels are presented in Appendix A.

3.0 Traffic Noise Analysis

3.1 Noise Sensitive Sites

A receptor is a discrete or representative location of a receiver, which is a noise sensitive site or area for any of the land use categories listed in Table 2. In determining traffic noise impacts, primary consideration is given to exterior areas where frequent human use occurs, unless no exterior activities are likely based on field observation (i.e. patio of a restaurant or back yard of a single-family home). All of the noise sensitive sites modeled are within 500 feet of the nearest edge of the roadway, a sufficient distance to identify all potential impacts. The location of each receptor is shown in Appendix B.

Existing land uses within the corridor are mainly residential (Category B) with various recreational (Category C), churches (Category D) and office or restaurant patios (Category E) land uses in the corridor. Some Category F locations are also present, for which noise impacts are not defined. There are no Category A land uses in the corridor and there were no unusual features observed that could significantly influence the noise propagation environment.

The FHWA Noise Abatement Criteria (NAC), summarized in Table 2, establish criteria for traffic noise impact assessments with respect to various land uses. If one or more receivers are affected by project-related traffic noise levels that approach or exceed the abatement criteria, or that substantially exceed existing noise levels, then abatement measures must be considered. By SCDOT policy, as approved by FHWA, approaching the criteria means within 1 dBA of the appropriate FHWA abatement criteria. A substantial noise increase is defined as an increase in noise levels of 15 dBA or more in the design year above the existing noise level as a direct result of the transportation improvement project in question. If the abatement criteria is not approached or exceeded, or if projected traffic noise levels do not substantially exceed existing noise levels, abatement measures will not be considered.

Table 2: Noise Abatement Criteria

[Hourly A-Weighted Sound Level – decibels (dBA)]				
Activity Category	Activity $L_{eq(h)}$[1]		Evaluation Location	Description of Activity Category
	FHWA	SCDOT		
A	57	56	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[2]	67	66	Exterior	Residential
C[2]	67	66	Exterior	Active sports 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, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	51	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[2]	72	71	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.

(Based on Table 1 of 23 CFR Part 772)

[1] *The $L_{eq(h)}$ Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.*
[2] *Includes undeveloped lands permitted for this activity category.*

3.2 Measured Noise Levels

Existing traffic noise levels were measured in the field and then compared against TNM results to validate the traffic noise model. If the modeled and measured levels are within plus or minus 3 dBA of one another, this is an indication that the model is within the accepted level of accuracy.

3.2.1 Field Testing Procedure

Airhub and HDR staff measured traffic noise at locations that are representative of nearby noise-sensitive sites along the corridors of US 17, SC 41, Dunes West Boulevard, Park West Boulevard and Bessemer Road on both sides of the roadway. Airhub conducted measurements on September 19-21, 2017 and April 23, 2019, and HDR conducted measurements on May 2, 2018. Traffic noise measurements were conducted

in accordance with the FHWA-PD-96-046 Measurement of Highway Related Noise (May 1996). The average meteorological conditions were reported as shown in Table 3 below.

Table 3: Meteorological Conditions

	09/19 to 09/21, 2017	05/02/2018	04/23/2019
Temperature	≅ 79-86° F	≅ Mid to High 70° F	≅ Clear 70/71° F
Wind	< 9 mph	< 9 mph	< 9 mph
Conditions	Partly Cloudy, Clear	Clear	Clear

3.2.2 Instrumentation

Noise monitoring was conducted using a Casella CEL-63X (SLM) on September 19 and 21, 2017, Norsonic AS (SLM) on May 02, 2017 and LXT SE (SLM) on April 23, 2019. The meters were set at a height of approximately 5 feet for all measurements. The microphone was covered with a windscreen. Table 4 summarizes the instruments used to collect the monitoring data for this noise analysis report.

Table 4: Noise Analysis Instrumentation Summary

Instrument	Make	Model	Serial Number
Date: September 19 – September 21, 2017			
Sound Level Meter	Casella	CEL-63X	2145345
Calibrator	Casella	CEL-120	2839253
Date: May 02, 2018			
Sound Level Meter	Norsonic	118	30596
Calibrator	Norsonic AS	1251	30768
Date: April 23, 2019			
Sound Level Meter	Larson Davis	SoundTrack LXT SE	0004864
Calibrator	Larson Davis	Cal200	10609

3.2.3 Field Measurement Methods

The SLM was programmed to compute the equivalent sound level (L_{eq}). L_{eq} is the steady-state sound level that contains the same amount of acoustic energy as the actual time varying sound level over the measurement period. L_{eq} is measured in A-weighted decibels (dBA), which closely approximates the range of frequencies a human ear can hear. The following procedures were used for noise monitoring:

- The duration of the L_{eq} measurements was 15-30 minutes.
- The SLM was calibrated before and after monitoring. No significant calibration drifts were detected during the analysis.
- The microphone was mounted on a tripod 5 feet above the ground.
- The microphone was covered with a windscreen.
- Traffic was counted manually, classified by vehicle type, and used as input in the validation of the FHWA Traffic Noise Model.
- Vehicle speeds were determined by posted speed.

3.2.4 Field Measurement Locations

Table 5 describes the locations of each of the validation sites within the project corridor.

Table 5: Noise Validation Location Summary

Measurement Location	Description
A	US-17 AB McConnell General Merchandise
B	US-17 Carolina Physical Therapy
C	Lake Crest Ct - Colonnade
D	WB/ Elijah Smalls Rd
E	Nehemiah Rd – Phillips Manor
F	2080 Kings Gate Lane
G	Easement
H	2571 SC-41 South
I	Harpers Ferry Way
J	Hamlin Road/ Residential area near US 17
K	Porchers Bluff at Church
L	Winnowing Way
M	Homes Southern End of Bessemer
N	Park West Baseline
O	Townhomes
P	County Park
Q	Homes at Kirby Lane
R	2576 Larch Lane
S	3101 Kilby lane
T	1646 Bridwell Lane
U	2451 Draymohr Court
V	3029 Park W. Blvd.
W	3015 Dunes W. Blvd.

Validation locations are shown in Figure 4, and are located throughout the project area. Data Collection Sheets are in Appendix D.

3.2.5 Model Validation Results

The measured and predicted noise levels for each of the monitoring sites selected along the project corridor are presented in Table 6. Each set of predicted and measured data was found to be within the acceptable plus or minus 3 dBA tolerance. Noise measurements M through Q were performed along the proposed new Alternative 7A alignment to help in establishing background ambient noise levels and were not used for validation of the noise model. The duration of each measurement was 15 minutes for all sites other than M through Q, where 30-minute measurements were used to establish background levels.

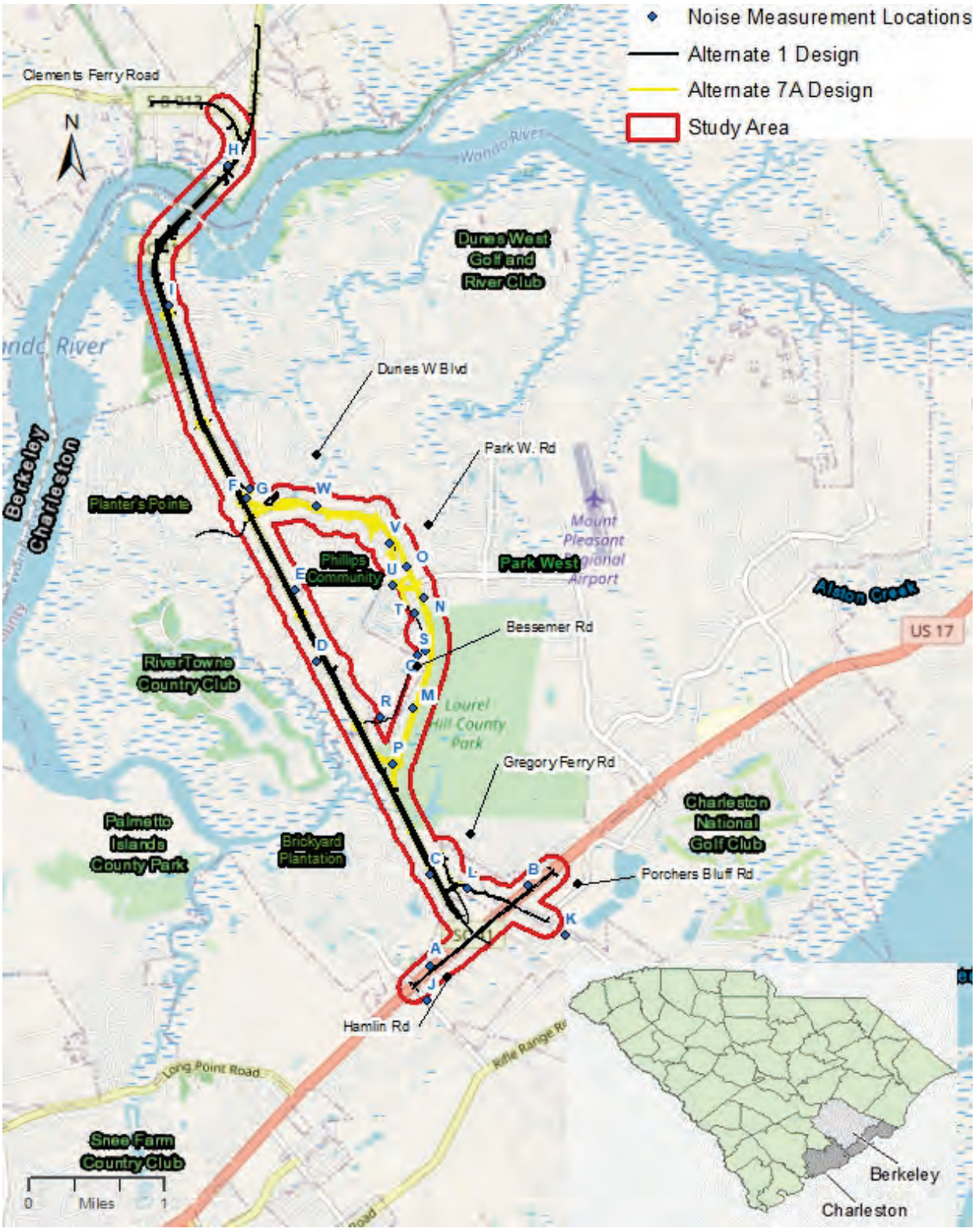

Figure 4: Field Measurement/Validation Locations

Table 6: Model Validation Results

Measurement Location	Date and Start Time	L_{Aeq1h} (dBA)		
		Measured	Predicted	Difference
A	9/21/17, 10:50 am	71.0	68.2	-2.8
B	9/21/17, 9:40 am	65.3	65.4	+0.1
C	9/20/17, 2:53 pm	58.9	61.1	+2.2
D	9/20/17, 11:46 am	55.6	54.4	-1.2
E	9/20/17, 11:15 am	57.1	55.5	-1.6
F	9/19/17, 2:25 pm	50.2	49.6	-0.6
G	9/19/17, 2:52 pm	57.9	60.0	+2.1
H	9/20/17, 10:37 am	65.2	67.8	+2.6
I	9/20/17, 9:39 am	62.3	59.8	-2.5
J	4/23/19, 6:35 pm	64.4	62.8	-1.6
K	4/23/19, 5:25 pm	54.5	55.6	+1.1
L	4/23/19, 5:02 pm	54.6	54.9	+0.3
M	4/23/19, 1:56 pm	49.1	[1]Background noise measurement	
N	4/23/19, 12:20 pm	45.1	[1]Background noise measurement	
O	4/23/19, 11:00 am	44.8	[1]Background noise measurement	
P	4/23/19, 2:55 pm	51.1	[1]Background noise measurement	
Q	4/23/19, 1:10 pm	44.6	[1]Background noise measurement	
R	5/2/18, 9:19 am	53.3	53.8	+0.5
S	5/2/18, 9:42 am	57.0	55.1	-1.9
T	5/2/18, 10:05 am	60.4	58.1	-2.3
U	5/2/18, 10:27 pm	54.3	53.4	-0.9
V	5/2/18, 10:52 am	51.0	53.3	+2.3
W	5/2/18, 11:13 am	54.1	55.6	+1.5

Note 1: These measurements were performed to establish ambient noise levels at areas where a new alignment is proposed.

3.3 Traffic Noise Modeling

To calculate existing noise levels and predict future design year noise levels, FHWA's TNM version 2.5 was used to model noise sensitive receiver locations on existing and future roadway alignment with traffic volumes and posted speeds. The modeled noise level results reflect the existing field conditions, no build and future conditions along the proposed roadway alignment alternatives (Table 10, Appendix C). The following was assumed for the modeling:

- All travel lanes were included in the TNM model.
- Worst noise hour traffic volumes and truck percentages were used. Traffic volumes represent the volume that is lower between the Level of Service C volume and peak hour volume. Traffic data is included in Appendix A.
- Vehicle speeds of 45 MPH were used on SC 41 and US 17.
- All requirements of the SCDOT noise policy are followed:
    - Terrain features larger than 5 feet are defined by terrain lines (none were identified within the study area).
    - Ground zones are included where there is a non-default ground type between the roadway and a receptor
    - Shoulders and medians are modeled as no-traffic roadways, or as ground zones if jersey barriers are present.

- Features including building rows, barriers, terrain lines and ground zones are included only between receptors and roadways.
- Ground elevations for all inputs to the model, including roadways, receptors, building barriers, and barriers in the barrier analyses are defined.
- A land use survey was conducted for the project area. The corresponding Noise Abatement Criteria (NAC) category from the SCDOT Traffic Noise Abatement Policy was used for identified receivers. Noise sensitive receivers were assigned a NAC category B, C, D, E or F.

3.4 Noise Impact Analysis

The existing (2019) and design year (2045) traffic noise levels for the Existing, No-Build, and Build Alternatives were predicted for 1378 sites (each representing 1 receiver) using the FHWA's latest traffic noise modeling software, TNM 2.5. Conceptual design plans overlaid on project aerials were used in conjunction with field reviews to develop the horizontal and vertical coordinate input data required by TNM for roadway centerlines and other features. Receptor locations were identified from both project aerials and from driving the corridor (See Appendix B). Results of the noise analysis are discussed below.

Existing and No-Build Alternatives

Based on the detailed noise analysis for the 2019 "Existing" Alternative, noise levels would approach or exceed the NAC established in the *SCDOT Traffic Noise Abatement Policy* for 36 out of 1378 noise sensitive receivers. Noise levels for the existing condition ranged from 44.6 to 74.3 dBA.[3]

Based on the detailed noise analysis for the 2045 "No-Build" Alternative, noise levels would approach or exceed the NAC established in the *SCDOT Traffic Noise Abatement Policy* for 66 out of 1378 noise sensitive receivers. Noise levels for the no-build condition ranged from 44.6 to 77.7 dBA. Traffic noise levels resulting from the design year (2045) No-Build Alternative are expected to increase from 0 to 5.4 dBA over the (2019) Existing Alternative. Table 7 lists a summary of the noise impacts associated with the existing and no-build alternatives. The majority of the impacts would be to NAC Category B (residences). Table 10 in Appendix C lists detailed results for each receptor.

Build Alternative 1

Based on the detailed noise analysis for the 2045 Build Alternative 1, noise levels would approach or exceed the NAC established in the *SCDOT Traffic Noise Abatement Policy* for 60 out of 1049 noise sensitive receivers, including 58 Category B receievers and 2 Category E receivers. 329 receivers were not analyzed due to being more than 500 feet from roadway modifications in this alternative. Noise levels for the build condition ranged from 44.6 to 76.7 dBA. Traffic noise levels resulting from (2045) Build Alternative 1 are expected to vary between -1.9 to 9.8 dBA compared to existing levels. Fluctuations in build traffic noise levels over existing traffic noise levels can occur due to changes in predicted traffic or shifts in alignment closer to or away from receptors. There were no impacts due to substantial increase in noise levels of at least 15 dB. Table 7 lists a summary of the noise impacts associated with Build Alternative 1. The majority of the impacts would be to NAC Category B (residences). Table 10 in Appendix C lists detailed results for each receiver.

[3] For all modeled scenarios, TNM results lower than the lowest measured ambient level of 44.6 dBA were replaced with 44.6 dBA.

Build Alternative 7A

Based on the detailed noise analysis for the 2045 Build Alternative 7A, noise levels would approach or exceed the NAC established in the *SCDOT Traffic Noise Abatement Policy* for 68 out of 1378 noise sensitive receivers, including 66 Category B receivers and 2 Category E receivers. Additionally, 68 out of 1378 receivers were impacted due to substantial increase in noise levels of at least 15 dB[4], including 67 Category B receivers and 1 Category C receiver. In total, 103 out of 1378 receivers were impacted, including 100 Category B receivers, 1 Category C receiver, and 2 Category E receivers. Some receivers experienced impacts both due to levels exceeding the NAC and substantial increase, but these cases are counted as one impact per receiver. Noise levels for the build condition ranged from 44.6 to 76.7 dBA. Traffic noise levels resulting from (2045) Build Alternative 7A are expected to vary between -10.8 to 27.5 dBA compared to existing levels. Fluctuations in build traffic noise levels over existing traffic noise levels can occur due to changes in predicted traffic or shifts in alignment closer or away from receptors. Table 7 lists a summary of the noise impacts associated with the Build Alternative 7A. The majority of the impacts would be to NAC Category B (residences). Table 10 in Appendix E lists detailed results for each receiver.

Table 7: Modeled Noise Impacts along SC 41 & US 17

	Year 2019	Year 2045	Year 2045 Build Alternatives	
Activity Category	Existing	Future No-Build	Alternative 1	Alternative 7A
A	0	0	0	0
B	34	63	58	100
C	0	0	0	1
D	0	0	0	0
E	2	3	2	2
Total	36	66	60	103

3.5 Consideration of Noise Abatement Measures

In accordance with 23 CFR §772.13 (c) and SCDOT's Noise Abatement Policy, noise abatement measures must be considered for reducing or eliminating noise levels to impacted receivers. When considering noise

[4] Noise impacts occur when future noise levels are predicted to approach or exceed the FHWA NAC, as well as when the future noise levels are predicted to increase substantially over existing noise levels. A substantial noise increase occurs when the existing noise level is predicted to increase by 15 dBA or more as a result of the proposed transportation improvement project. These impacts occur primarily when proposed roadway improvements are planned near noise sensitive areas, where existing noise levels are relatively low. Review of the modeled traffic noise levels presented in Appendix C indicates the proposed project for 7A Build Alternative will cause substantial increases in traffic noise levels for 68 out of 1378 noise sensitive receivers.

abatement measures, primary consideration shall be given to exterior areas where frequent human use occurs. Since South Carolina is not part of the FHWA-approved Quiet Pavement Pilot Program, the use of quieter pavements was not considered as an abatement measure for the proposed project.

In addition, the planting of vegetation or landscaping was also not considered as a potential abatement measure, since it is not an acceptable Federal-aid noise abatement measure due to the fact that only dense stands of evergreen vegetation planted 100 feet deep will reduce noise levels. The following measures were considered and evaluated as a means to reduce or eliminate the traffic noise impacts:

- Traffic management;
- Alteration of horizontal and vertical alignments;
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development;
- Noise insulation of public use or nonprofit institutional structures; and,
- Noise barriers.

Table 8 outlines the different types of noise abatement measures considered and whether they were eliminated from consideration or carried forward. Of the possible noise abatement measures considered for the proposed project, only noise barriers were carried forward for consideration due to the constraints listed in Table 8 for the other options, primarily because the preliminary design was modified to minimize impacts to the greatest extent to the natural and human environment. The acquisition of additional right-of-way to alter the alignment or create a buffer zone would result in an increase in impacts.

Table 8: Mitigation Types Considered for Noise Impacts

Mitigation Type	Status
Traffic management	Eliminated. Measures such as exclusive lane designations and signing for prohibition of certain vehicle type would prevent the project from serving its intended purpose, such as moving people, goods and services.
Alteration of horizontal and vertical alignments	Eliminated. Alignment modifications as a means of noise abatement may result in disruptive relocations for this project and may affect other natural resources.
Acquisition of real property or interests therein (predominantly unimproved property)	Eliminated. The taking of adequate property to create an effective buffer zone would most likely involve taking the impacted receivers and would require purchasing additional right-of-way. Additionally, receivers that are farther from the road are likely not impacted.
Noise insulation of public use or nonprofit institutional structures	Eliminated. No public use or nonprofit institutional structures would be impacted by the proposed project.
Noise barriers	Carried forward for further consideration.

There are feasibility and reasonableness criteria that must be met for construction of noise walls. Noise walls are assessed under the feasibility criteria first, and if all conditions are met are then considered for reasonableness. There are two feasibility criteria. Per SCDOT policy acoustic feasibility means that a noise reduction of at least 5 dBA must be achieved for 75% of impacted receivers. There are also seven engineering and design considerations that must be achieved to meet the engineering feasibility criteria. These considerations include topography, safety, drainage, utilities, maintenance, access, and wall height.

As with feasibility, there are several reasonableness criteria that must be met. These include:

- Noise Reduction Design Goal – It is SCDOT's policy that a noise reduction of at least 8 dBA must be achieved for 80% of those receivers determined to be in the first two building rows and considered benefited.
- Cost Effectiveness – The allowable cost of the abatement is based on $35.00 per square foot. This allowable cost is based on the cost effectiveness criteria found in SCDOT's Traffic Noise Abatement Policy. This construction cost will be divided by the number of benefited receivers. If the cost per benefited receiver is less than $30,000 then the barrier is determined to be cost effective.
- Property Owners and Residents – SCDOT will solicit the viewpoints of all of the benefited receivers and document a decision on either desiring or not desiring the noise abatement measure. A noise wall will be constructed unless a majority (greater than 50% of the benefited receivers) of votes not desiring noise abatement is received (p.24 of policy). This third criterion is only considered if the noise wall meets the first two criteria.

The three mandatory reasonable factors must collectively be achieved in order for a noise abatement measure to be deemed reasonable. Failure to achieve any one of the reasonable factors will result in the noise abatement measure being deemed not reasonable.

Specific noise mitigation, including noise barriers, will be examined further in the detailed noise analysis for impacted receiver locations. Noise barriers will be recommended for those areas that are able to meet the SCDOT specific feasibility and reasonableness criteria. SCDOT feasibility and reasonableness worksheets are included in Appendix E.

3.5.1 Barrier Analysis Results – Alternative 1

This section discusses the evaluations of feasibility and reasonableness performed on the barriers that could potentially mitigate projected traffic noise impacts in Alternative 1. Barrier locations are shown on receptor maps in Appendix B.

Barrier 7a – Impacted Receiver 83-1

Barrier 7a is a 260-foot long noise wall whose height is 14 feet. This wall would be located on the west side of SC 41 north of Tradewind Drive.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for the single impacted receiver (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of three receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the three benefited receivers in the first two rows, there was one that achieved the 8 dBA reduction (33%). This does not meet the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 9 – Impacted Receiver 669

Barrier 9 is a 700-foot long noise wall whose average height is 15 feet. This wall would be located on the east side of SC 41 north of Harpers Ferry Way.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for the single impacted receiver (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of 14 receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the 10 benefited receivers in the first two rows, there were 3 that achieved the 8 dBA reduction (30%). This does not meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 10a/b/c – Impacted Receiver 2

Barrier 10 is a 700-foot long system of noise walls. This wall would be located on the west side of SC 41 across from the SC 41/ Clements Ferry intersection.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 11a/b – Impacted Receiver 4

Barrier 11 is a 615-foot long system of noise walls. This wall would be located on the west side of SC 41 north of the Wando River Bridge.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 13a/b – Impacted Receivers 215, 216

Barrier 13 is a 640-foot long system of noise walls. This wall would be located on the east side of SC 41 north of Nehemiah Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 14a-f – Impacted Receivers 35-39

Barrier 14 is a 1,000-foot long system of noise walls. This wall would be located on the west side of SC 41 north of Parkers Island Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 15a-e – Impacted Receivers 44-46

Barrier 15 is an 800-foot long system of noise walls. This wall would be located on the west side of SC 41 north of Elijah Smalls Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 16a-m – Impacted Receivers 231, 235, 236, 241-246, 249, 250

Barrier 16 is a 2,415-foot long system of noise walls. This wall would be located on the east side of SC 41 north of Bennett Charles Road to past Canyon Lane.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 17a-l – Impacted Receivers 742, 743, 50, 57, 62, 64, 66, 69, 70

Barrier 17 is a 2,260-foot long system of noise walls. This wall would be located on the west side of SC 41 north of Joe Rouse Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 18a/b – Impacted Receiver 256

Barrier 18 is a 360-foot long system of noise walls. This wall would be located on the east side of SC 41 south of Bennett Charles Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 19a/b – Impacted Receivers 264, 269

Barrier 19 is a 575-foot long system of noise walls. This wall would be located on the east side of SC 41 between the Joe Rouse Road entrances.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 20 – Impacted Receivers 71, 74

Barrier 20 is a 1,200-foot noise wall whose height is 15 feet. This wall would be located on the west side of SC 41 north of Cardinal Hill Drive.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for two of the two impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of four receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the four benefited receivers in the first two rows, there were four that achieved the 8 dBA reduction (100%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be not reasonable, because the estimated cost per benefited receiver is greater than the SCDOT allowable cost ($30,000) per benefitted receiver ($630,000 / 4 benefited receivers = $157,500).

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 21 – Impacted Receiver 284

Barrier 21 is a 212-foot noise wall whose height is 25 feet. This wall would be located on the east side of SC 41 south of Gregory Ferry Road.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for the single impacted receiver (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of one receiver (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. The one benefited

receiver in the first two rows did not achieve the 8 dBA reduction (0%). This does not meet the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 22a-c – Impacted Receivers 129, 131

Barrier 22 is a 424- foot long system of noise walls. This wall would be located on the north side of US 17 west of the Greater Goodwill AME Church entrance.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 23a-e – Impacted Receivers 130, 132-134, 813, 814

Barrier 23 is a 515-foot long system of noise walls. This wall would be located on the north side of US 17 east of Brickyard Parkway.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 24a-d – Impacted Receivers 328, 577, 926

Barrier 24 is a 740-foot long system of noise walls. This wall would be located on the south side of US 17 on either side of Hamlin Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 25a-c – Impacted Receivers 329, 330

Barrier 25 is a 397- foot long system of noise walls. This wall would be located on the south side of US 17 on either side of Yough Hall Road and Dan Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 26a-d – Impacted Receivers 331, 333, 334

Barrier 26 is a 500-foot long system of noise walls. This wall would be located on the south side of US 17 east of Dingle Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 28a-d – Impacted Receivers 287-289, 573

Barrier 26 is a 710-foot long system of noise walls. This wall would be located on the north side of US 17 west of the Sunoco entrance.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Alternative 1 Barrier Analysis Summary

Based on the detailed noise analysis of 19 potential barriers to shield impacts in Alternative 1, 15 barriers were found to be not feasible due to access and safety issues, 4 barriers were found to be feasible but not reasonable, and no barrier was found to be feasible and reasonable. A summary of the barriers that were not excluded for feasibility can be found in Table 9 below. The location of the investigated barriers is shown on Figure B1 in Appendix B.

Table 9: Summary of Detailed Noise Mitigation Analysis, Alternative 1

Barrier	Alternative 1 Dimension (feet)	Cost	Feasible	Reasonable	Proposed
7A	14 x 260	$127,400	Yes	No	No
9	15 x 700	$367,500	Yes	No	No
20	15 x 1,200	$630,000	Yes	No	No
21	25 x 212	$185,500	Yes	No	No

3.5.2 Barrier Analysis Results – Alternative 7a

This section discusses the evaluations of feasibility and reasonableness performed on the barriers that could potentially mitigate projected traffic noise impacts in Alternative 7a.

Barrier 1– Impacted Receivers 457-467

Barrier 1 is a 925-foot long noise wall whose average height is 17.4 feet. This wall would be located on the west side of the SC 41 Bypass south of Ellington Woods Blvd.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for 11 of the 11 impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of 22 receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the 22 benefited receivers in the first two rows, there were 18 that achieved the 8 dBA reduction (82%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be reasonable, because the estimated cost per benefited receiver is less than the SCDOT allowable cost ($30,000) per benefitted receiver ($563,325 / 22 benefited receivers = $25,606). There are no unusual features in the vicinity of the proposed abatement feature that would impede constructability and lead to increased cost.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible and reasonable. If Alternative 7a is selected, a final decision on the barrier will be made after conclusion of the public involvement portion of the project.

Barrier 2 – Impacted Receivers 570-572, 991

Barrier 2 is a 1,740-foot long noise wall whose height is 20 feet. This wall would be located on the west side of SC 41 north of Park West Blvd.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for five of the five impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of seven receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the seven benefited receivers in the first two rows, there were six that achieved the 8 dBA reduction (86%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be not reasonable, because the estimated cost per benefited receiver is greater than the SCDOT allowable cost ($30,000) per benefitted receiver ($1,218,000 / 7 benefited receivers = $174,000).

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 3– Impacted Receivers 420-432, 434-439

Barrier 3 is a 1,173-foot long noise wall whose average height is 14.4 feet. This wall would be located on the west side of the SC 41 Bypass north of Park West Blvd.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for 19 of the 19 impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of 20 receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the 20 benefited receivers in the first two rows, there were 20 that achieved the 8 dBA reduction (100%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be reasonable, because the estimated cost per benefited receiver is less than the SCDOT allowable cost ($30,000) per benefitted receiver ($591,192 / 20 benefited receivers = $29,560). There are no unusual features in the vicinity of the proposed abatement feature that would impede constructability and lead to increased cost.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible and reasonable. If Alternative 7a is selected, a final decision on the barrier will be made after conclusion of the public involvement portion of the project.

Barrier 4 – Impacted Receivers 698, 372-1 through 386-1, 393-1, 394-1

Barrier 4 is a 3,870-foot long noise wall whose height is 20 feet. This wall would be located on the east side of the SC 41 Bypass south of Park West Blvd.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for 29 of the 35 impacted receivers (83%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of 32 receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the 28 benefited receivers in the first two rows, there were 24 that achieved the 8 dBA reduction (86%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be not reasonable, because the estimated cost per benefited receiver is greater than the SCDOT allowable cost ($30,000) per benefitted receiver ($2,709,000 / 32 benefited receivers = $84,656).

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 5 – Impacted Receivers 342-349

Barrier 5 is a 1,314-foot long noise wall whose height is 25 feet. This wall would be located on the east side of the SC 41 bypass south of Bessemer Road.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for eight of the eight impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of ten receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the ten benefited receivers in the first two rows, there were six that achieved the 8 dBA reduction (60%). This does not meet the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 6 – Impacted Receivers 624-642

Barrier 6 is a 1,985-foot long noise wall whose height is 15 feet. This wall would be located on the east side of the SC 41 bypass north of the connection to old SC 41.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for 20 of the 22 impacted receivers (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of 20 receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the 20 benefited

receivers in the first two rows, there were 16 that achieved the 8 dBA reduction (80%). This meets the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The analyzed feature was deemed to be not reasonable, because the estimated cost per benefited receiver is greater than the SCDOT allowable cost ($30,000) per benefitted receiver ($1,042,125 / 20 benefited receivers = $52,106).

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 7a – Impacted Receivers 83-1

Barrier 7a is a 260-foot long noise wall whose height is 14 feet. This wall would be located on the west side of SC 41 on either side of Tradewind Drive.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for the single impacted receiver (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of two receivers (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. Of the one benefited receiver in the first two rows, there was one that achieved the 8 dBA reduction (50%). This does not meet the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 10a/b/c – Impacted Receiver 2

Barrier 10 is a 700-foot long system of noise walls. This wall would be located on the west side of SC 41 across from the SC 41/ Clements Ferry intersection.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 11a/b – Impacted Receiver 4

Barrier 11 is a 615-foot long system of noise walls. This wall would be located on the west side of SC 41 north of the Wando River Bridge.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 21 – Impacted Receiver 284

Barrier 21 is a 212-foot noise wall whose height is 25 feet. This wall would be located on the east side of SC 41 south of Gregory Ferry Road.

Feasibility:

Engineering Feasibility: No known issues at this time.

Acoustic Feasibility: SCDOT noise policy states that a noise reduction of at least 5 dBA must be achieved for 75 percent of the impacted receivers. This was achieved for the single impacted receiver (100%). This meets the SCDOT allowable percentage (75%) of impacted receivers. A total of one receiver (including impacted and non-impacted) achieved at least 5 dBA of noise reduction.

Reasonableness:

Noise Reduction Design Goal: SCDOT noise policy states that a noise reduction of at least 8 dBA must be achieved for 80 percent of the benefited receivers in the first two building rows. The one benefited receiver in the first two rows did not achieve the 8 dBA reduction (0%). This does not meet the SCDOT allowable percentage (80%) of the benefited receivers.

Cost Effectiveness: The cost effectiveness analysis is not applicable since the noise reduction design goal was not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable, and is not proposed as part of this project.

Barrier 22a-c – Impacted Receivers 129, 131

Barrier 22 is a 424-foot long system of noise walls. This wall would be located on the north side of US 17 west of the Greater Goodwill AME Church entrance.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 23a-e – Impacted Receivers 130, 132-134, 813, 814

Barrier 23 is a 515-foot long system of noise walls. This wall would be located on the north side of US 17 east of Brickyard Parkway.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 24a-d – Impacted Receivers 328, 577, 926

Barrier 24 is a 740-foot long system of noise walls. This wall would be located on the south side of US 17 on either side of Hamlin Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 25a-c – Impacted Receivers 329, 330

Barrier 25 is a 397-foot long system of noise walls. This wall would be located on the south side of US 17 on either side of Yough Hall Road and Dan Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 26a-d – Impacted Receivers 331, 333, 334

Barrier 26 is a 500-foot long system of noise walls. This wall would be located on the south side of US 17 east of Dingle Road.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Barrier 28a-d – Impacted Receivers 287-289, 573

Barrier 28 is a 710-foot long system of noise walls. This wall would be located on the north side of US 17 west of the Sunoco entrance.

Feasibility:

Engineering Feasibility: Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Acoustic Feasibility: The acoustic feasibility analysis is not applicable because the engineering feasibility requirements were not met.

Reasonableness:

The reasonableness analysis is not applicable because feasibility requirements were not met.

Conclusion: Based on the above results of the detailed analysis, this abatement feature is not feasible, and is not proposed as part of this project.

Alternative 7a Barrier Analysis Summary

Based on the detailed noise analysis of 16 potential barriers to shield impacts in Alternative 7a, eight barriers were found to be not feasible due to access and safety issues, six barriers were found to be feasible but not reasonable, and two barriers were found to be feasible and reasonable pending the public involvement process and selection of an alternative. A summary of the barriers that were not excluded for feasibility can be found in Table 10 below. The location of the investigated barriers is shown on Figure B2 in Appendix B.

Table 10: Summary of Detailed Noise Mitigation Analysis, Alternative 7a

Alternative 7a					
Barrier	Dimension (feet)	Cost	Feasible	Reasonable	Proposed
1	17.4 (average) x 925	$563,325	Yes	Yes	Yes
2	20 x 1,740	$1,218,000	Yes	No	No
3	14.4 x 1,1173	$591,192	Yes	Yes	Yes
4	20 x 3,870	$2,709,000	Yes	No	No
5	25 x 1,314	$1,149,750	Yes	No	No
6	15 x 1,985	$1,042,125	Yes	No	No
7A	14 x 260 (total)	$127,400	Yes	No	No
21	25 x 212	$185,500	Yes	No	No

3.6 Construction Noise

The major construction elements of this project are expected to include earth removal, hauling, grading, bridge construction, and paving. General construction noise impacts, such as temporary speech interference for passers-by and those individuals living or working near the project, can be expected particularly from paving operations, pile driving at bridges, and earth moving equipment during grading operations. Table 11 summarizes noise level ranges for typical highway construction equipment.

During evening and nighttime hours, steady-state construction noise emissions such as from paving operations will be audible, and may cause impacts to activities such as sleep. Sporadic evening and nighttime construction equipment noise emissions such as from backup alarms, lift gate closures (“slamming” of dump truck gates), etc., will be perceived as distinctly louder than the steady-state acoustic environment, and could cause impacts to the general peace and usage of noise-sensitive areas – particularly residences.

There are 1378 receivers in the project noise study area, including Category B (residential), Category C (recreational), D (churches) and E (restaurant patios) land uses in the corridor that may be exposed to

construction noise. Extremely loud construction noise activities such as usage of pile-drivers and impact-hammers (jackhammer, hoe-ram) will provide sporadic, temporary, and significant construction noise impacts in the near vicinity of those activities (Table 9). It is the recommendation of this TNR that construction activities that will produce extremely loud noises be scheduled during times of the day when such noises will create as minimal disturbance as possible.

Table 11: Equipment Noise Levels and Extent of Construction Noise

Equipment	Noise Level Emissions (dB(A)) at 50 Feet From Equipment[1]			
	70	80	90	100
Pile Driver				
Jack Hammer				
Tractor				
Road Grader				
Backhoe				
Truck				
Paver				
Pneumatic Wrench				
Crane				
Concrete Mixer				
Compressor				
Front-End Loader				
Generator				
Saws				
Roller (Compactor)				

Source: Adapted from Noise Construction Equipment and Operations, Building Equipment, and Home Appliances. U.S. Environmental Protection Agency. Washington D.C. 1971.

[1]Cited noise level ranges are typical for the equipment cited. Noise energy dissipates as a function of distance between the source and the receiver. For example, if the noise level from a pile driver at a distance of 50 feet = 100 decibels (dB(A)), then at 400 feet, it might be 82 decibels (dB(A)) or less.

Generally, low-cost and easily implemented construction noise control measures should be incorporated into the project plans and specifications to the extent possible. These measures include, but are not limited to, work-hour limits, equipment exhaust muffler requirements, haul-road locations, elimination of "tail gate banging", ambient-sensitive backup alarms, construction noise complaint mechanisms, and consistent and transparent community communication.

While discrete construction noise level prediction is difficult for a particular receiver or group of receivers, it can be assessed in a general capacity with respect to distance from known or likely project activities. For this project, earth removal, grading, hauling, paving, and pile driving are anticipated to occur near noise-sensitive areas. Although construction noise impact abatement should not place an undue burden upon the financial cost of the project or the project construction schedule, pursuant to the requirements of Title 23 CFR 772.19, it is the recommendation of this traffic noise analysis that:

- Earth removal, grading, hauling, and paving activities should be limited to weekday daytime hours.
- If meeting the project schedule requires that earth removal, grading, hauling and/or paving must occur during evening, nighttime, and/or weekend hours in the vicinity of residential neighborhoods, the Contractor shall notify Charleston County and SCDOT as soon as possible. In such instance(s), all reasonable attempts shall be made to notify and to make appropriate arrangements for the abatement of the predicted construction noise impacts upon the affected property owners and/or residents.
- If construction noise activities must occur during context-sensitive hours in the vicinity of noise-sensitive areas, discrete construction noise abatement measures including, but not limited to, portable noise barriers and/or other equipment-quieting devices shall be considered.
- Some construction activities will create extreme noise impacts for nearby noise sensitive land uses. For example, pile-driving activities can create noise impacts for distances of up to 0.25 mile. It is the recommendation of this TNR that considerations be made for any nearby residences for all evening and/or nighttime periods (7:00 p.m. – 7:00 a.m.), and for all weekend hours throughout which extremely loud construction activities might occur.

For additional information on construction noise, please refer to the FHWA Construction Noise Handbook (FHWA-HEP-06-015) and the Roadway Construction Noise Model (RCNM), available online at: https://www.fhwa.dot.gov/environment/noise/construction_noise/index.cfm.

4.0 Public Coordination

The initial public information meeting was held on November 13, 2017. Numerous commenters expressed concern about potential noise impacts on their properties. Stakeholder Working Group meetings were held on September 26, 2017, April 26, 2018, November 14, 2018, and March 6, 2019. Additional meetings included four meetings with leadership from community, neighborhood and business groups on April 25-26, 2018, the Public Information Meeting for Alternatives on May 16, 2018, and a series of community/HOA meetings on March 5-6, 2019. Concerns about noise impacts received during the additional meetings are consistent with those from the initial public information meeting.

Noise impacts will be discussed at upcoming public meetings, community meetings, and Stakeholder Working Groups. After completion of the Detailed Noise Analysis, public coordination will occur to solicit viewpoints on noise abatement from benefited receivers.

5.0 Coordination with Local Officials

In order to help local officials and developers consider highway traffic noise in the vicinity of a proposed Type I project, Charleston County will inform them of the predicted future noise levels and the required distance from such projects needed to ensure that noise levels remain below the NAC for each type of land use in accordance with 23 CFR §772.17. The contour distances to the 66 and 71 dBA sound levels are shown in Table 12. Please note that the values in the table do not represent predicted levels at every location at a particular distance back from the roadway. Sound levels will vary with changes in terrain and will be affected by the shielding of objects such as buildings and tree zones. These locations were chosen in areas where there is potential for future development. Charleston County will provide this information to the Town of Mount Pleasant. Contact information for the local planning and development director is included below.

Mr. Jeff Ulma, Director
Planning and Development Department
100 Ann Edwards Lane
Mt. Pleasant, SC 29464

Table 12: Contour Distances for Land Use Planning (dBA)

Location	Distance to 66 dBA (Category B/C Impact)	Distance to 71 dBA (Category E Impact)
Alternative 1		
SC 41 north of Dunes	110 ft	50 ft
SC 41 between Dunes and Bessemer	90 ft	40 ft
SC 41 south of Bessemer	120 ft	50 ft
US 17 east of SC 41	140 ft	60 ft
US 17 west of SC 41	150 ft	70 ft
Alternative 7a		
SC 41 north of bypass	100 ft	40 ft
Old SC 41	20 ft	Within ROW
SC 41 bypass	70 ft	10 ft
SC 41 south of bypass	120 ft	50 ft
US 17 east of SC 41	140 ft	60 ft
US 17 west of SC 41	150 ft	70 ft

6.0 Conclusion

Traffic noise and temporary construction noise can be a consequence of transportation projects, especially in areas in close proximity to high-volume and high-speed existing steady-state traffic noise sources. This analysis was conducted to evaluate the potential noise impacts associated with the proposed realignment of SC 41 and improvements on US 17. This noise analysis utilized computer models created with the FHWA v. 2.5 TNM to predict existing and future noise levels and define impacted receivers along the proposed new highway project. In addition to parameters utilized for the Preliminary Noise Analysis, receiver and roadway elevations, existing structures, and distinctive ground zones were used to more precisely assess existing and future noise levels and determine impacts.

The results of the noise analysis indicate that 60 traffic-related noise impacts and 103 traffic-related noise impacts would occur under Build Alternative 1 and Build Alternative 7A respectively. Traffic noise levels resulting from (2045) Build Alternative 1 are expected to vary between -1.9 to 9.8 dBA compared to existing conditions. Traffic noise levels resulting from (2045) Build Alternative 7A are expected to vary between -10.8 to 27.5 dBA compared to existing conditions.

Specific noise mitigation, including noise barriers, were examined further in the detailed noise analysis for all impacted receiver locations. Noise barriers were recommended for those areas that are able to meet the SCDOT specific feasibility and reasonableness criteria. Out of 19 barriers examined for Alternative 1, none were found to be feasible and reasonable. Out of 16 barriers examined for Alternative 7a, two were found to be feasible and reasonable pending public input and selection of a preferred alternative.

Construction noise impacts will occur due to the close proximity of noise-sensitive receivers to project construction activities. Construction noise control measures will be incorporated into the project plans and specifications.

7.0 References

South Carolina Department of Transportation, Traffic Noise Abatement Policy, Issued: August 2014, Effective: September 1, 2014.

U.S. Department of Transportation, Federal Highway Administration. Measurement of Highway-Related Noise. FHWA Report Number FHWA-PD-96-046. May 1996.

U.S. Department of Transportation, Federal Highway Administration. FHWA Traffic Noise Model: User's Guide. FHWA Report Number FHWA-PD-96-009. January, 1998.

U.S. Department of Transportation, Federal Highway Administration. FHWA Traffic Noise Model: User's Guide (Version 2.5 Addendum). April 2004.

U.S. National Archives and Records Administration, Office of the Federal Register. Title 23, Code of Federal Regulations, Part 772. Procedures for Abatement of Highway Traffic Noise and Construction Noise.

Federal Highway Administration (FHWA). Analysis of Highway Construction Noise. 1984.

2006. FHWA Construction Noise Handbook (FHWA-HEP-06-015) and the Roadway Construction Noise Model (RCNM). August 2006. http://www.fhwa.dot.gov/environment/noise/cnstr_ns.htm.

2010. CFR 23 Part 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise. [75 FR 39820-39838, July 13, 2010].

2011. Highway Traffic Noise: Analysis and Abatement Guidance. 2011.

Lee, Cynthia S.Y. and Fleming, Gregg G. Measurement of Highway-Related Noise. U.S. Department of Transportation Research and Special Programs Administration John A. Volpe National Transportation Systems Center Acoustics Facility, DTS-75. Cambridge, MA. May 1996.

U.S. Environmental Protection Agency (EPA). Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. Washington, D.C. 1971.

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HIGHWAY 41 CORRIDOR IMPROVEMENTS

Appendix A – Traffic

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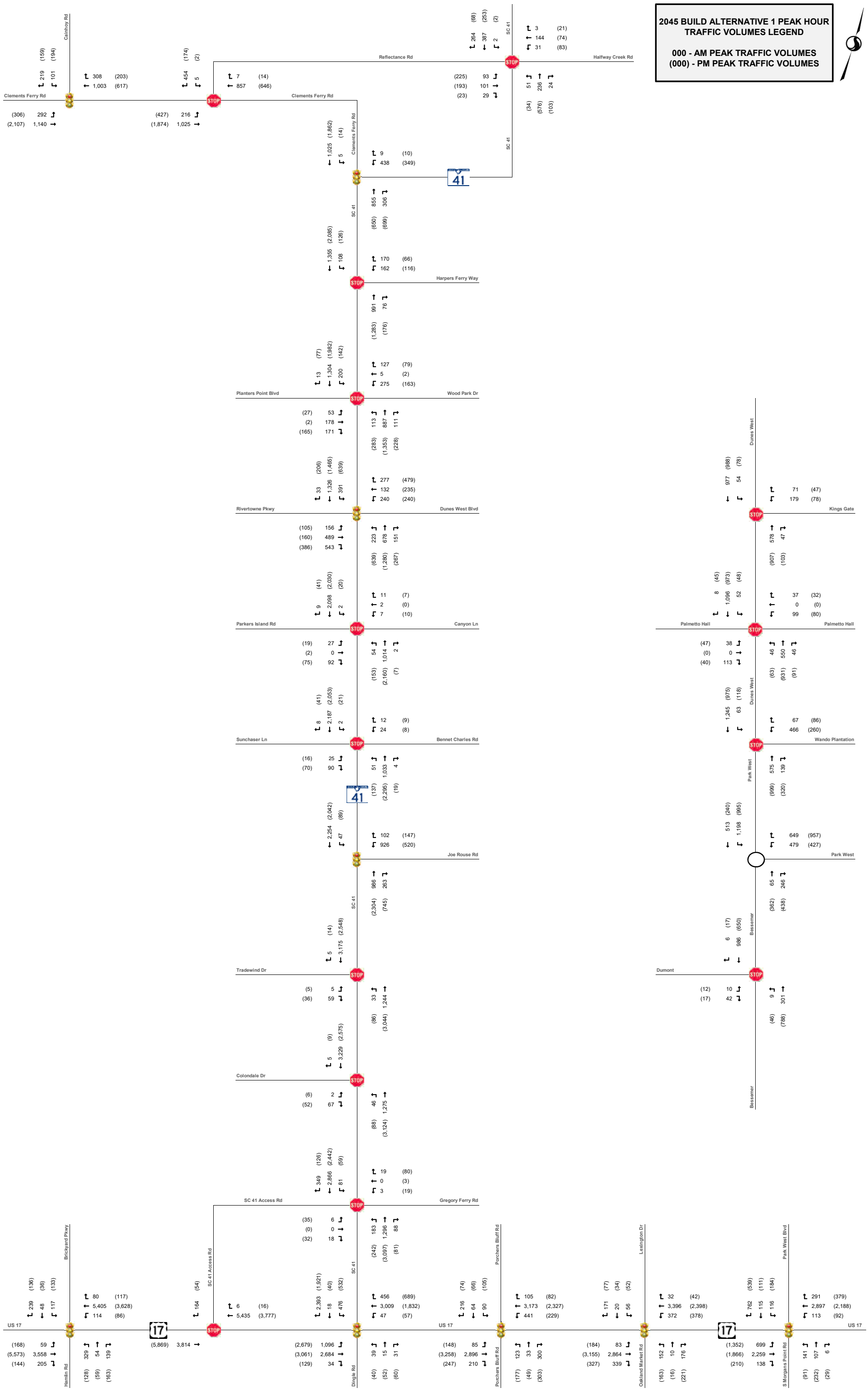
Seg.	Links From	To	Dir.	PHV Source:	2045 Build Alt 1 Min. PHV (vph)	Auto (vph)	MT (vph)	HT (vph)	%Auto	%MT	%HT
SC 41	Study Limit - North	Clements Ferry Rd	NB	Pk Hr	**713**	**694**	**14**	**5**	97%	2%	1%
			SB	Pk Hr	**447**	**435**	**8**	**3**	97%	2%	1%
	Clements Ferry Rd	Harpers Ferry Way	NB	Pk Hr	**1,485**	**1,449**	**24**	**12**	98%	2%	1%
			SB	LOS C	**1,880**	**1,861**	**19**	**0**	99%	1%	0%
	Harpers Ferry Way	Wood Park Dr	NB	Pk Hr	**1,569**	**1,538**	**22**	**9**	98%	1%	1%
			SB	LOS C	**1,880**	**1,857**	**23**	**0**	99%	1%	0%
	Wood Park Dr	Dunes West Blvd	NB	Pk Hr	**1,876**	**1,844**	**21**	**11**	98%	1%	1%
			SB	LOS C	**1,880**	**1,863**	**17**	**0**	99%	1%	0%
	Dunes West Blvd	Joe Rouse Rd	NB	Pk Hr	**1,746**	**1,725**	**17**	**3**	99%	1%	0%
			SB	LOS C	**1,880**	**1,857**	**21**	**2**	99%	1%	0%
	Joe Rouse Rd	Winnowing Way	NB	LOS C	**1,880**	**1,859**	**15**	**6**	99%	1%	0%
			SB	LOS C	**1,860**	**1,817**	**11**	**32**	98%	1%	2%
	Winnowing Way	Gregory Ferry/SC 41 Access Rd	NB	LOS C	**1,880**	**1,859**	**15**	**6**	99%	1%	0%
			SB	LOS C	**1,860**	**1,817**	**37**	**6**	98%	2%	0%
	Gregory Ferry/SC 41 Access Rd	US 17	NB	Pk Hr	**2,140**	**2,078**	**62**	**0**	97%	3%	0%
			SB	Pk Hr	**364**	**353**	**9**	**1**	97%	3%	0%
	US 17	Study Limit - South	NB	Pk Hr	**148**	**147**	**1**	**0**	99%	1%	0%
			SB	Pk Hr	**182**	**180**	**2**	**0**	99%	1%	0%
SC41 Acces	SC 41	Zone 29 (halfway)	NB	Pk Hr	**78**	**78**	**0**	**0**	100%	0%	0%
			SB	LOS C	**1,560**	**1,501**	**59**	**0**	96%	4%	0%
	Zone 29 (halfway)	US 17	NB	Pk Hr	**241**	**241**	**0**	**0**	100%	0%	0%
			SB	LOS C	**1,560**	**1,501**	**59**	**0**	96%	4%	0%
Side Streets	Clements Ferry Rd North of SC 41		NB	LOS C	**780**	**746**	**28**	**6**	96%	4%	1%
			SB	LOS C	**790**	**755**	**28**	**6**			
	Harpers Ferry Way		EB	Pk Hr	**273**	**268**	**5**	**0**	98%	2%	0%
			WB	Pk Hr	**331**	**325**	**6**	**0**			
	Dunes West Blvd East of SC 41		EB	LOS C	**780**	**760**	**20**	**0**	97%	3%	0%
			WB	LOS C	**790**	**769**	**21**	**0**			
	Rivertowne Pkwy West of SC 41		EB	Pk Hr	**717**	**703**	**13**	**1**	98%	2%	0%
			WB	Pk Hr	**509**	**499**	**9**	**1**			
	Joe Rouse Road		EB	Pk Hr	**611**	**605**	**2**	**4**	99%	0%	1%
			WB	LOS C	**790**	**782**	**3**	**5**			
	Winnowing Way - N of "Sink Zone" (halfway)		NB	Pk Hr	**389**	**374**	**14**	**1**	96%	4%	0%
			SB	Pk Hr	**476**	**458**	**17**	**1**			
	Winnowing Way - S of "Sink Zone" (halfway)		NB	Pk Hr	**224**	**221**	**3**	**0**	99%	1%	0%
			SB	Pk Hr	**256**	**253**	**3**	**0**			
	Porchers Bluff		NB	Pk Hr	**634**	**627**	**6**	**1**	99%	1%	0%
			SB	Pk Hr	**843**	**834**	**8**	**2**	99%	1%	0%
US 17	Study Limit - West	Hamlin Rd	EB	Pk Hr	**4,155**	**4,039**	**71**	**46**	97%	2%	1%
			WB	LOS C	**4,650**	**4,520**	**79**	**51**	97%	2%	1%
	Hamlin Rd	SC 41 Access Rd	EB	Pk Hr	**4,193**	**4,143**	**34**	**17**	99%	1%	0%
			WB	LOS C	**4,650**	**4,520**	**79**	**51**	97%	2%	1%
	SC 41 Access Rd	SC 41	EB	Pk Hr	**4,193**	**4,143**	**34**	**17**	99%	1%	0%
			WB	LOS C	**2,790**	**2,692**	**56**	**42**	97%	2%	2%
	SC 41	Porchers Bluff	EB	Pk Hr	**2,407**	**2,270**	**91**	**46**	94%	4%	2%
			WB	LOS C	**2,790**	**2,692**	**56**	**42**	97%	2%	2%
	Porchers Bluff	**Study Limit - East**	EB	LOS C	**2,730**	**2,585**	**101**	**44**	95%	4%	2%
			WB	LOS C	**2,790**	**2,695**	**47**	**47**	97%	2%	2%

Seg.	Links From	To	Dir.	PHV Source:	2045 Build Alt 7A Min. PHV (vph)	Auto (vph)	MT (vph)	HT (vph)	%Auto	%MT	%HT
SC 41	Study Limit - North	Clements Ferry Rd	NB	Pk Hr	**713**	**694**	**14**	**5**	97%	2%	1%
			SB	Pk Hr	**447**	**435**	**8**	**3**	97%	2%	1%
	Clements Ferry Rd	Harpers Ferry Way	NB	Pk Hr	**1,069**	**1,043**	**17**	**9**	98%	2%	1%
			SB	Pk Hr	**1,864**	**1,845**	**19**	**0**	99%	1%	0%
	Harpers Ferry Way	Wood Park Dr	NB	Pk Hr	**1,131**	**1,108**	**16**	**7**	98%	1%	1%
			SB	Pk Hr	**1,855**	**1,833**	**22**	**0**	99%	1%	0%
	Wood Park Dr	SC 41 Bypass	NB	Pk Hr	**1,386**	**1,362**	**15**	**8**	98%	1%	1%
			SB	LOS C	**1,880**	**1,863**	**17**	**0**	99%	1%	0%
	SC 41 Bypass	Joe Rouse	NB	LOS C	**790**	**781**	**8**	**2**	99%	1%	0%
			SB	Pk Hr	**598**	**591**	**7**	**1**	99%	1%	0%
	Joe Rouse	SC 41 Bypass	NB	Pk Hr	**631**	**623**	**6**	**1**	99%	1%	0%
			SB	LOS C	**790**	**781**	**9**	**1**	99%	1%	0%
	SC 41 Bypass	Winnowing Way	NB	LOS C	**1,880**	**1,859**	**15**	**6**	99%	1%	0%
			SB	LOS C	**1,860**	**1,817**	**11**	**32**	98%	1%	2%
	Winnowing Way	Gregory Ferry/SC 41 Access Rd	NB	Pk Hr	**1,747**	**1,728**	**14**	**5**	99%	1%	0%
			SB	LOS C	**1,860**	**1,817**	**37**	**6**	98%	2%	0%
	Gregory Ferry/SC 41 Access Rd	US 17	NB	Pk Hr	**1,701**	**1,652**	**49**	**0**	97%	3%	0%
			SB	Pk Hr	**410**	**398**	**11**	**2**	97%	3%	0%
	US 17	Study Limit - South	NB	Pk Hr	**144**	**143**	**1**	**0**	99%	1%	0%
			SB	Pk Hr	**184**	**182**	**2**	**0**	99%	1%	0%
SC41 Acces	SC 41	Zone 29 (halfway)	NB	Pk Hr	**42**	**42**	**0**	**0**	100%	0%	0%
			SB	LOS C	**1,860**	**1,789**	**71**	**0**	96%	4%	0%
	Zone 29 (halfway)	US 17	NB	Pk Hr	**137**	**137**	**0**	**0**	100%	0%	0%
			SB	LOS C	**1,860**	**1,789**	**71**	**0**	96%	4%	0%
Side Streets	Clements Ferry Rd North of SC 41		NB	LOS C	**910**	**870**	**33**	**7**	96%	4%	1%
			SB	LOS C	**940**	**899**	**34**	**8**			
	Harpers Ferry Way		EB	Pk Hr	**258**	**253**	**5**	**0**	98%	2%	0%
			WB	Pk Hr	**332**	**326**	**6**	**0**			
	Rivertowne Pkwy West of SC 41		EB	Pk Hr	**485**	**482**	**3**	**0**	99%	1%	0%
			WB	Pk Hr	**141**	**140**	**1**	**0**			
	Winnowing Way - N of "Sink Zone" (halfway)		NB	Pk Hr	**409**	**393**	**14**	**1**	96%	4%	0%
			SB	Pk Hr	**356**	**342**	**12**	**1**			
	Winnowing Way - S of "Sink Zone" (halfway)		NB	Pk Hr	**252**	**249**	**3**	**0**	99%	1%	0%
			SB	Pk Hr	**311**	**307**	**4**	**0**			
	Porchers Bluff		NB	Pk Hr	**660**	**653**	**6**	**1**	99%	1%	0%
			SB	Pk Hr	**758**	**750**	**7**	**2**	99%	1%	0%
SC41 Bypass	SC41	Wando Plantation	NB	Pk Hr	**1,766**	**1,755**	**11**	**0**	99%	1%	0%
			SB	Pk Hr	**1,522**	**1,507**	**9**	**6**	99%	1%	0%
	Wando Plantation	Park West	NB	Pk Hr	**1,774**	**1,763**	**11**	**0**	99%	1%	0%
			SB	LOS C	**1,880**	**1,861**	**11**	**8**	99%	1%	0%
	Park West	Dumont Dr	NB	Pk Hr	**1,273**	**1,265**	**8**	**0**	99%	1%	0%
			SB	Pk Hr	**1,758**	**1,740**	**11**	**7**	99%	1%	0%
	Dumont Dr	SC 41	NB	Pk Hr	**1,590**	**1,580**	**10**	**0**	99%	1%	0%
			SB	LOS C	**1,880**	**1,861**	**11**	**8**	99%	1%	0%
US 17	Study Limit - West	Hamlin Rd	EB	Pk Hr	**4,121**	**4,006**	**70**	**45**	97%	2%	1%
			WB	LOS C	**4,650**	**4,520**	**79**	**51**	97%	2%	1%
	Hamlin Rd	SC 41 Access Rd	EB	Pk Hr	**4,031**	**3,983**	**32**	**16**	99%	1%	0%
			WB	LOS C	**4,650**	**4,520**	**79**	**51**	97%	2%	1%
	SC 41 Access Rd	SC 41	EB	Pk Hr	**4,031**	**3,983**	**32**	**16**	99%	1%	0%
			WB	LOS C	**2,790**	**2,692**	**56**	**42**	97%	2%	2%
	SC 41	Porchers Bluff	EB	Pk Hr	**2,564**	**2,418**	**97**	**49**	94%	4%	2%
			WB	LOS C	**2,790**	**2,692**	**56**	**42**	97%	2%	2%
	Porchers Bluff	**Study Limit - East**	EB	LOS C	**2,730**	**2,585**	**101**	**44**	95%	4%	2%
			WB	LOS C	**2,790**	**2,695**	**47**	**47**	97%	2%	2%

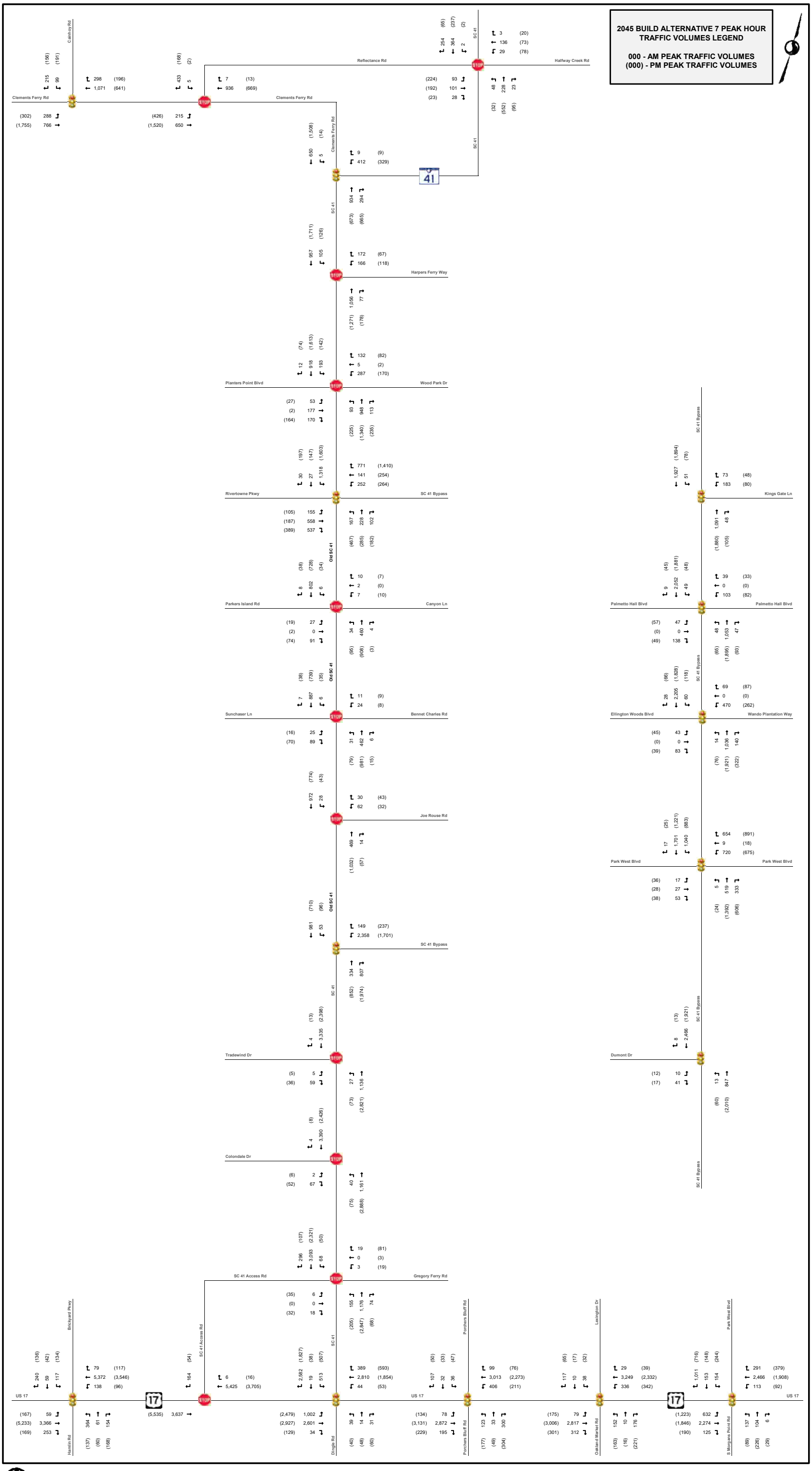
2045 BUILD ALTERNATIVE 1 PEAK HOUR TRAFFIC VOLUMES LEGEND

000 - AM PEAK TRAFFIC VOLUMES
(000) - PM PEAK TRAFFIC VOLUMES



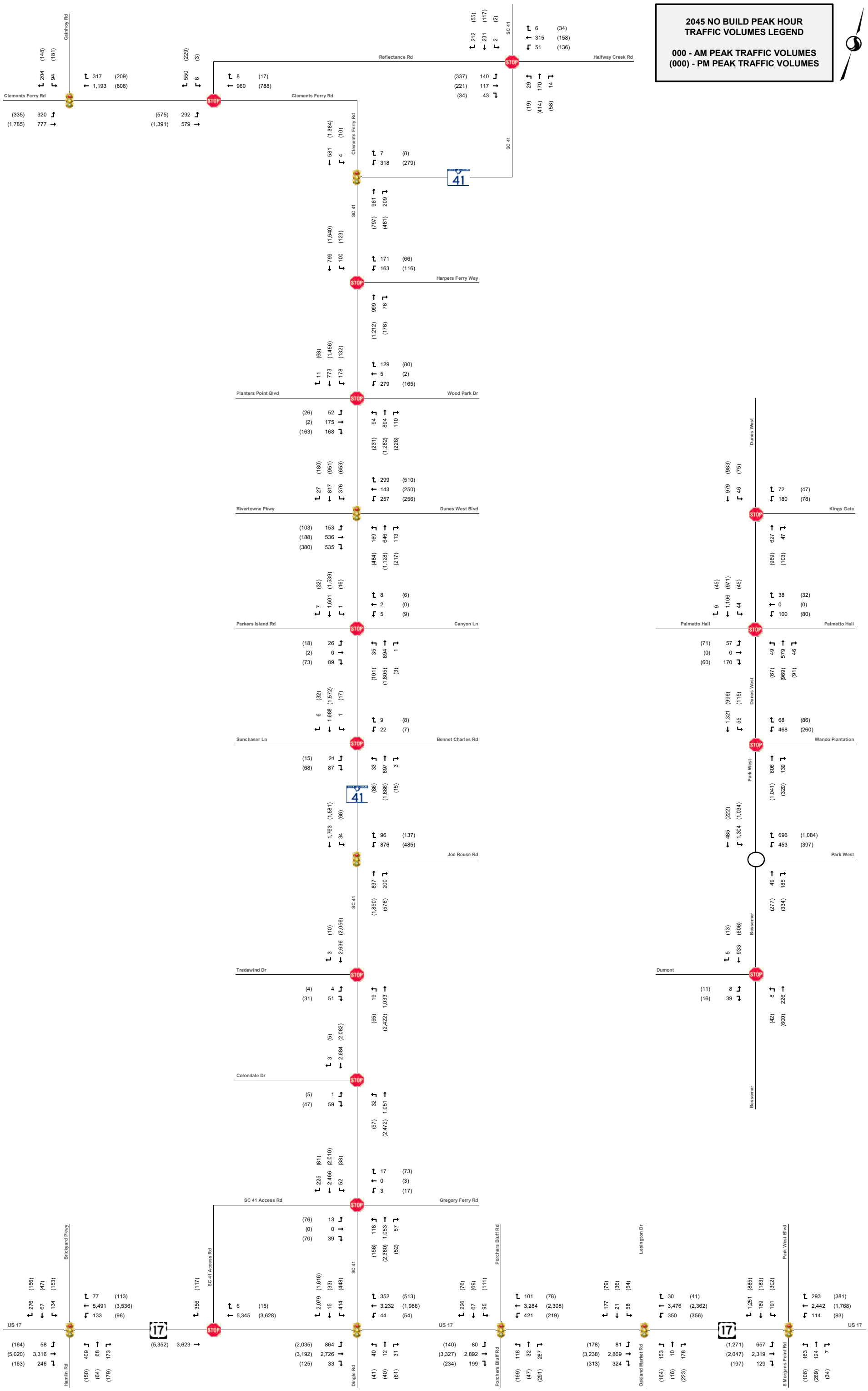
2045 BUILD ALTERNATIVE 7 PEAK HOUR TRAFFIC VOLUMES LEGEND

000 - AM PEAK TRAFFIC VOLUMES
(000) - PM PEAK TRAFFIC VOLUMES



2045 NO BUILD PEAK HOUR TRAFFIC VOLUMES LEGEND

000 - AM PEAK TRAFFIC VOLUMES
(000) - PM PEAK TRAFFIC VOLUMES



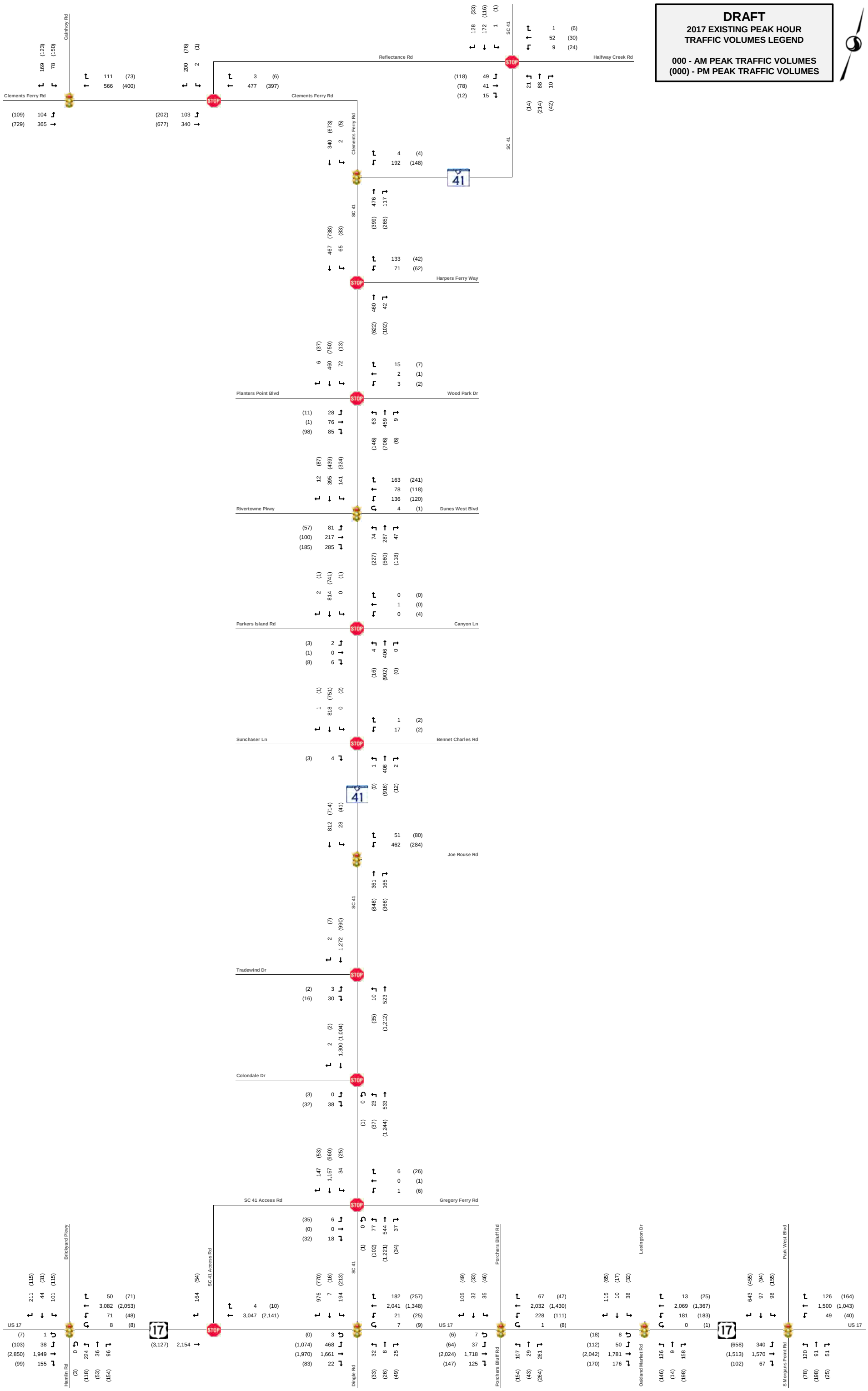
Stantec

SC 41 Traffic Impact Analysis
2045 No Build Peak Hour Traffic Volumes

DRAFT

2017 EXISTING PEAK HOUR TRAFFIC VOLUMES LEGEND

000 - AM PEAK TRAFFIC VOLUMES
(000) - PM PEAK TRAFFIC VOLUMES



Vehicle Percentages Per Approach - AM

Intersection	Eastbound			Westbound			Northbound			Southbound		
	Heavy	Lights	Medium	Heavy	Lights	Medium	Heavy	Lights	Medium	Heavy	Lights	Medium
HAMLIN ROAD & US 17 AM	2.0%	94.2%	3.8%	1.1%	97.2%	1.7%	0.6%	94.3%	5.1%	0.0%	98.9%	1.1%
SC 41 Access Rd & US 17 AM	3.7%	95.4%	0.9%	1.1%	96.8%	2.1%	-	-	-	0.6%	97.5%	1.9%
SC 41 & US 17 AM	1.9%	94.3%	3.8%	1.5%	96.5%	2.0%	0.0%	98.4%	1.6%	0.4%	97.0%	2.6%
PORCHERS BLUFF ROAD & US 17 AM	1.8%	94.1%	4.1%	1.7%	96.6%	1.7%	0.3%	96.2%	3.5%	0.0%	98.8%	1.2%
OAKLAND MARKET DRIVE & US 17 AM	1.6%	94.7%	3.7%	1.5%	96.5%	2.0%	0.0%	99.7%	0.3%	0.0%	98.2%	1.8%
PARK WEST BLVD & US 17 AM	1.6%	94.7%	3.7%	1.9%	95.6%	2.5%	0.8%	97.7%	1.5%	0.0%	99.0%	1.0%
SC 41 & HWY 41 Access Road AM	0.0%	95.8%	4.2%	0.0%	100.0%	0.0%	0.9%	95.0%	4.1%	0.3%	97.7%	2.0%
SC 41 & Westbound St. AM	3.2%	96.8%	0.0%	-	-	-	1.3%	95.3%	3.4%	1.7%	97.7%	0.6%
SC 41 & BESSEMER ROAD AM	-	-	-	0.4%	99.0%	0.6%	0.9%	95.9%	3.2%	0.3%	96.8%	2.9%
SC 41 & BENNETT CHARLES ROAD AM	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	1.2%	95.0%	3.8%	0.4%	96.9%	2.7%
SC 41 & CANYON LANE AM	0.0%	87.5%	12.5%	0.0%	100.0%	0.0%	1.2%	94.5%	4.3%	0.5%	97.3%	2.2%
SC 41 & DUNES WEST BLVD AM	0.2%	98.0%	1.8%	0.0%	97.4%	2.6%	0.9%	96.3%	2.8%	0.4%	95.2%	4.4%
SC 41 & WOOD PARK DRIVE AM	0.0%	96.4%	3.6%	0.0%	95.0%	5.0%	0.2%	97.6%	2.2%	0.0%	94.4%	5.6%
SC 41 & HARPERS FERRY WAY AM	-	-	-	0.5%	93.3%	6.2%	0.4%	97.6%	2.0%	0.3%	90.2%	9.5%
SC 41 & CLEMENTS FERRY ROAD AM	0.8%	95.6%	3.6%	-	-	-	0.2%	95.2%	4.6%	2.4%	82.3%	15.3%
SC 41 & REFLECTANCE ROAD AM	18.4%	77.7%	3.9%	5.1%	88.1%	6.8%	0.9%	81.6%	17.5%	7.6%	77.2%	15.2%
Northbound St. & CLEMENTS FERRY ROAD AM	4.9%	90.2%	4.9%	0.2%	99.6%	0.2%	-	-	-	11.5%	76.0%	12.5%
Northbound St. & CLEMENTS FERRY ROAD AM	6.7%	89.4%	3.9%	3.6%	92.4%	4.0%	-	-	-	8.8%	86.0%	5.6%
SC 41 & Westbound St. AM	0.0%	97.4%	2.6%	-	-	-	1.0%	95.2%	3.8%	0.3%	97.8%	1.9%

Vehicle Percentages Per Approach - PM

Intersection	Eastbound			Westbound			Northbound			Southbound		
	Heavy	Lights	Medium	Heavy	Lights	Medium	Heavy	Lights	Medium	Heavy	Lights	Medium
HAMLIN ROAD & US 17 PM	0.8%	97.6%	1.6%	0.8%	95.5%	3.7%	0.0%	98.7%	1.3%	0.4%	97.3%	2.3%
SC 41 Access Rd & US 17 PM	0.6%	98.1%	1.3%	0.5%	97.7%	1.8%	-	-	-	0.0%	96.2%	3.8%
SC 41 & US 17 PM	0.4%	98.8%	0.8%	1.0%	97.7%	1.3%	0.0%	97.1%	2.9%	0.0%	99.0%	1.0%
PORCHERS BLUFF ROAD & US 17 PM	0.5%	98.7%	0.8%	0.7%	98.0%	1.3%	0.2%	98.9%	0.9%	0.0%	100.0%	0.0%
OAKLAND MARKET DRIVE & US 17 PM	0.5%	98.8%	0.7%	0.7%	97.8%	1.5%	0.0%	99.5%	0.5%	0.0%	100.0%	0.0%
PARK WEST BLVD & US 17 PM	0.4%	98.6%	1.0%	0.9%	97.7%	1.4%	0.0%	99.7%	0.3%	0.0%	99.6%	0.4%
SC 41 & HWY 41 Access Road PM	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.3%	98.9%	0.8%	0.2%	98.4%	1.4%
SC 41 & Westbound St. PM	0.0%	100.0%	0.0%	-	-	-	0.2%	99.1%	0.7%	1.2%	98.5%	0.3%
SC 41 & BESSEMER ROAD PM	-	-	-	0.0%	98.0%	2.0%	0.3%	98.9%	0.8%	0.1%	98.8%	1.1%
SC 41 & BENNETT CHARLES ROAD PM	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.2%	99.2%	0.6%	0.1%	98.8%	1.1%
SC 41 & CANYON LANE PM	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.2%	98.8%	1.0%	0.0%	98.9%	1.1%
SC 41 & DUNES WEST BLVD PM	0.0%	99.4%	0.6%	0.2%	99.4%	0.4%	0.2%	98.8%	1.0%	0.0%	99.1%	0.9%
SC 41 & WOOD PARK DRIVE PM	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.6%	98.3%	1.1%	0.0%	98.8%	1.2%
SC 41 & HARPERS FERRY WAY PM	-	-	-	0.0%	98.1%	1.9%	0.6%	98.0%	1.4%	0.0%	99.0%	1.0%
SC 41 & CLEMENTS FERRY ROAD PM	0.2%	99.1%	7%	-	-	-	0.8%	97.6%	1.6%	0.7%	97.4%	1.9%
SC 41 & REFLECTANCE ROAD PM	11.8%	86.2%	2.0%	1.8%	89.1%	9.1%	1.1%	96.7%	2.2%	9.3%	89.3%	1.4%
Northbound St. & CLEMENTS FERRY ROAD PM	2.8%	96.0%	1.2%	0.5%	95.9%	3.6%	-	-	-	17.5%	76.2%	6.3%
Northbound St. & CLEMENTS FERRY ROAD PM	3.9%	94.5%	1.6%	3.7%	92.6%	3.7%	-	-	-	9.2%	88.9%	1.9%
SC 41 & Westbound St. PM	0.0%	100.0%	0.0%	-	-	-	0.1%	99.2%	0.7%	0.2%	98.7%	1.1%

HIGHWAY 41 CORRIDOR IMPROVEMENTS

Appendix B – Receptor Maps

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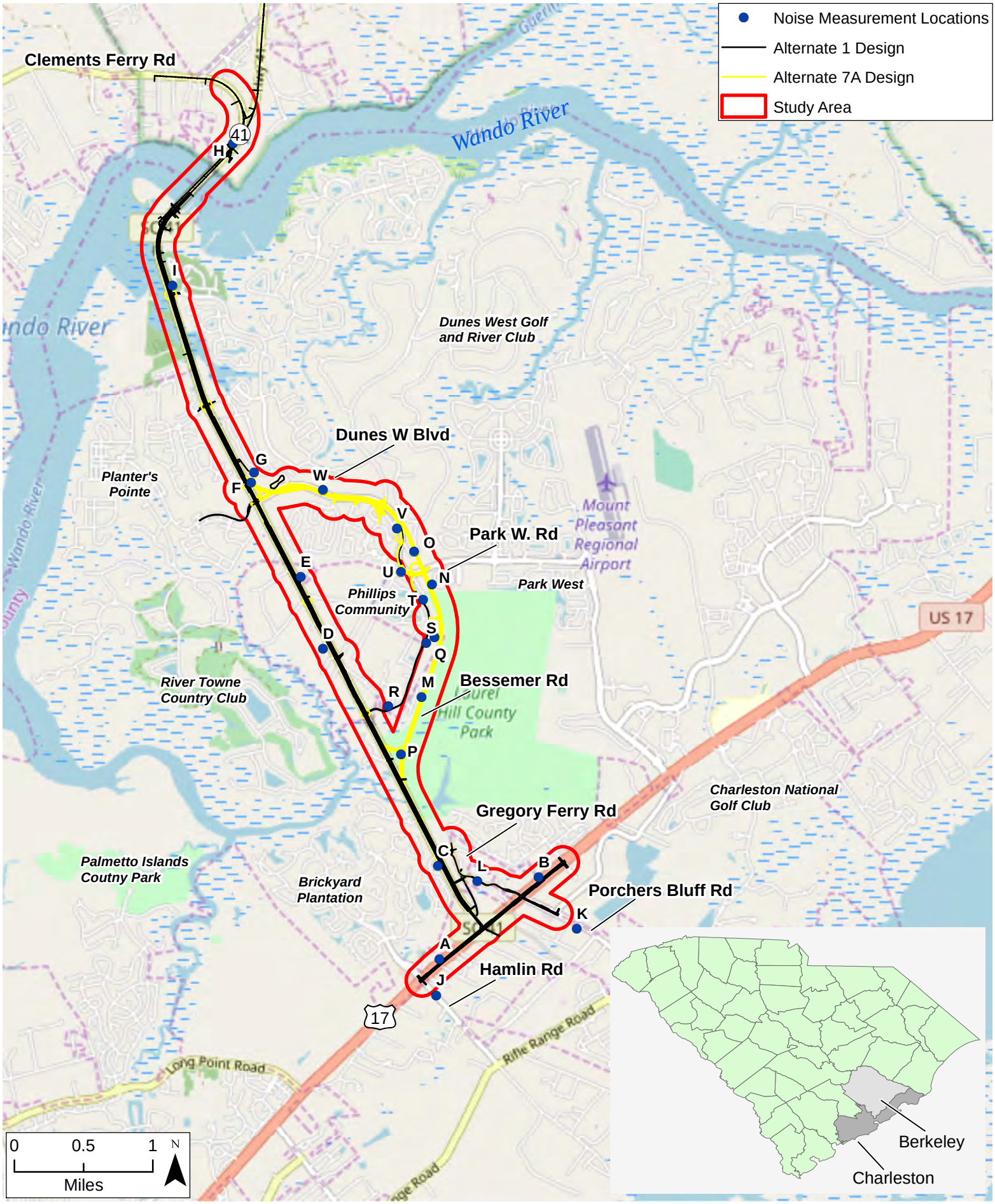
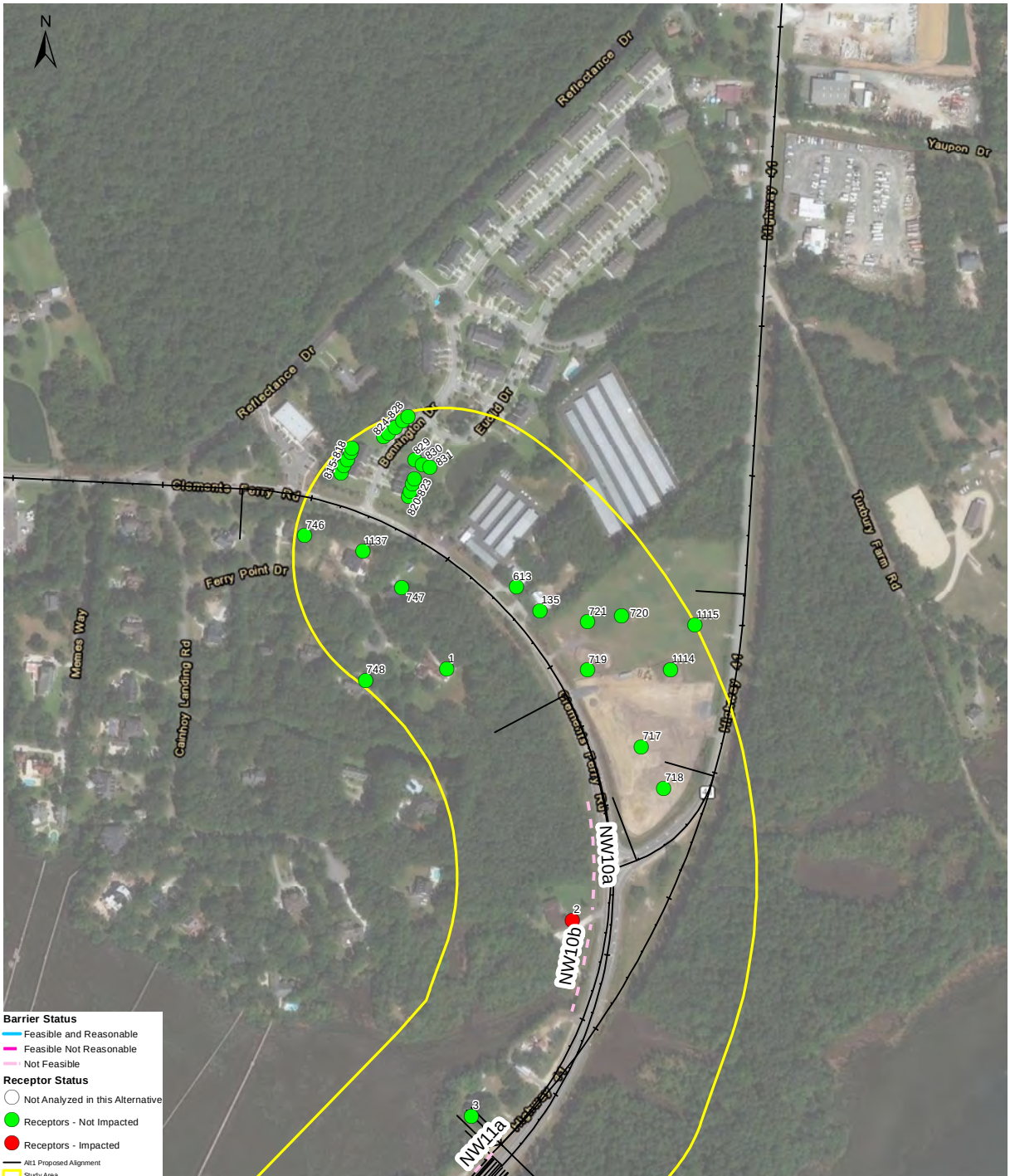


Charleston County Transportation Development

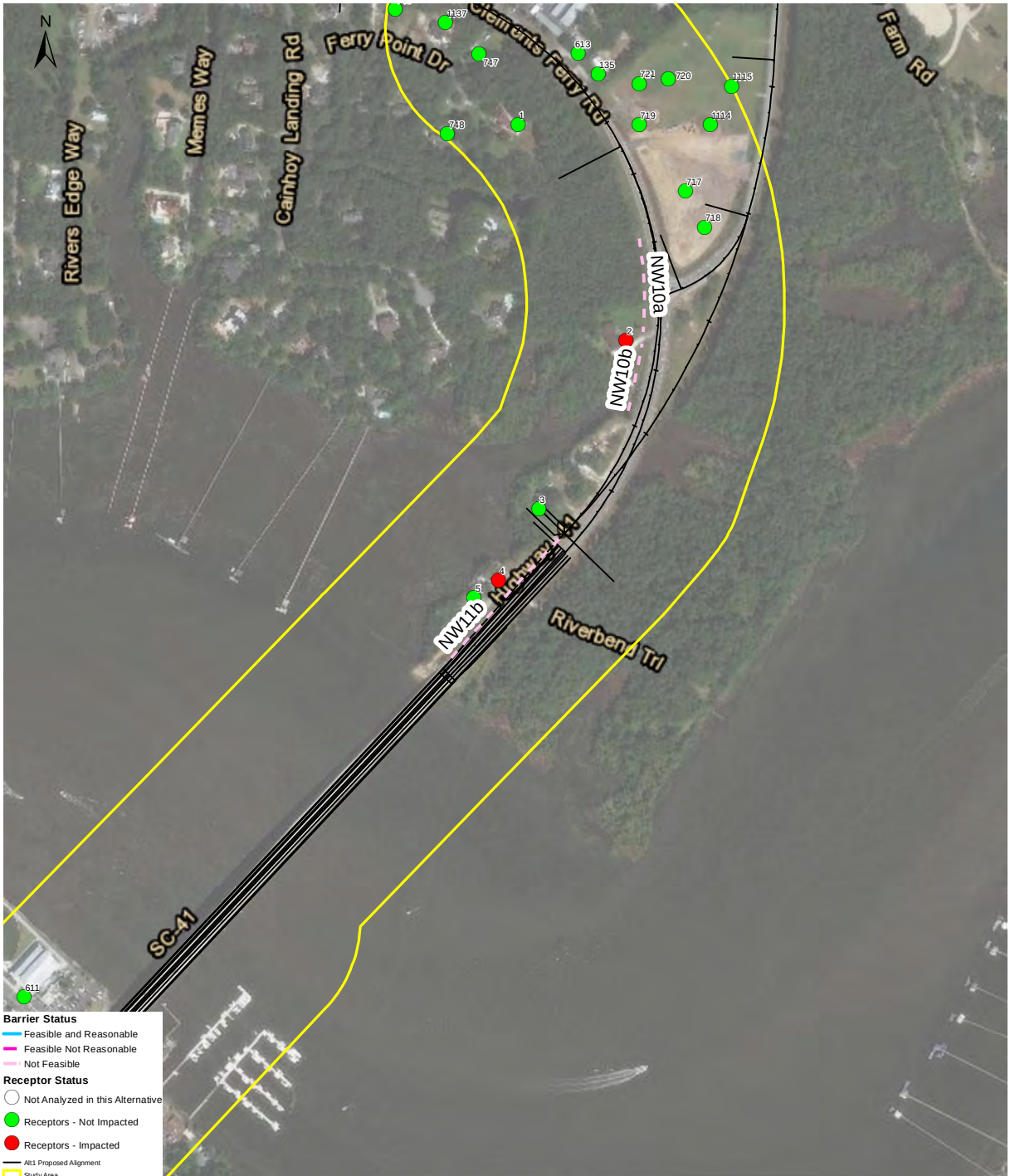
HIGHWAY 41 CORRIDOR IMPROVEMENTS

PROJECT LOCATION
SC41 PRELIMINARY DESIGN
FIGURE 4. NOISE MEASUREMENT LOCATIONS

PATH: R:\NC NOISE STUDIES\10060074_SC41\7.0_GIS_MODELS\MAP_DOCS\FINAL\SC41_NOISE MEASURMENTS_DRAFT_20191010.MXD - USER: RDUGGER - DATE: 10/10/2019



RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



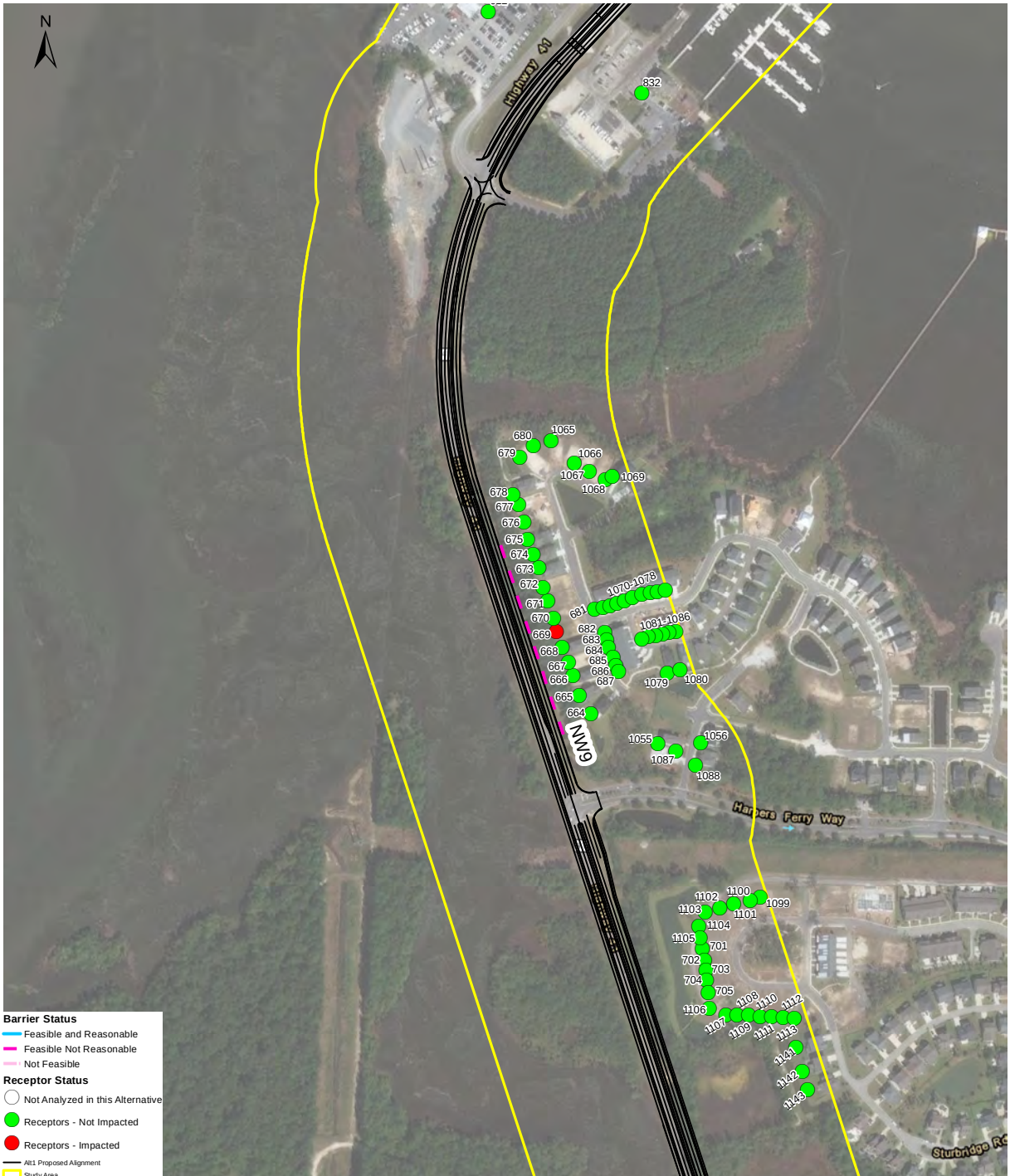
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 255 510 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1


N
Highway 40
832
680
1065
679
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1067
1069
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675
674
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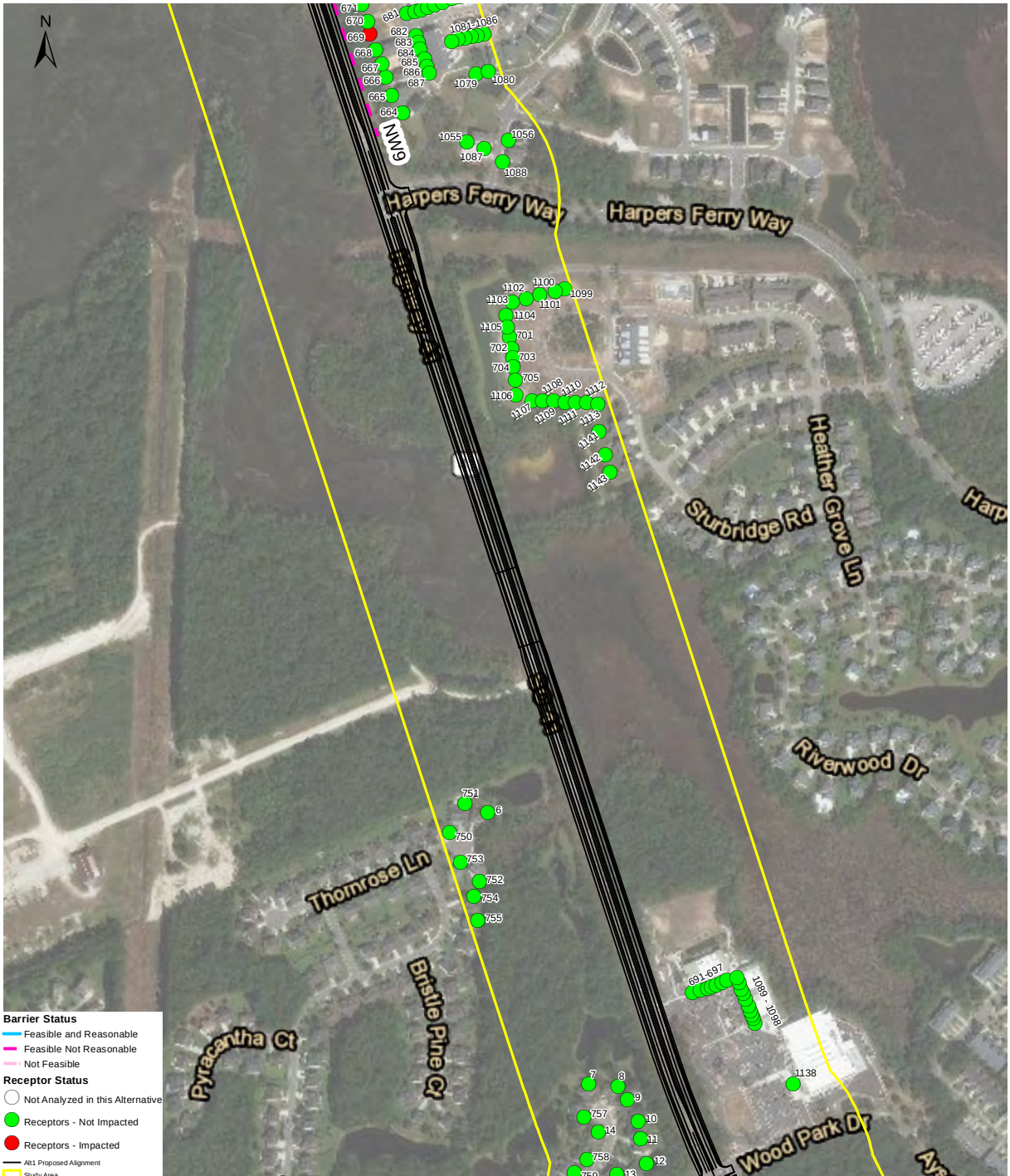
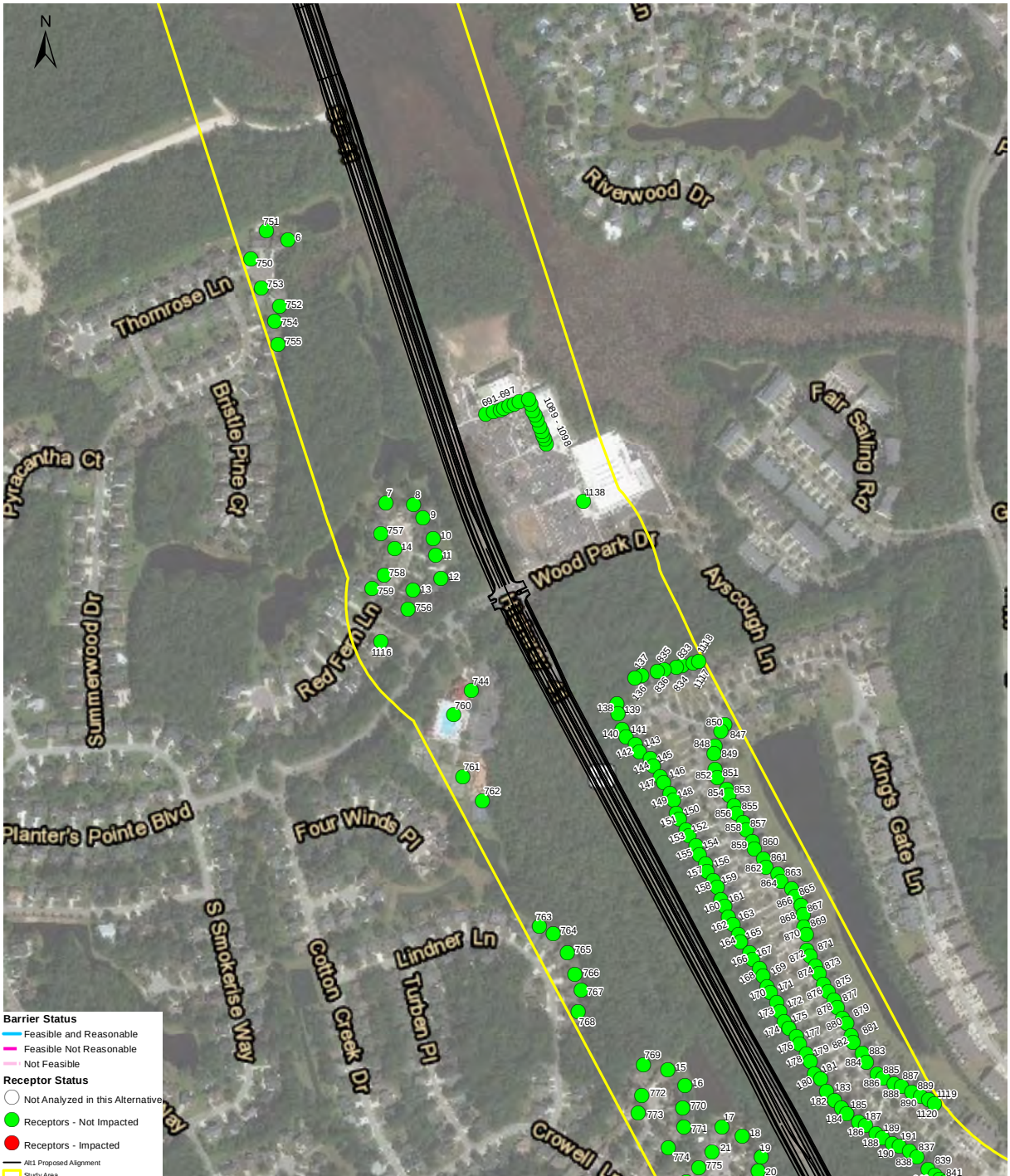
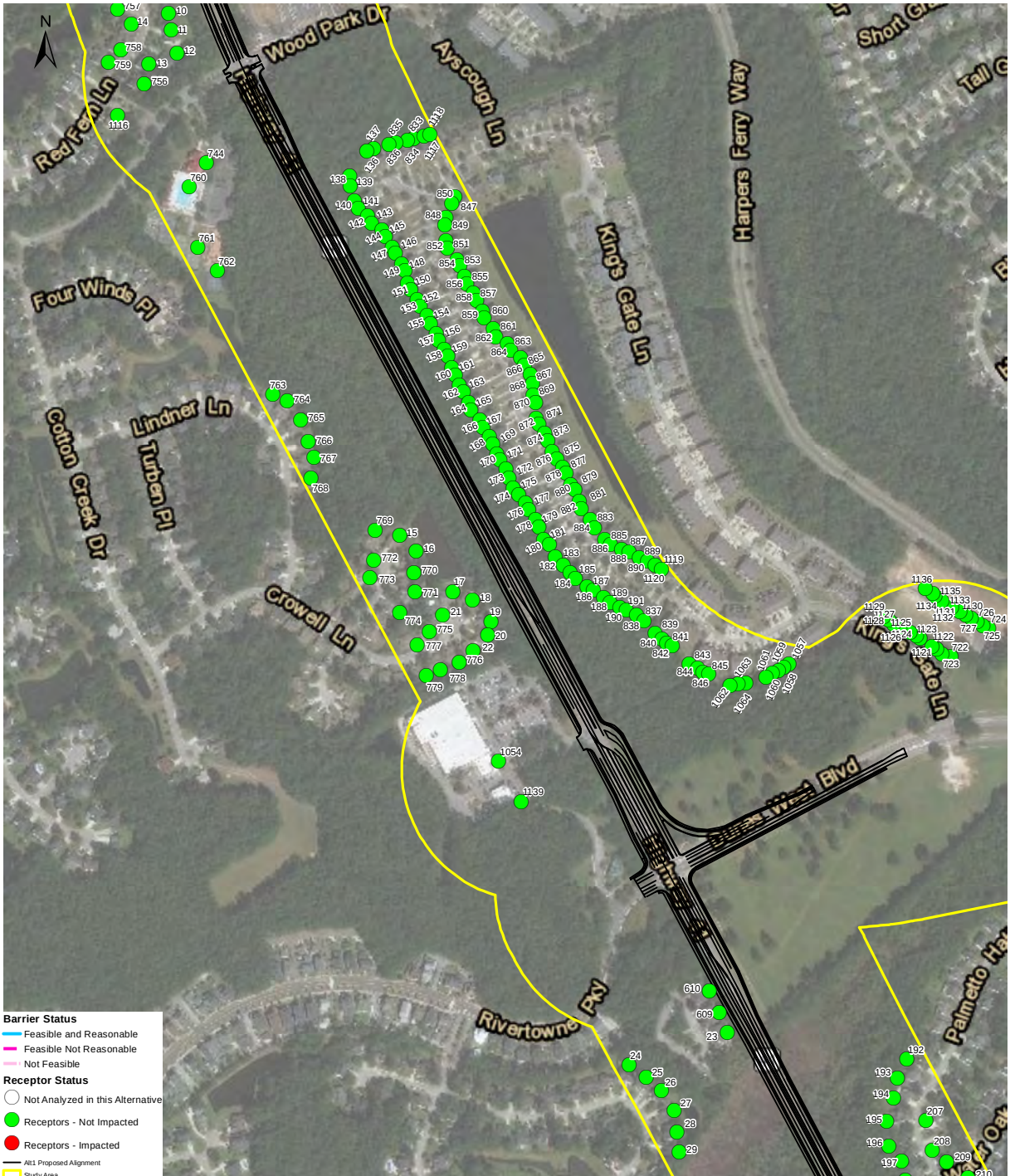
671
670
669
668
667
666
665
664
681
1070-1078
682
683
684
685
686
687
1081-1086
1079
1080
MW9
1055
1056
1087
1088
Harpers Ferry Way
1102
1100
1103
1101
1099
1104
1105
701
702
703
704
705
1106
1108
1110
1112
1107
1109
1111
1113
1141
1142
1143
Sturbridge Rd
Barrier Status
Feasible and Reasonable
Feasible Not Reasonable
Not Feasible
Receptor Status
Not Analyzed in this Alternative
Receptors - Not Impacted
Receptors - Impacted
Alt1 Proposed Alignment
Study Area
Charleston County
Transportation Development
HIGHWAY 41
CORRIDOR IMPROVEMENTS
0
225
450 Feet
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



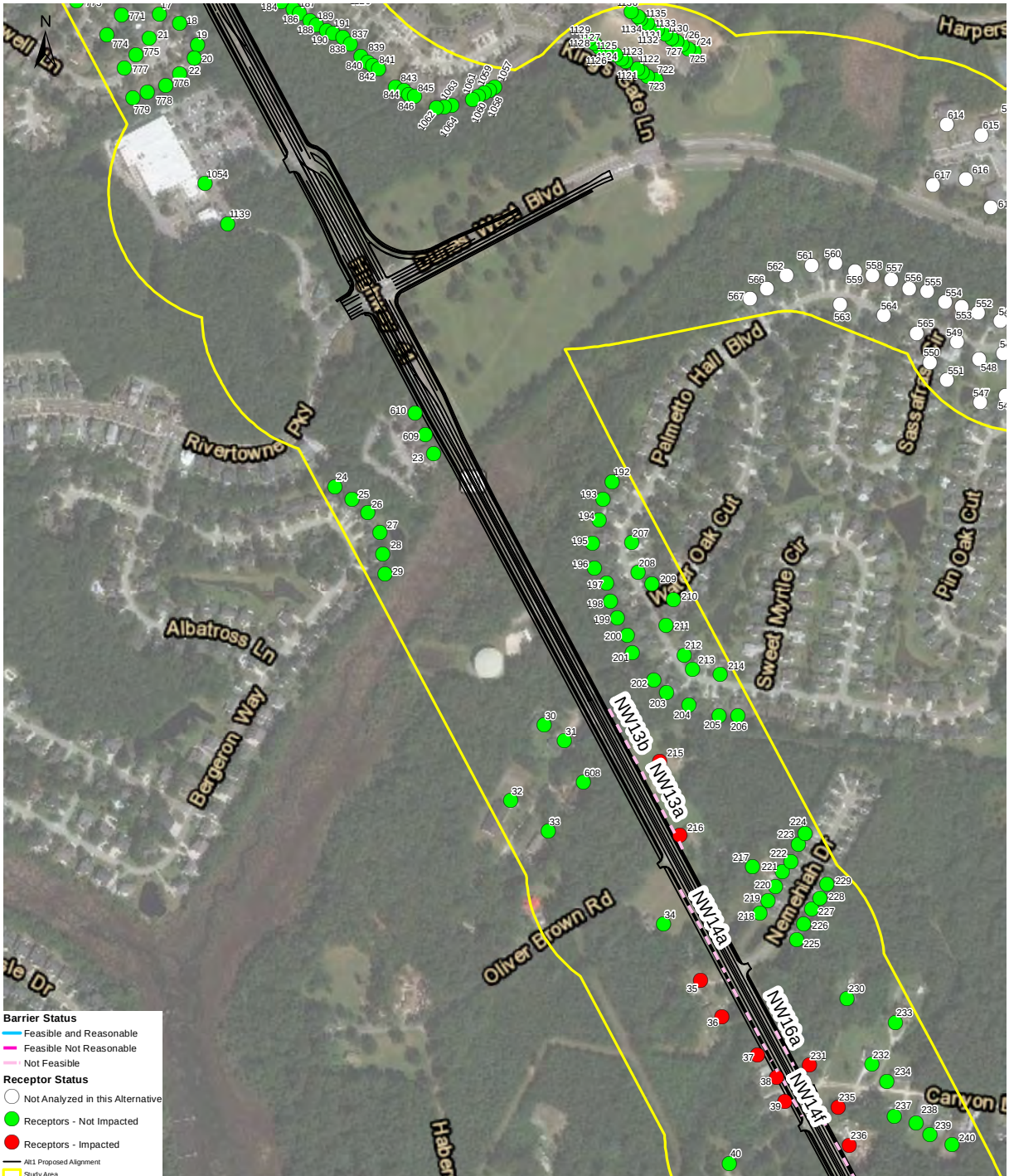
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



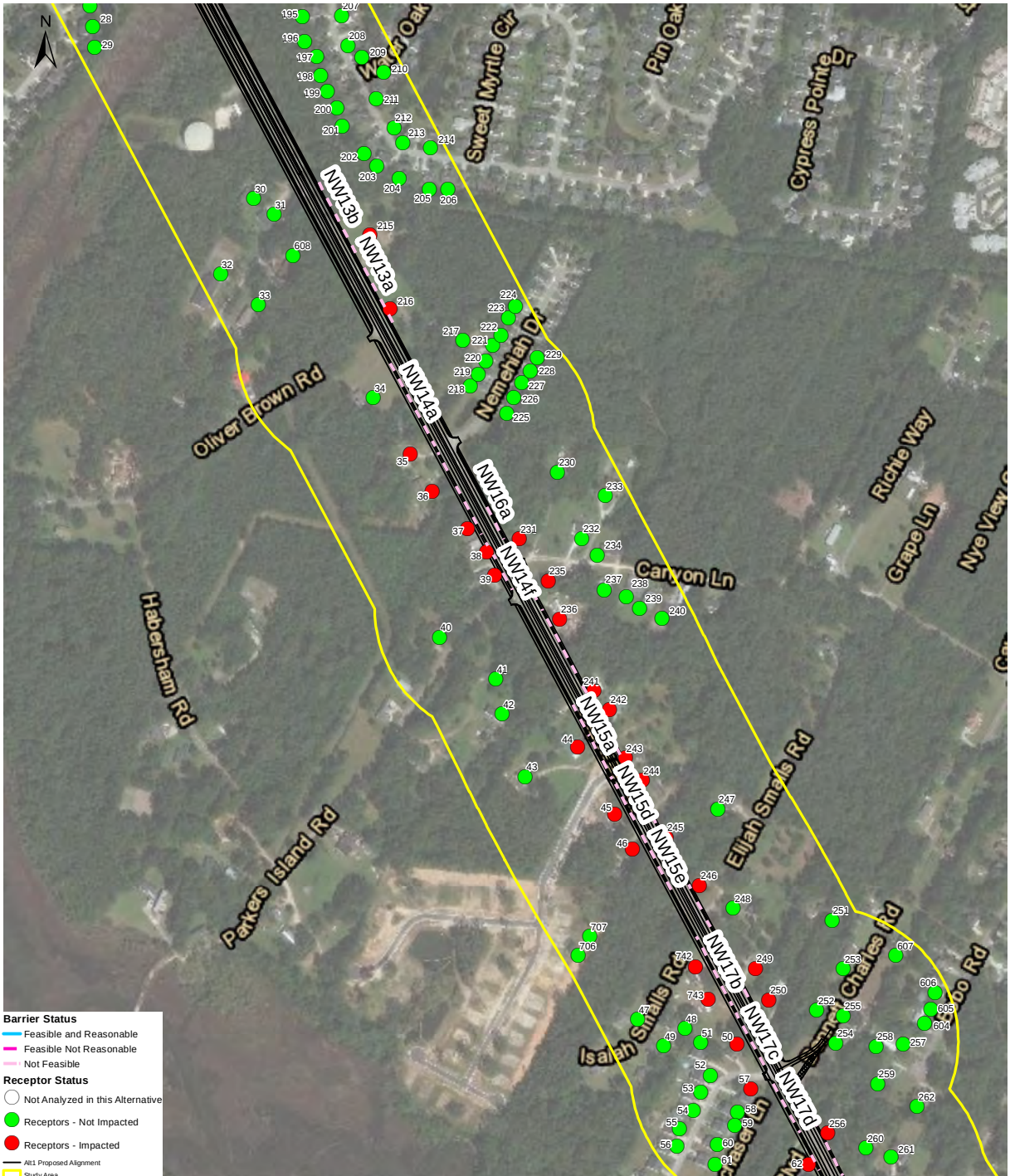
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



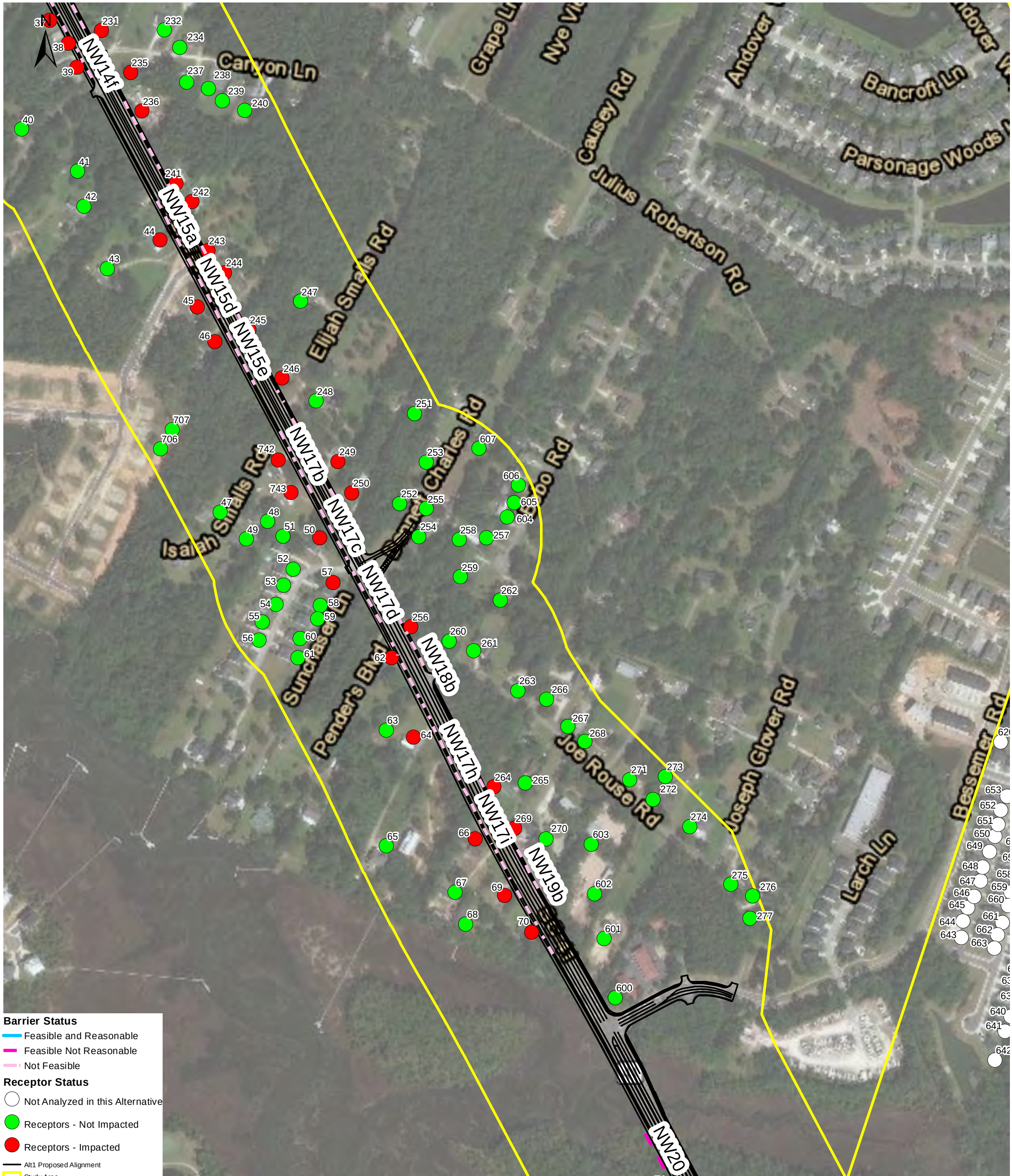
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



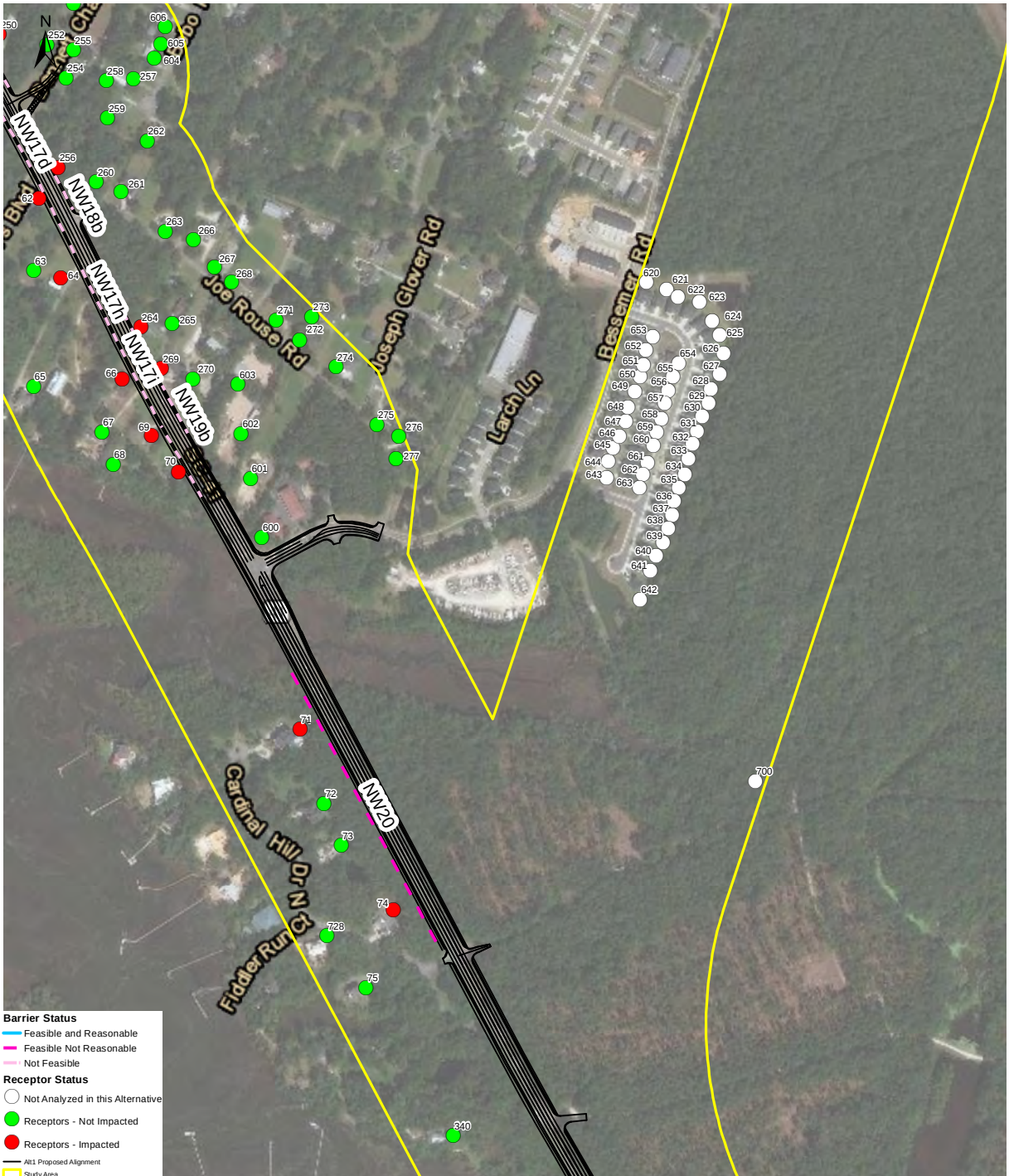
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



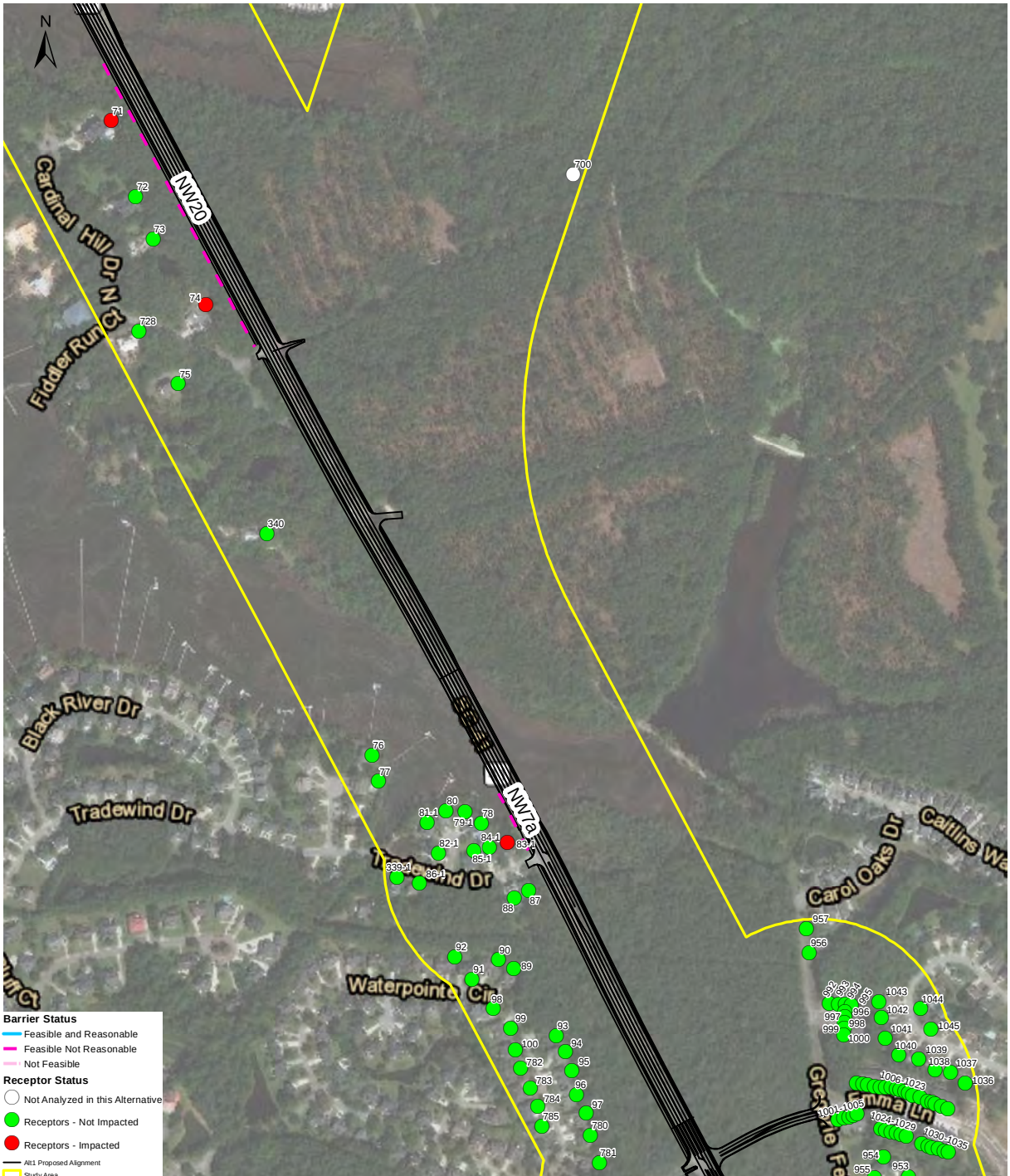
HDR | Charleston County Transportation Development | Highway 41 Corridor Improvements

0 250 500 Feet

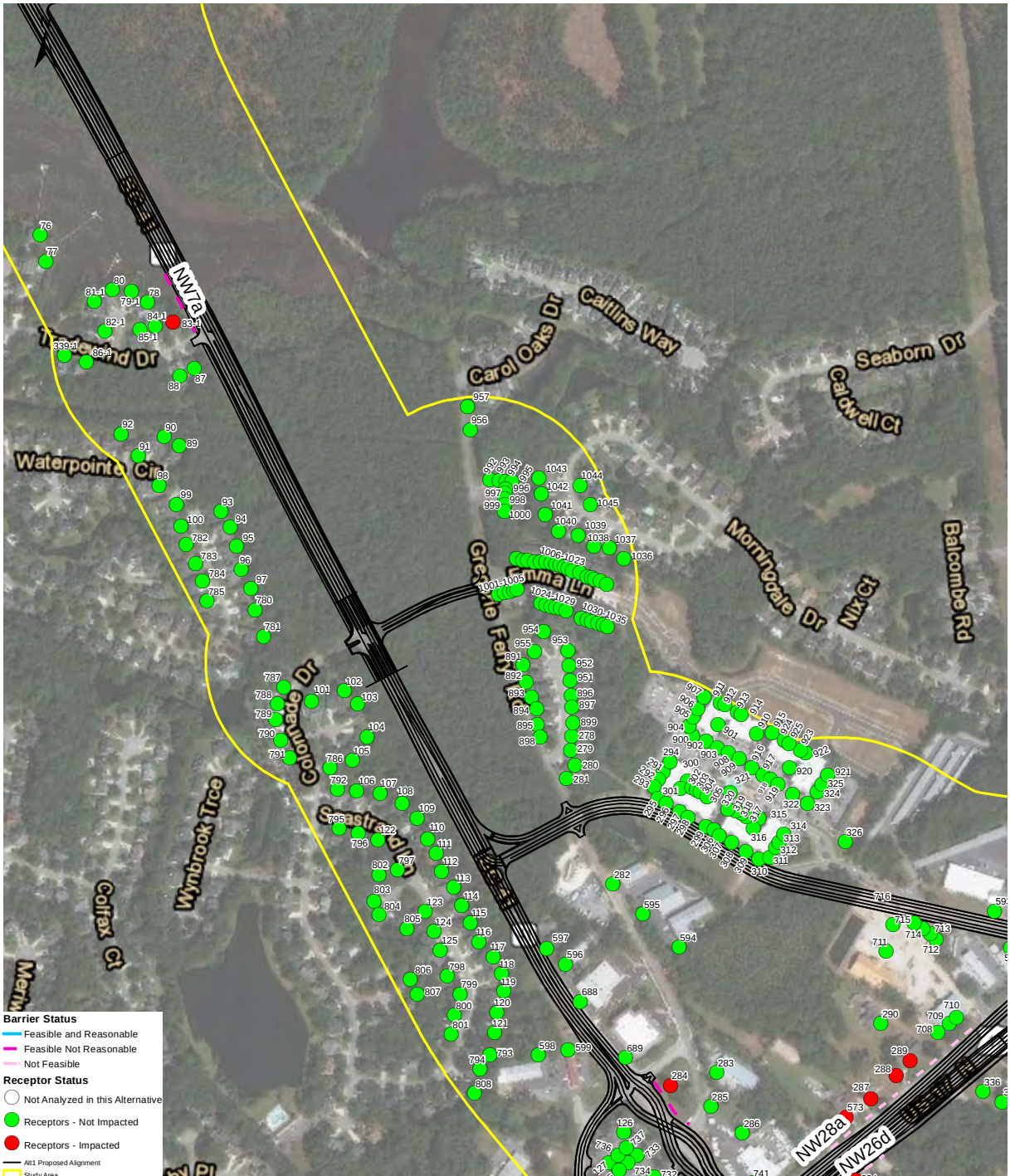
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



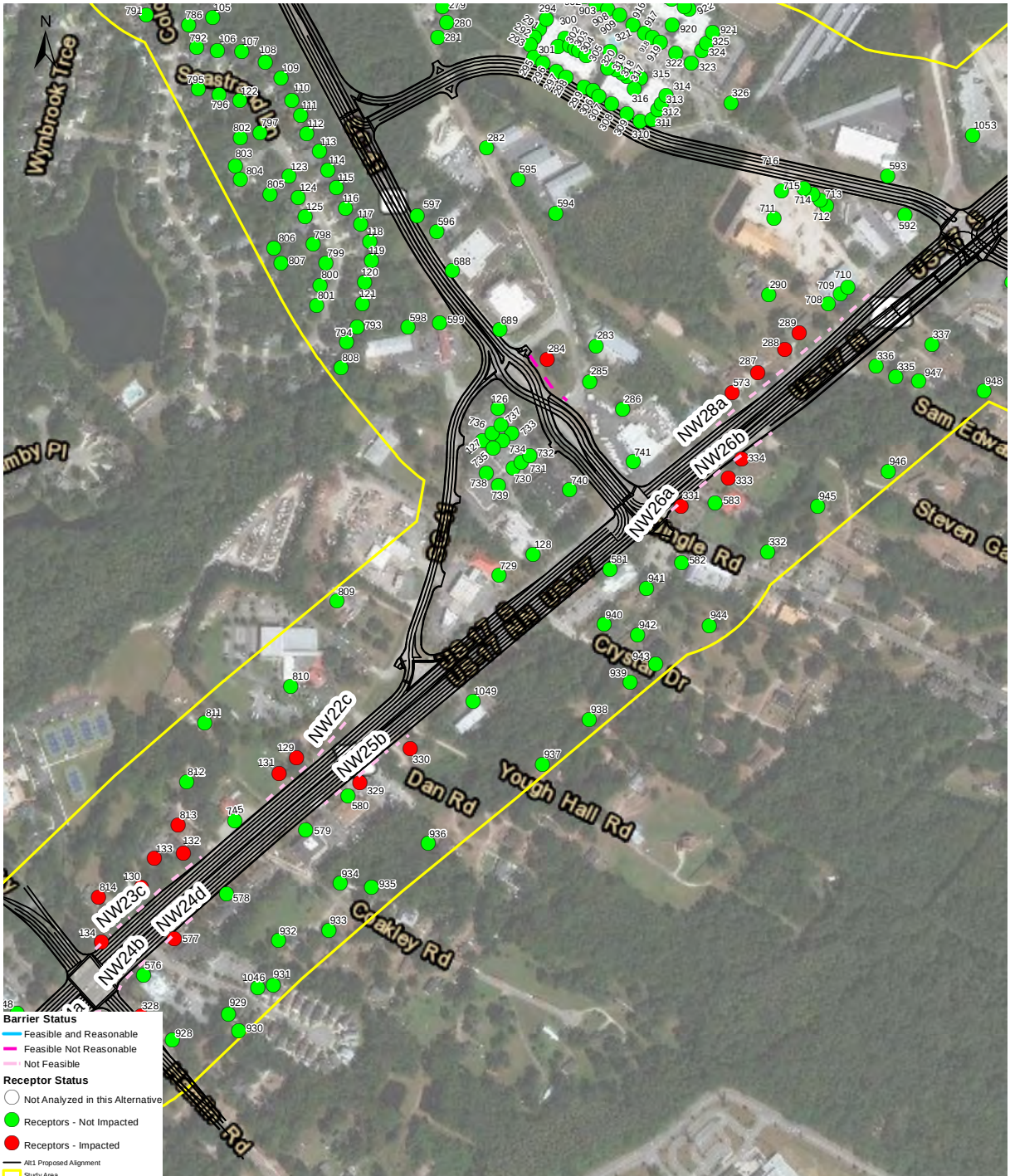
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



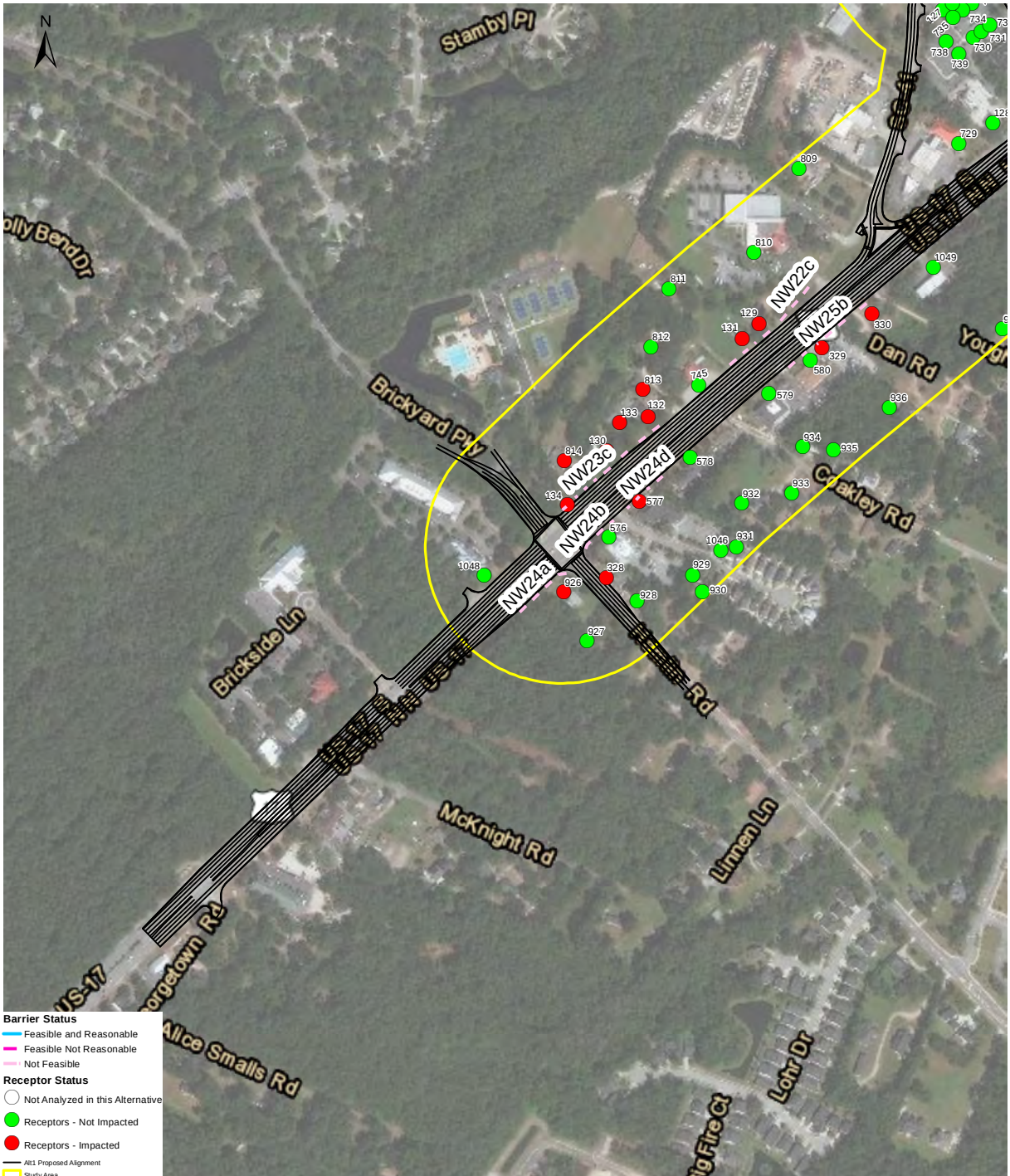
Charleston County Transportation Development

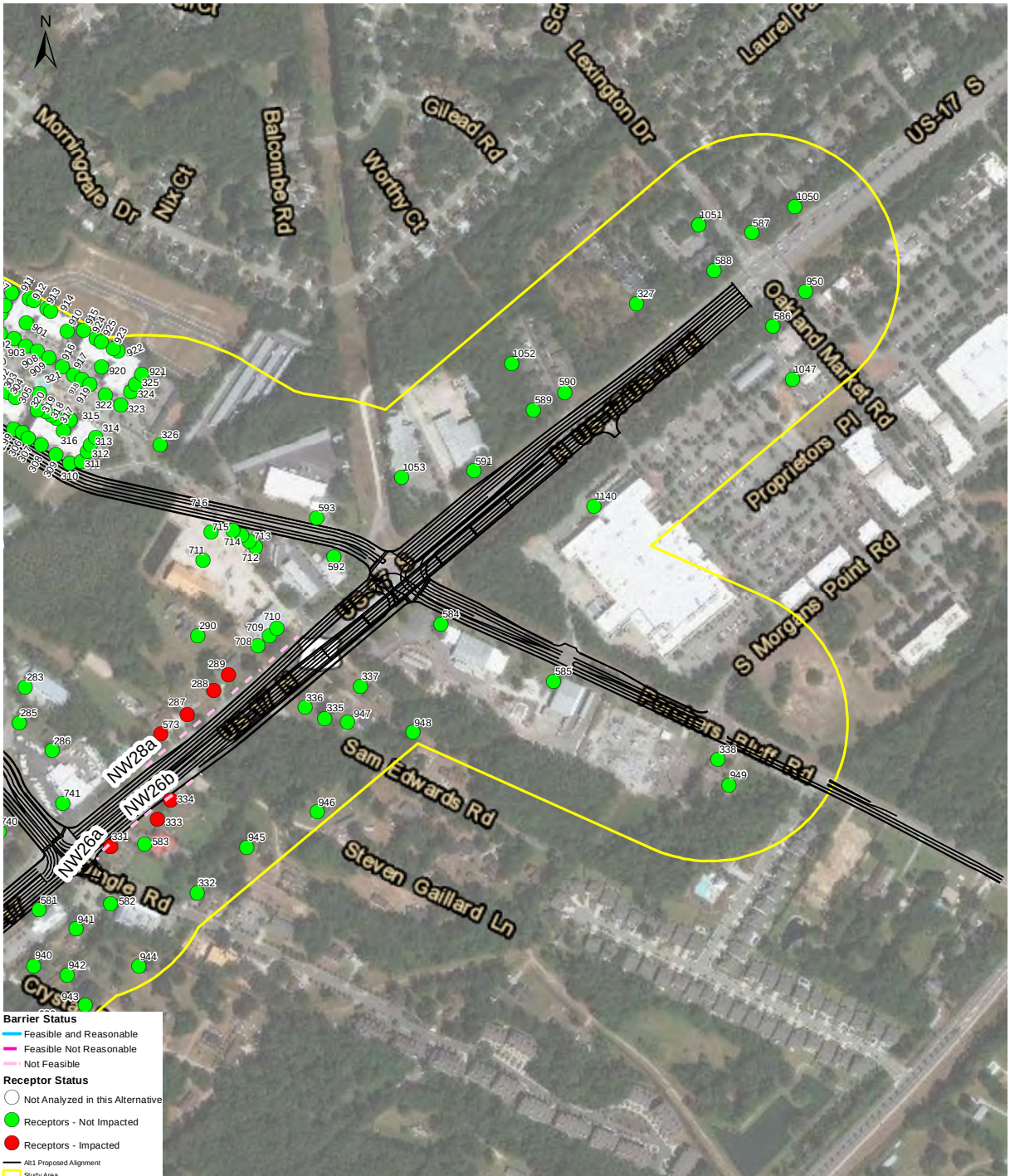
HIGHWAY 41 CORRIDOR IMPROVEMENTS

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1


N
Stamby Pl
Bricky ard Pkwy
Brickside Ln
Dan Rd
Oakley Rd
McKnight Rd
Limmen Ln
Alice Smalls Rd
Lohr Dr
Big Fire Ct
NW22c
NW25b
NW23c
NW24d
NW24b
NW24a
Barrier Status
Feasible and Reasonable
Feasible Not Reasonable
Not Feasible
Receptor Status
Not Analyzed in this Alternative
Receptors - Not Impacted
Receptors - Impacted
Alt1 Proposed Alignment
Study Area
Charleston County
Transportation Development
HIGHWAY 41 CORRIDOR IMPROVEMENTS
0 240 480 Feet
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

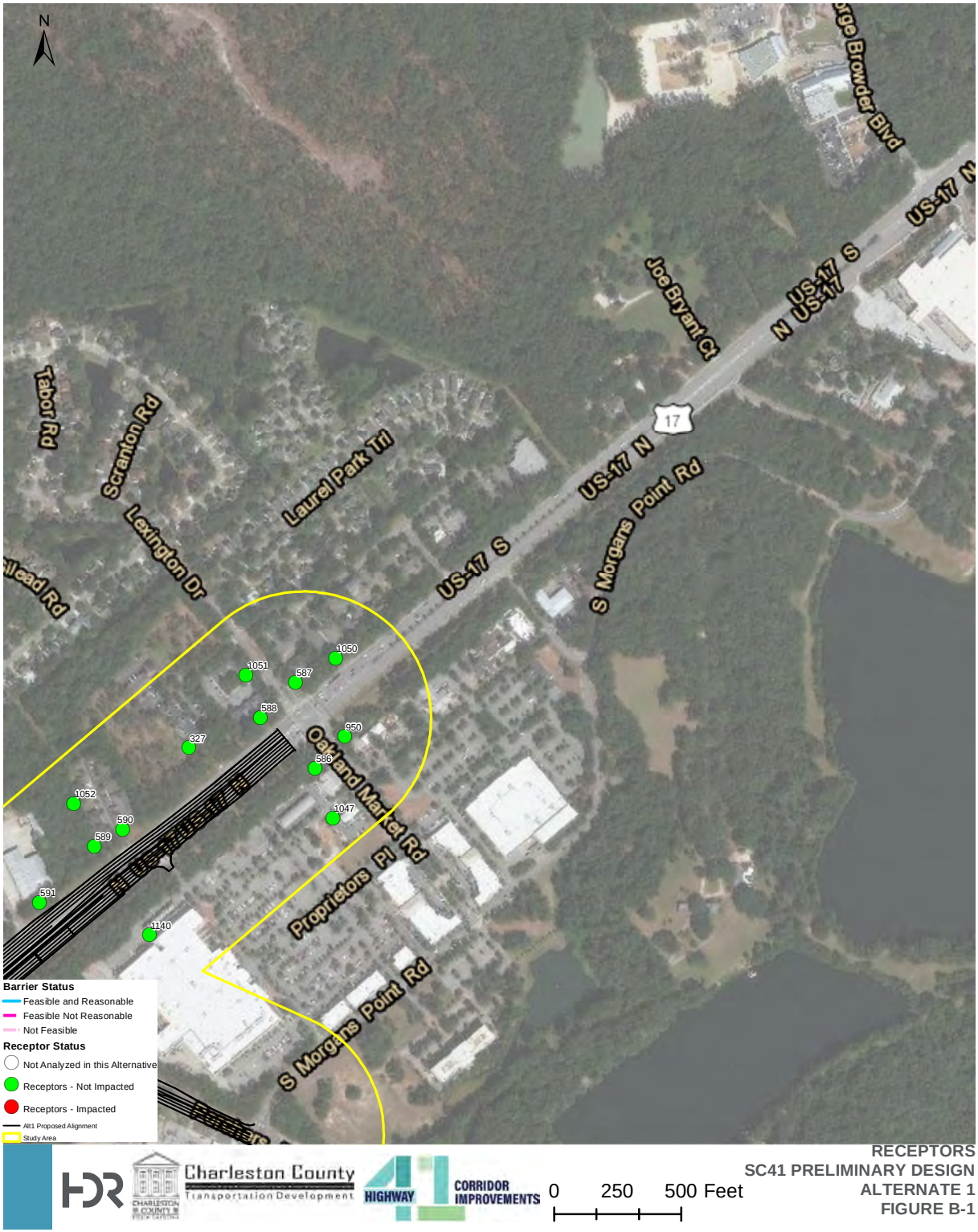


Charleston County Transportation Development

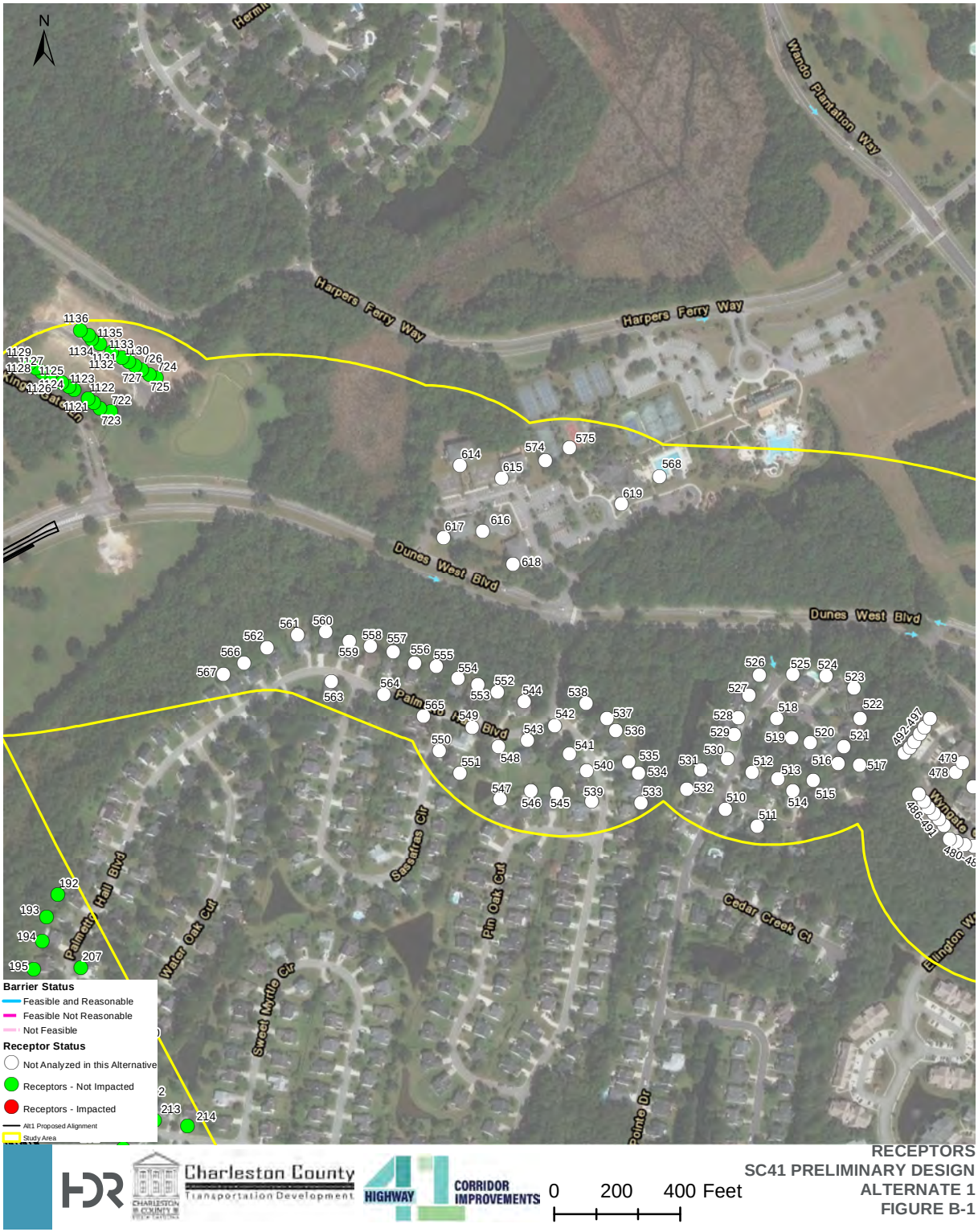
HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 237.5 475 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

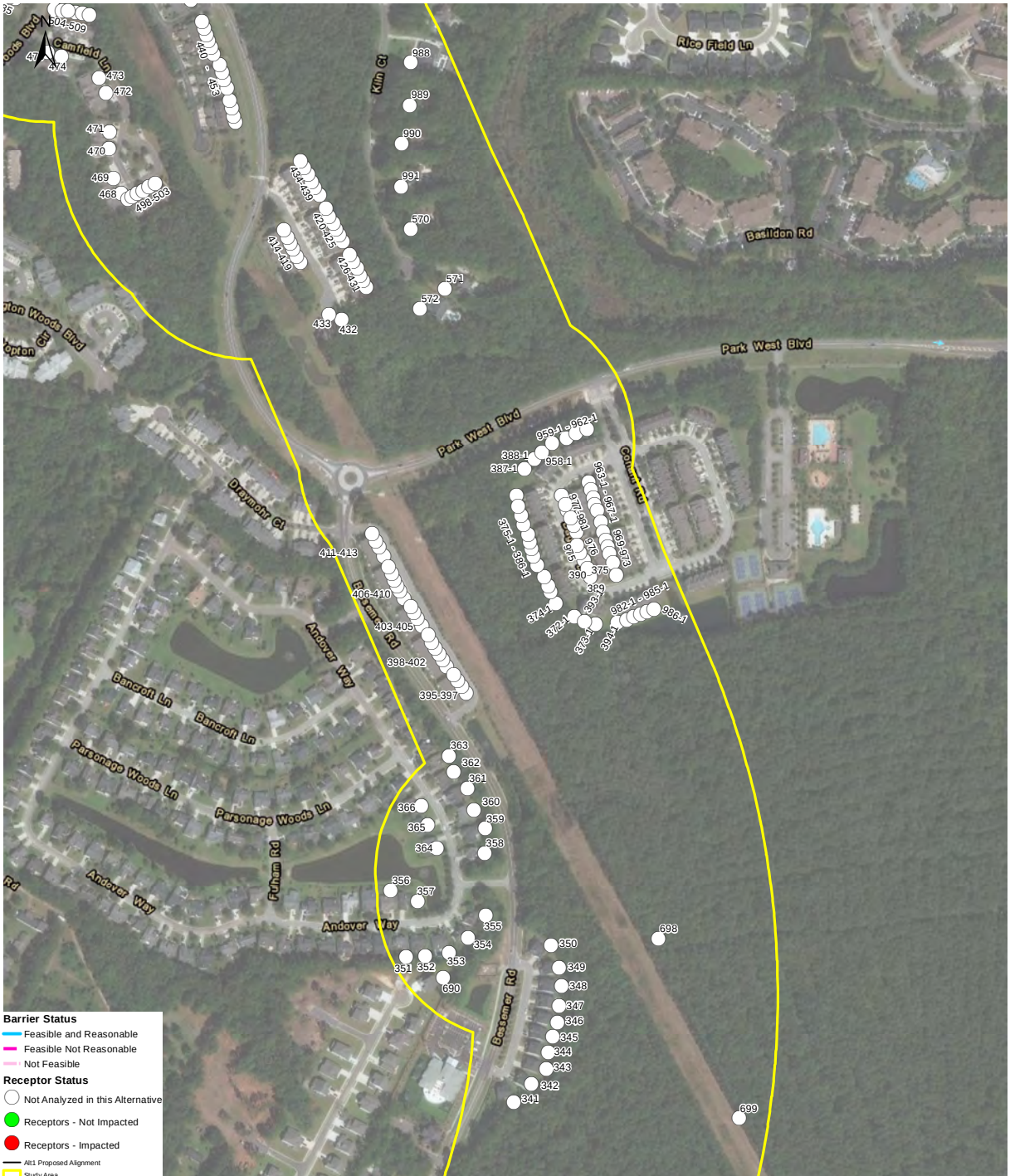


RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



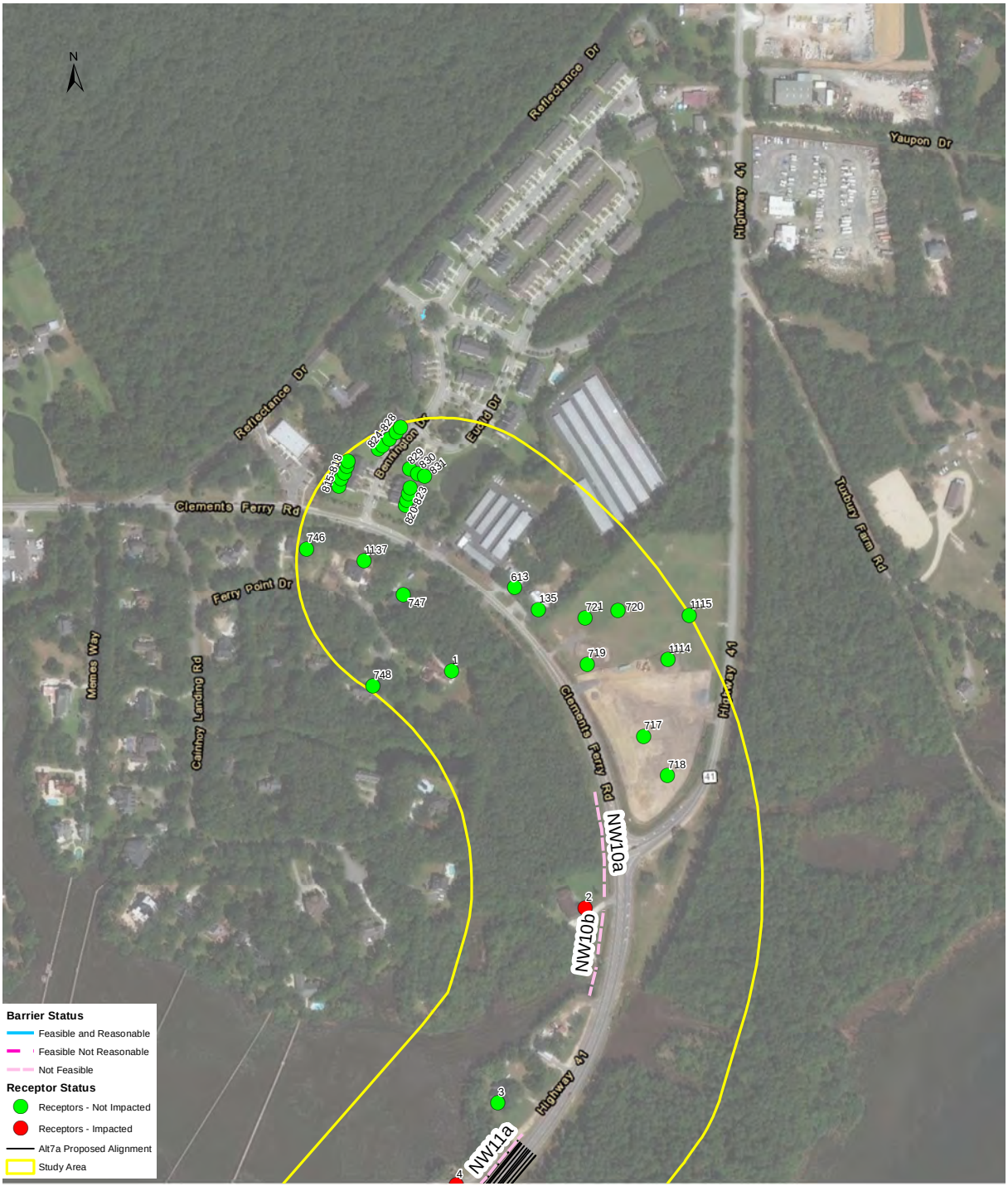
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

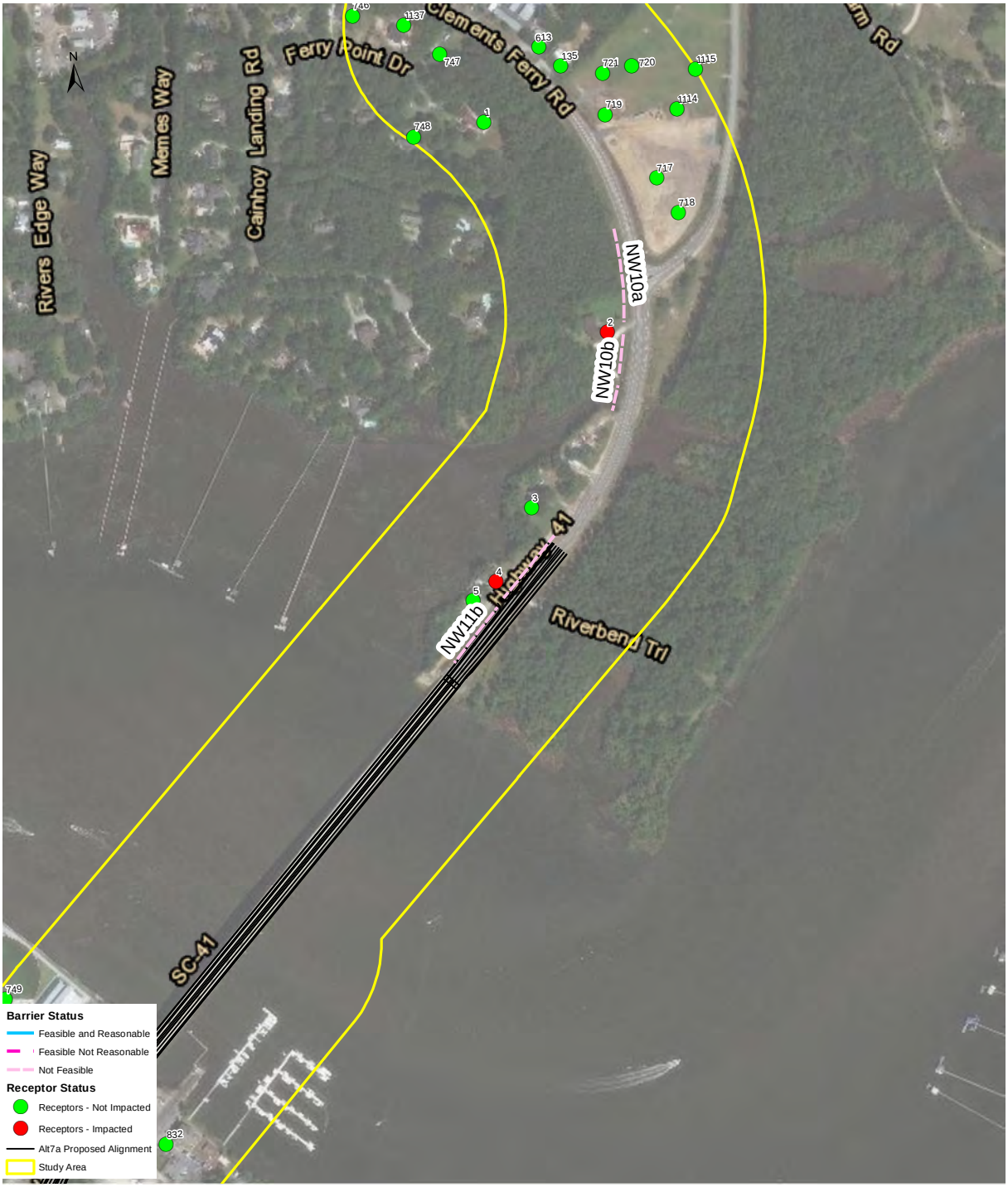


RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 1
FIGURE B-1



RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

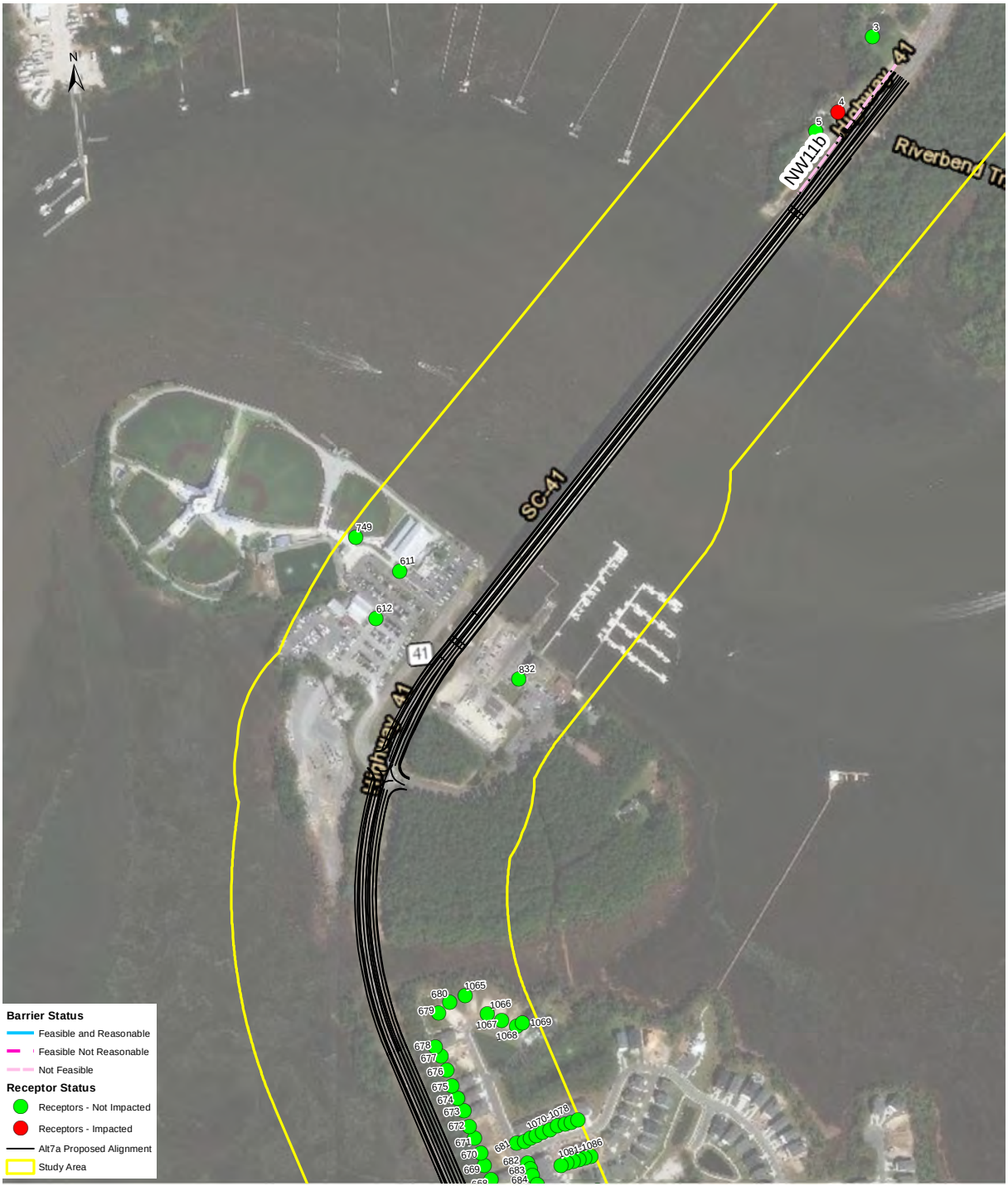


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



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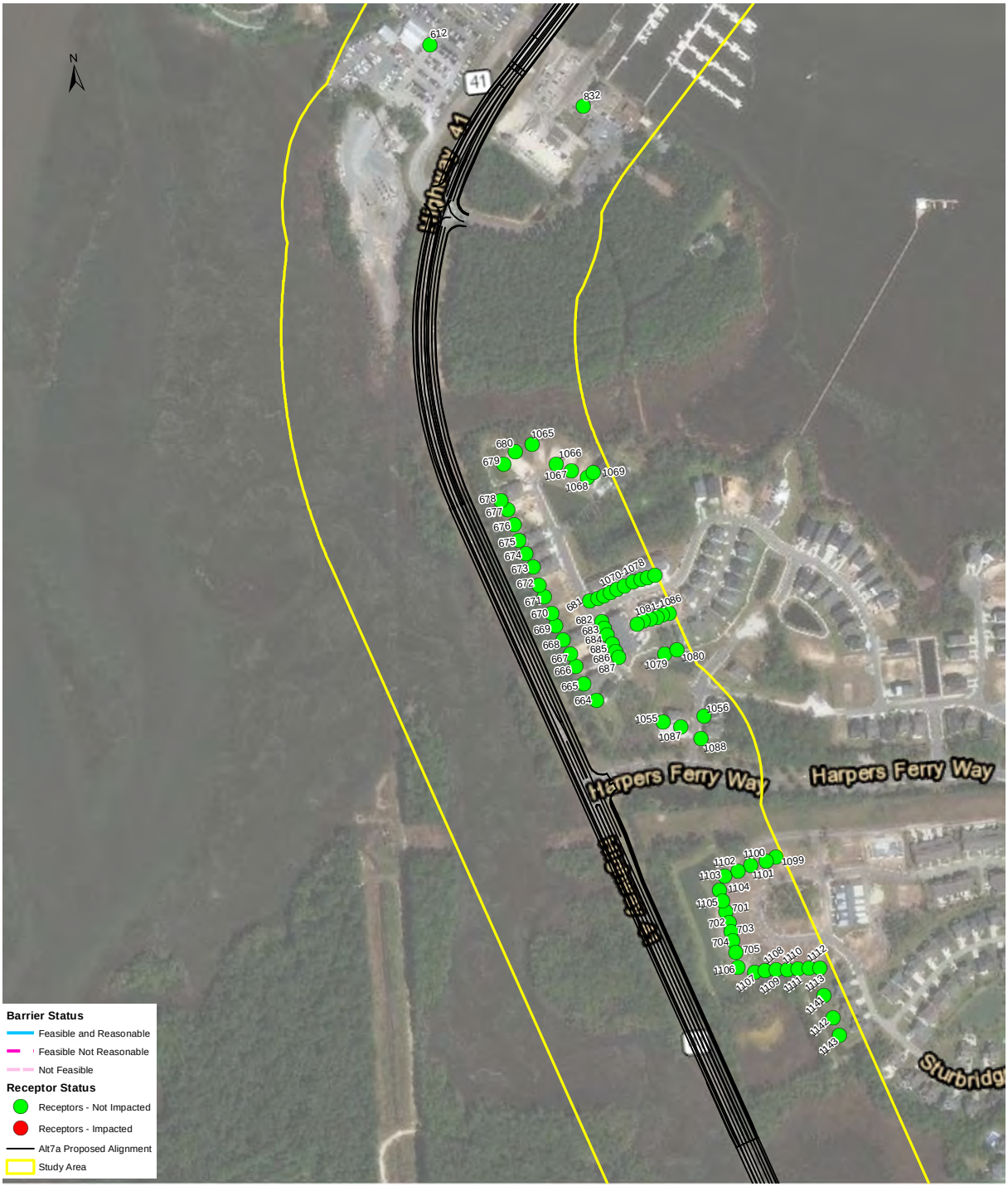
Charleston County
Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

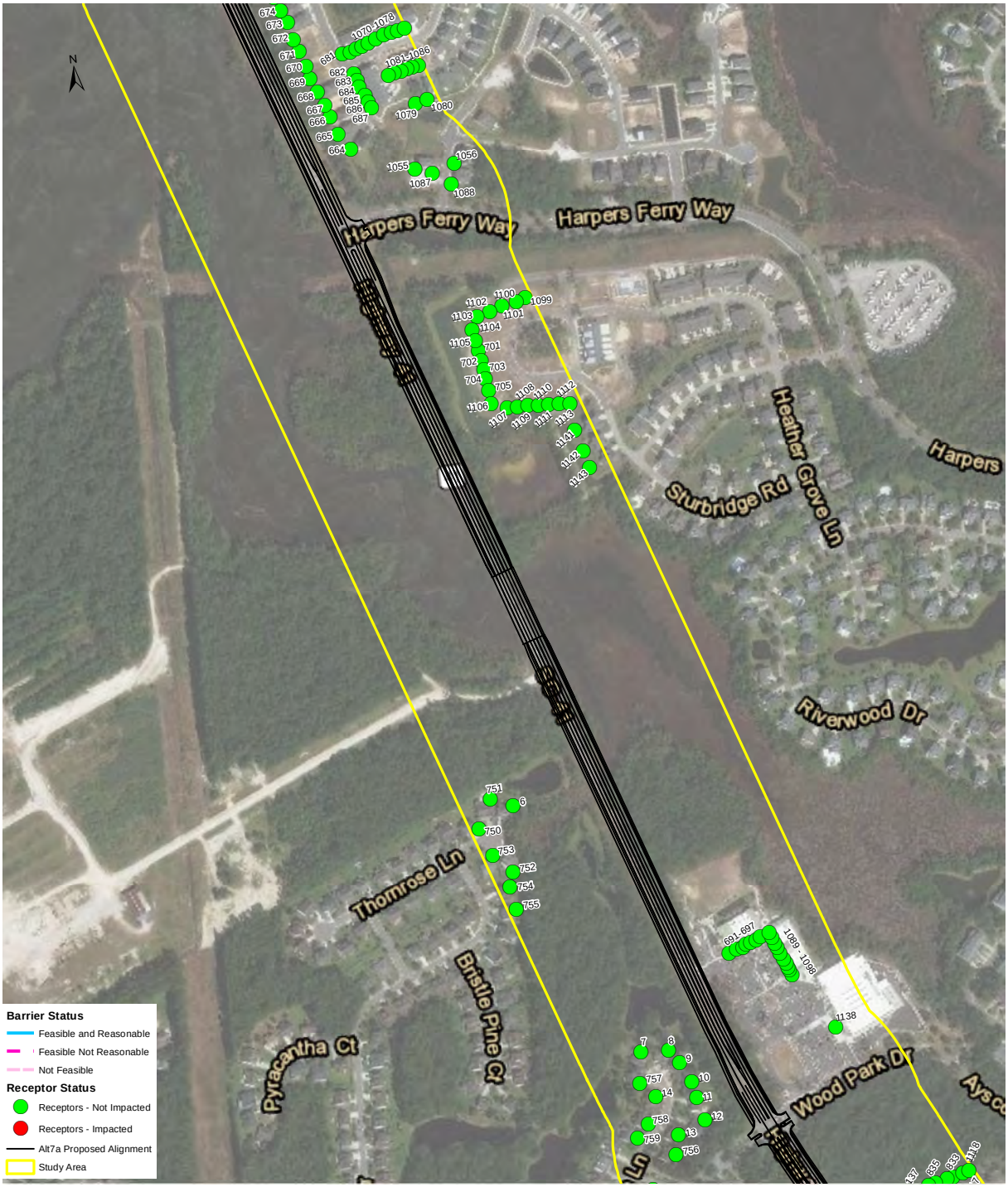


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 225 450 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 235 470 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

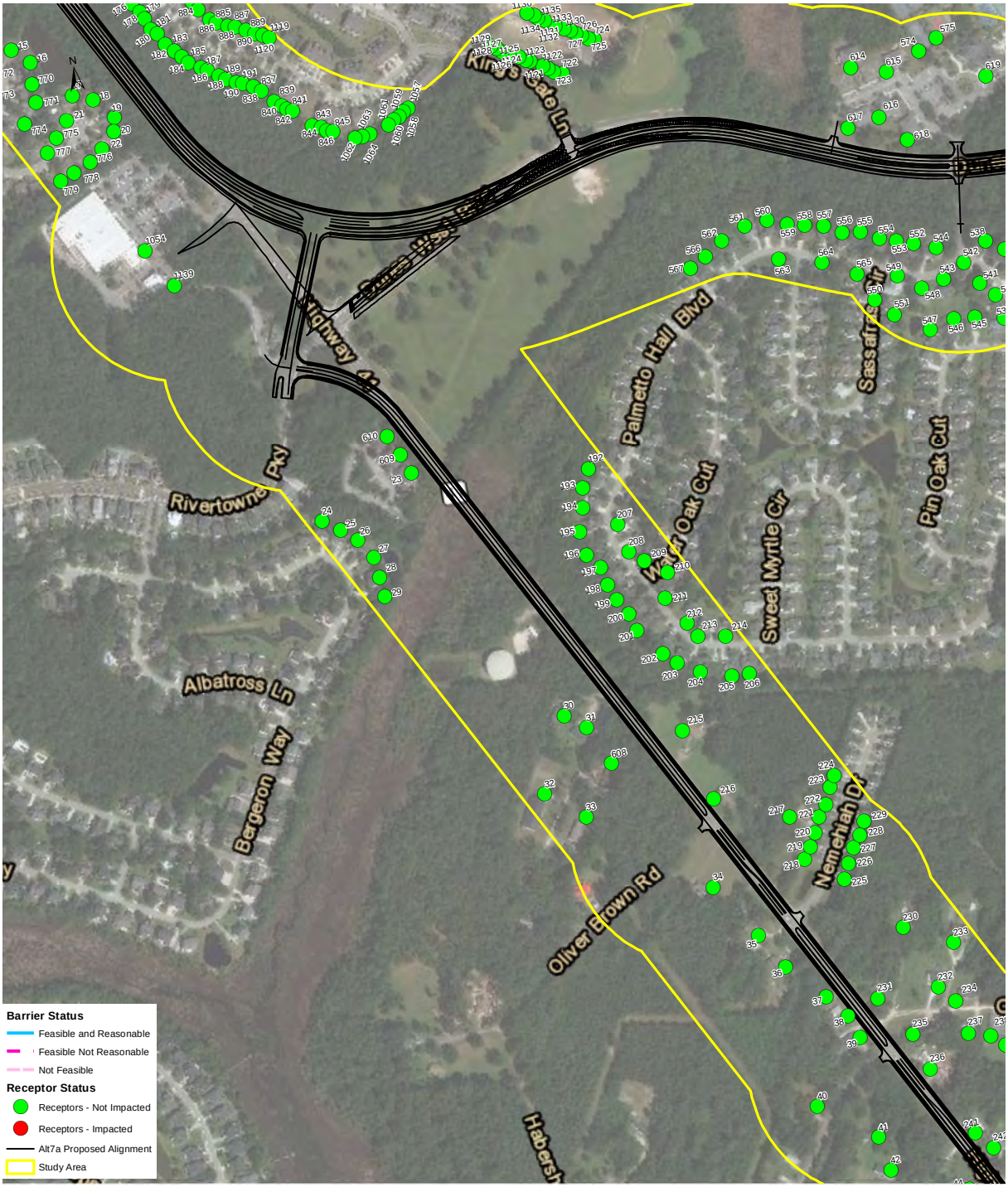
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

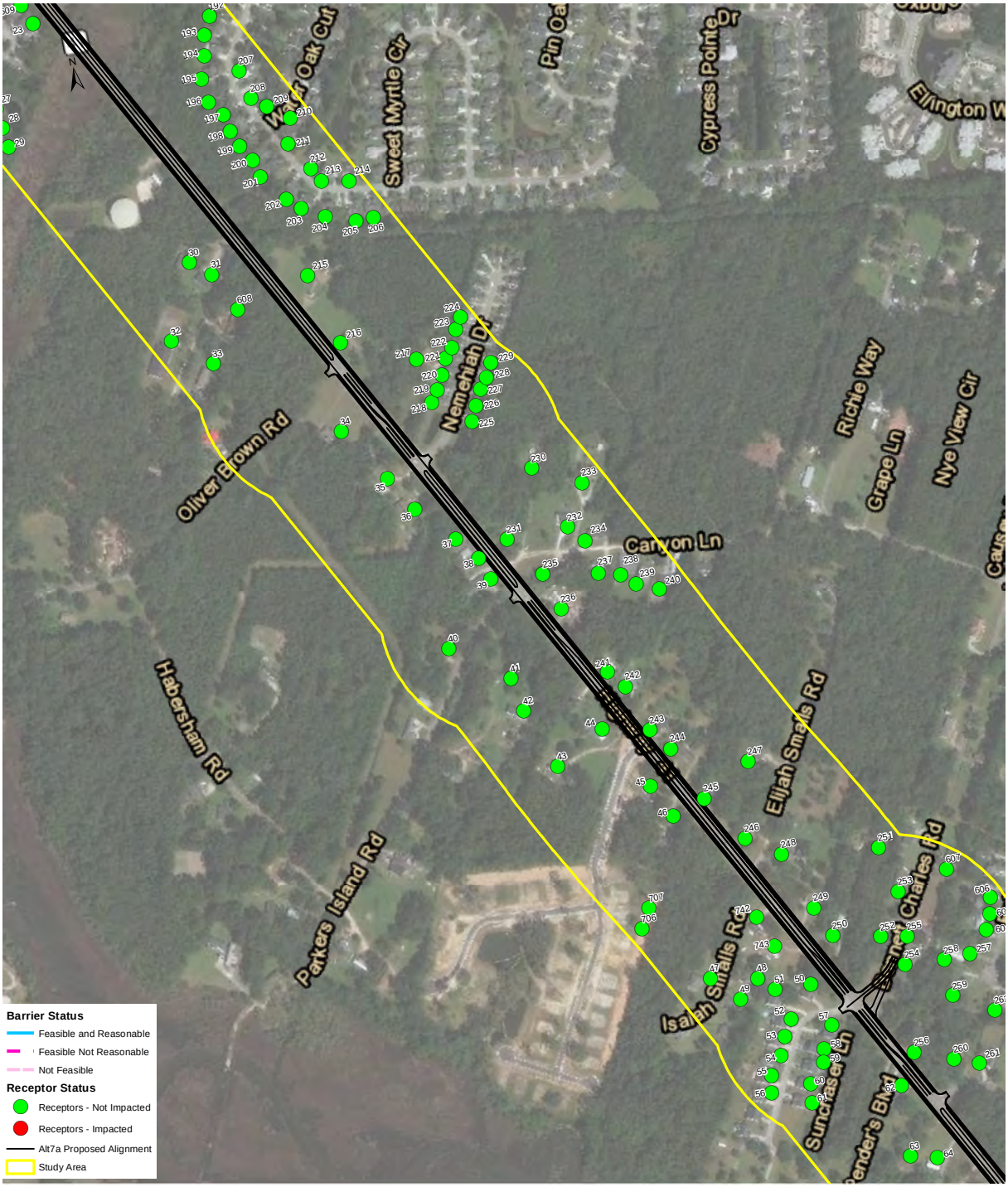


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

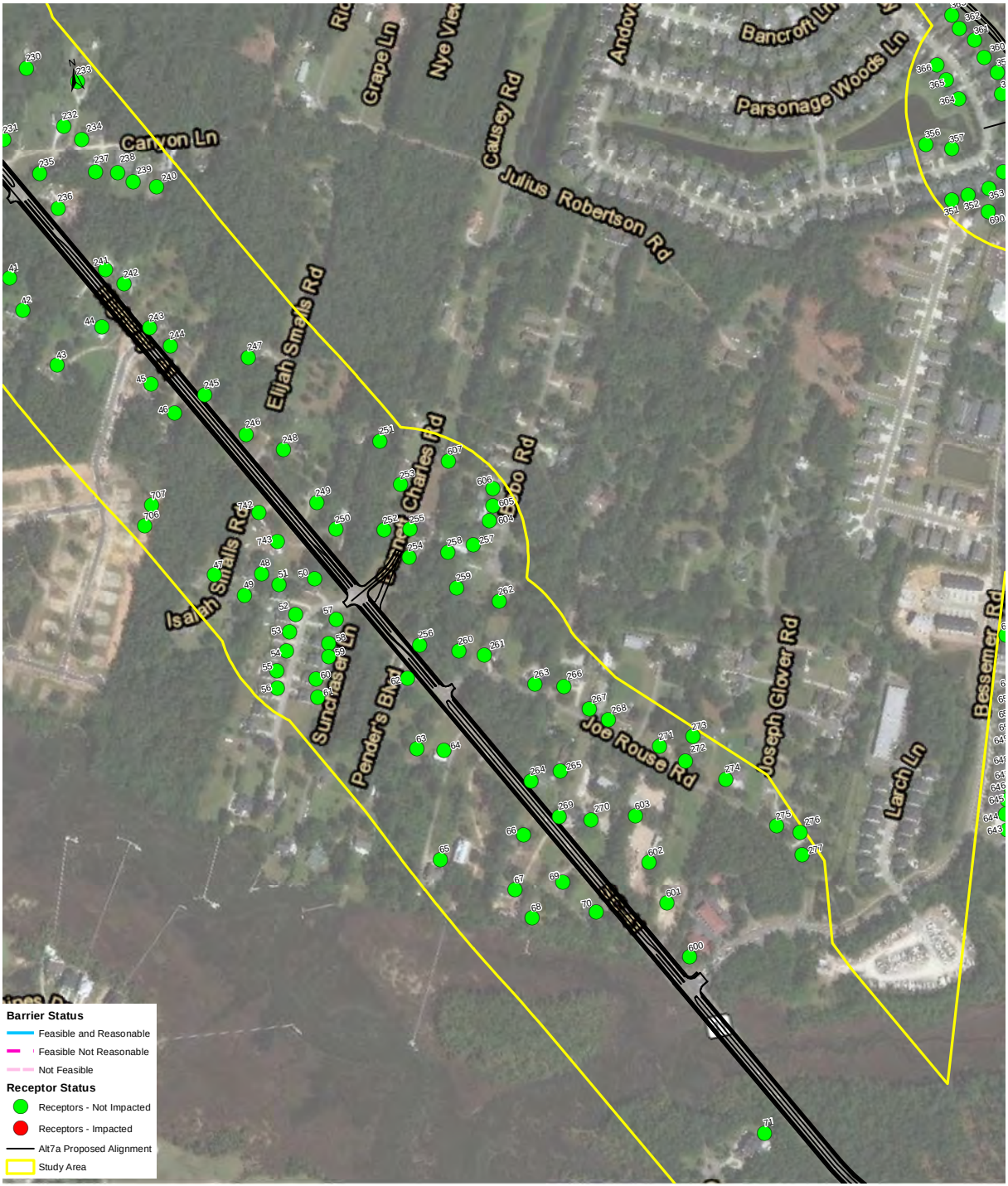
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

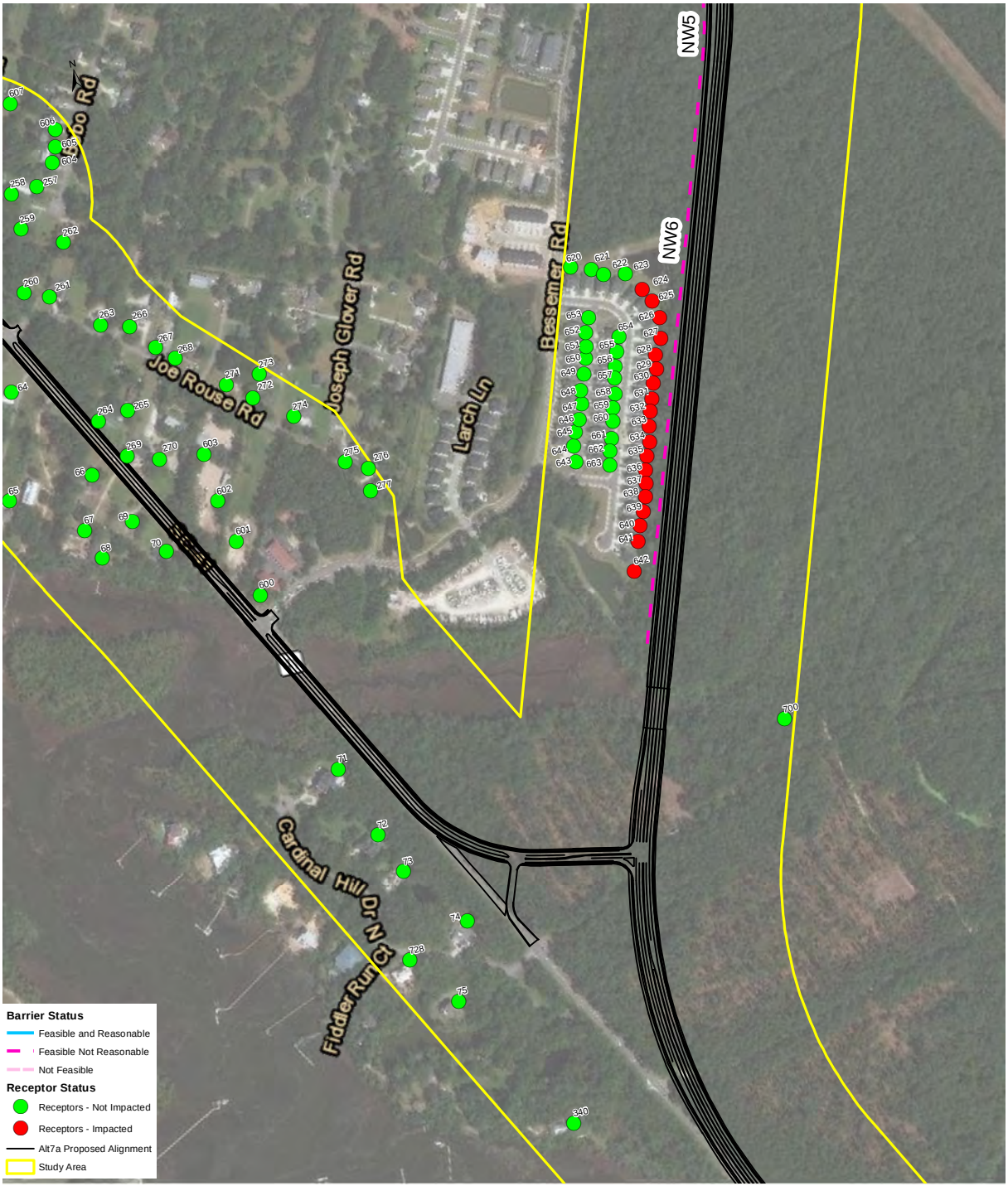


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 245 490 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

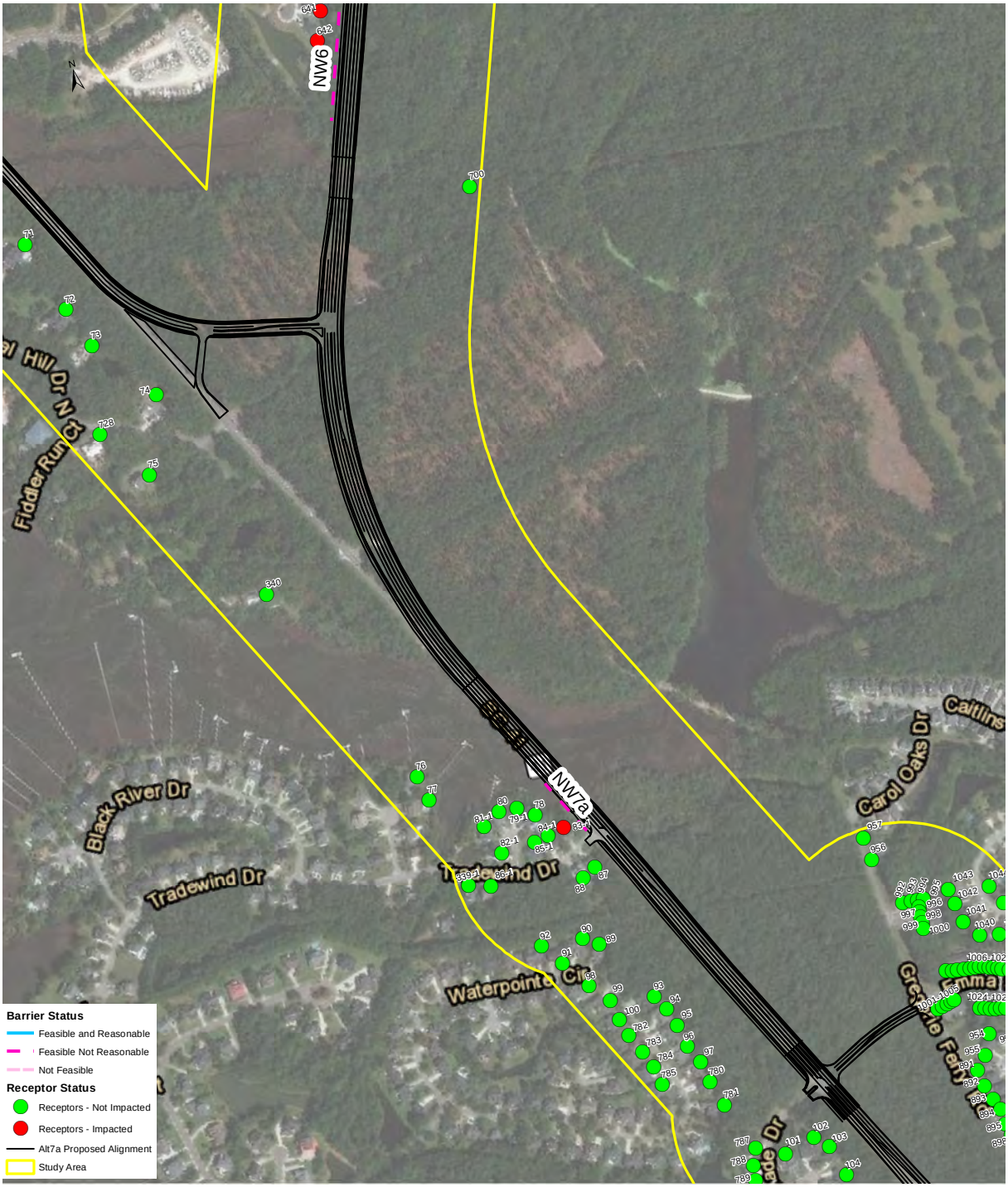


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 245 490 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

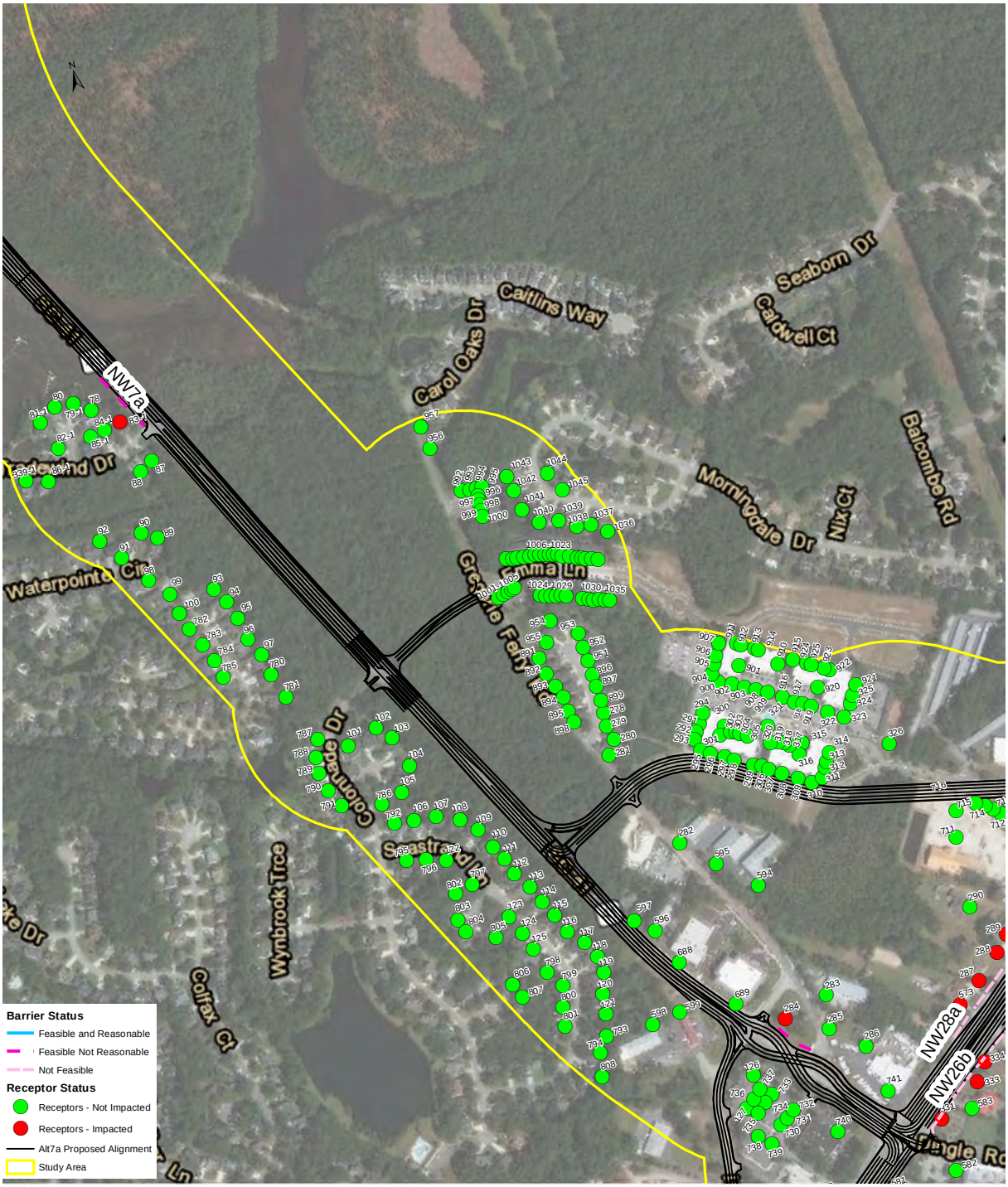


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 245 490 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

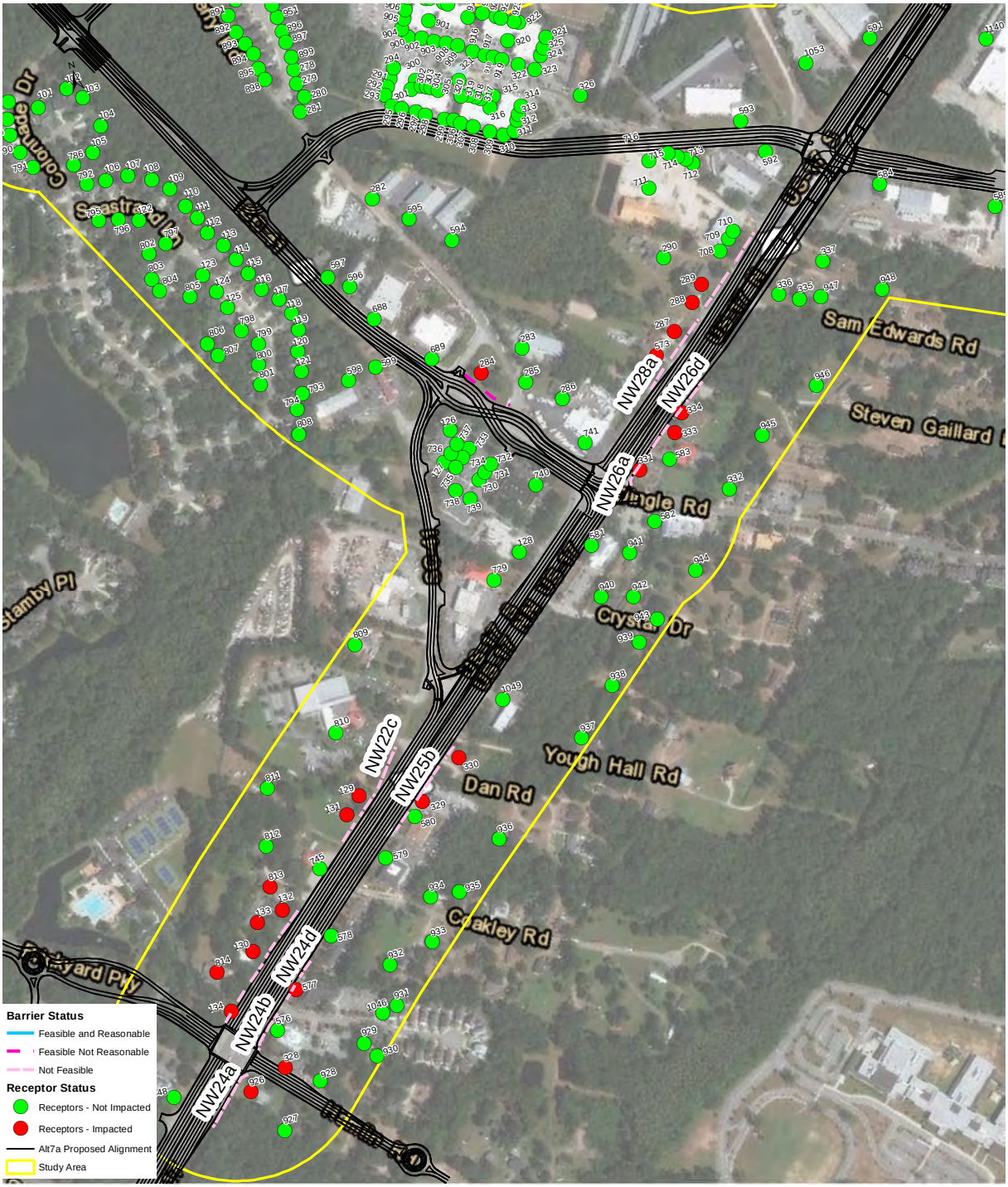


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

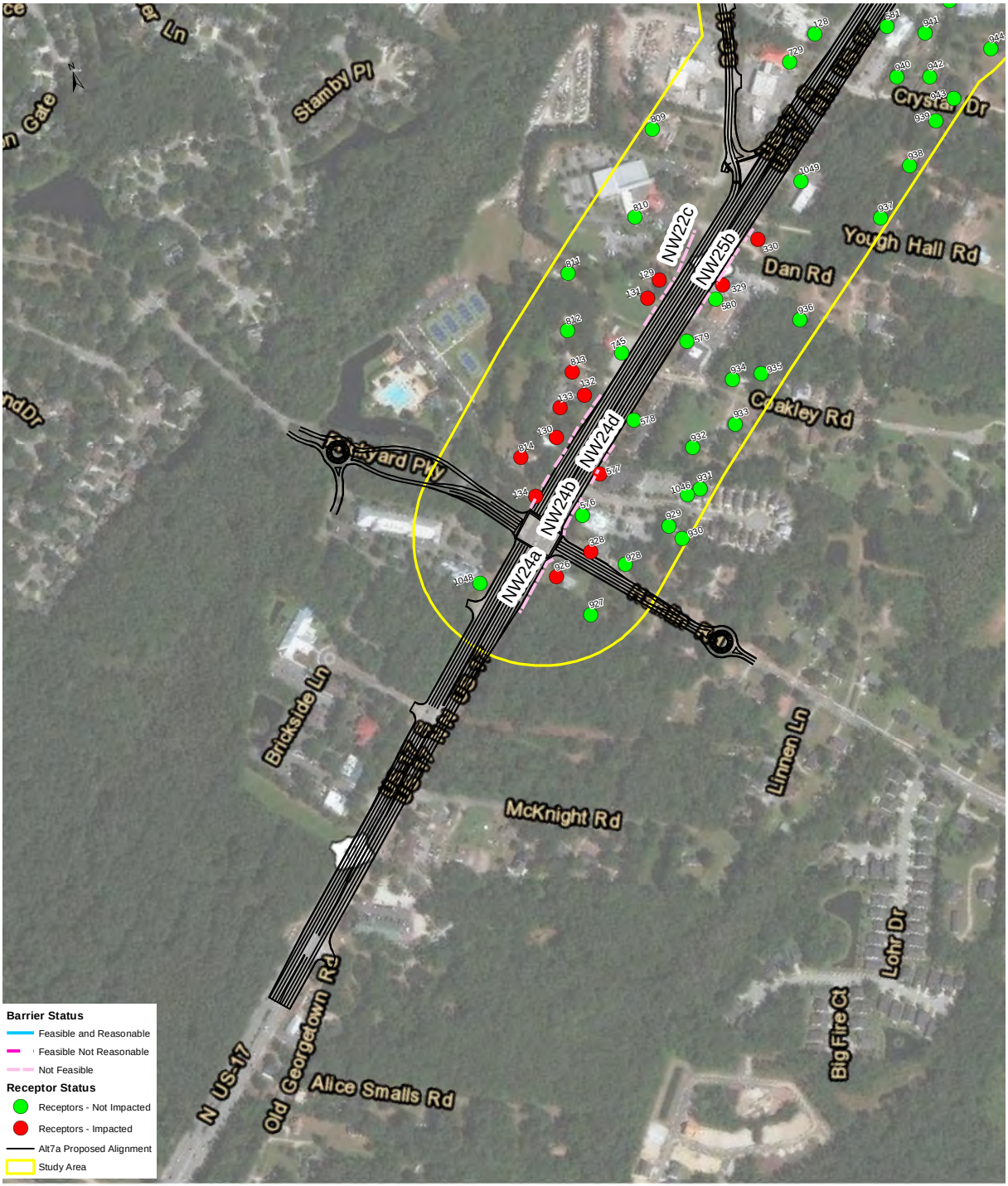


Charleston County Transportation Development

SC41 HIGHWAY CORRIDOR IMPROVEMENTS

0 240 480 Feet

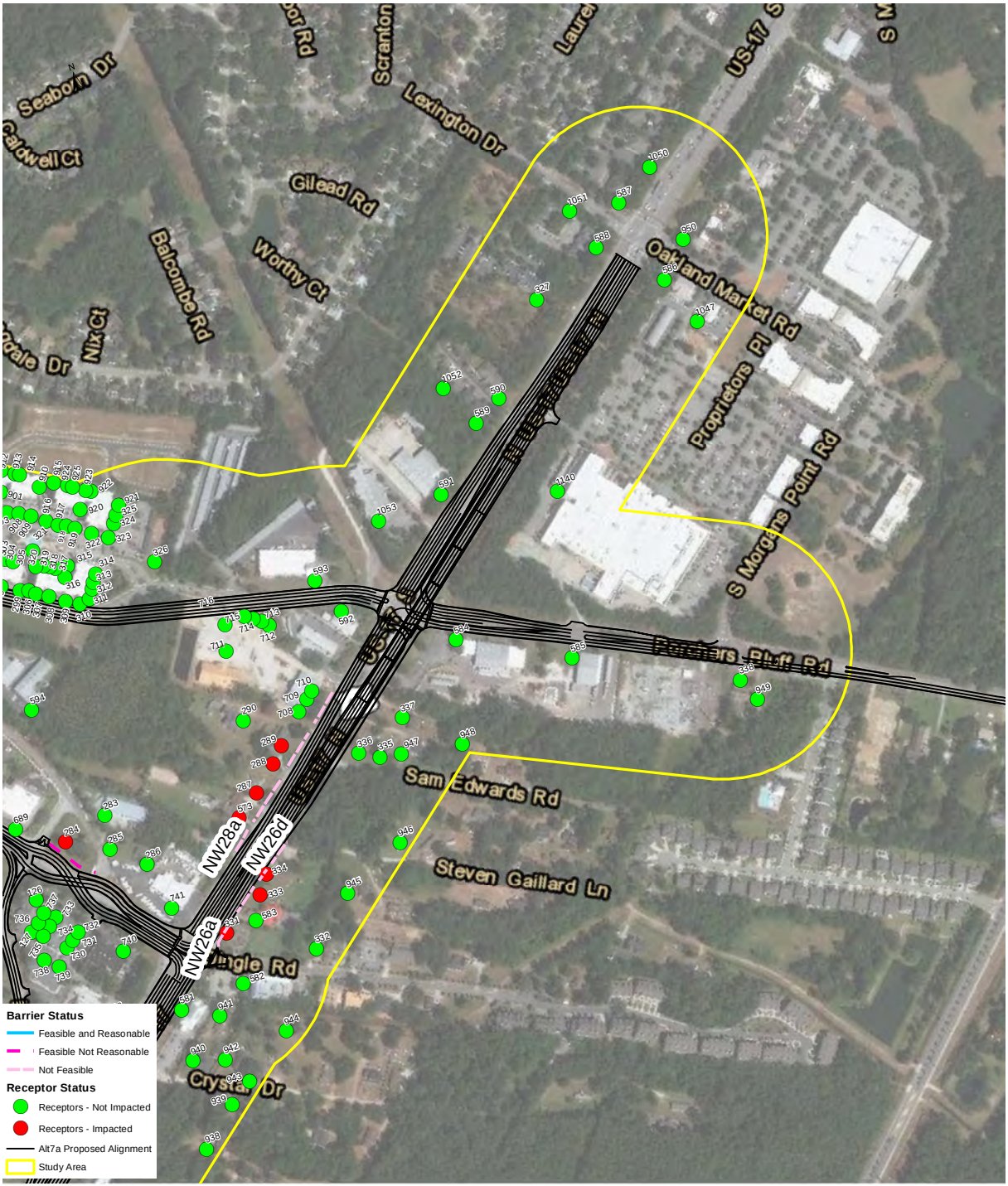
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



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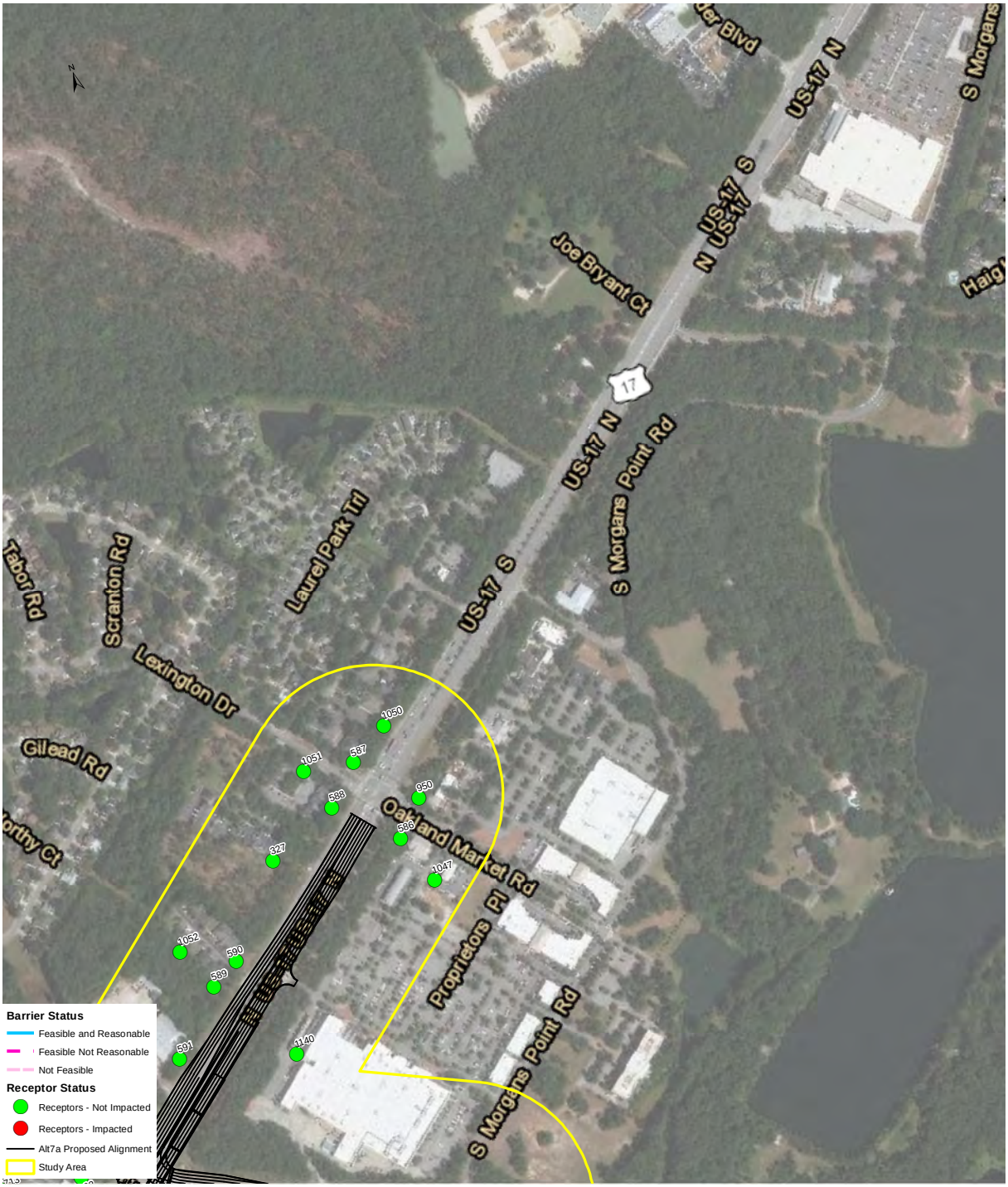
SC41 HIGHWAY CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

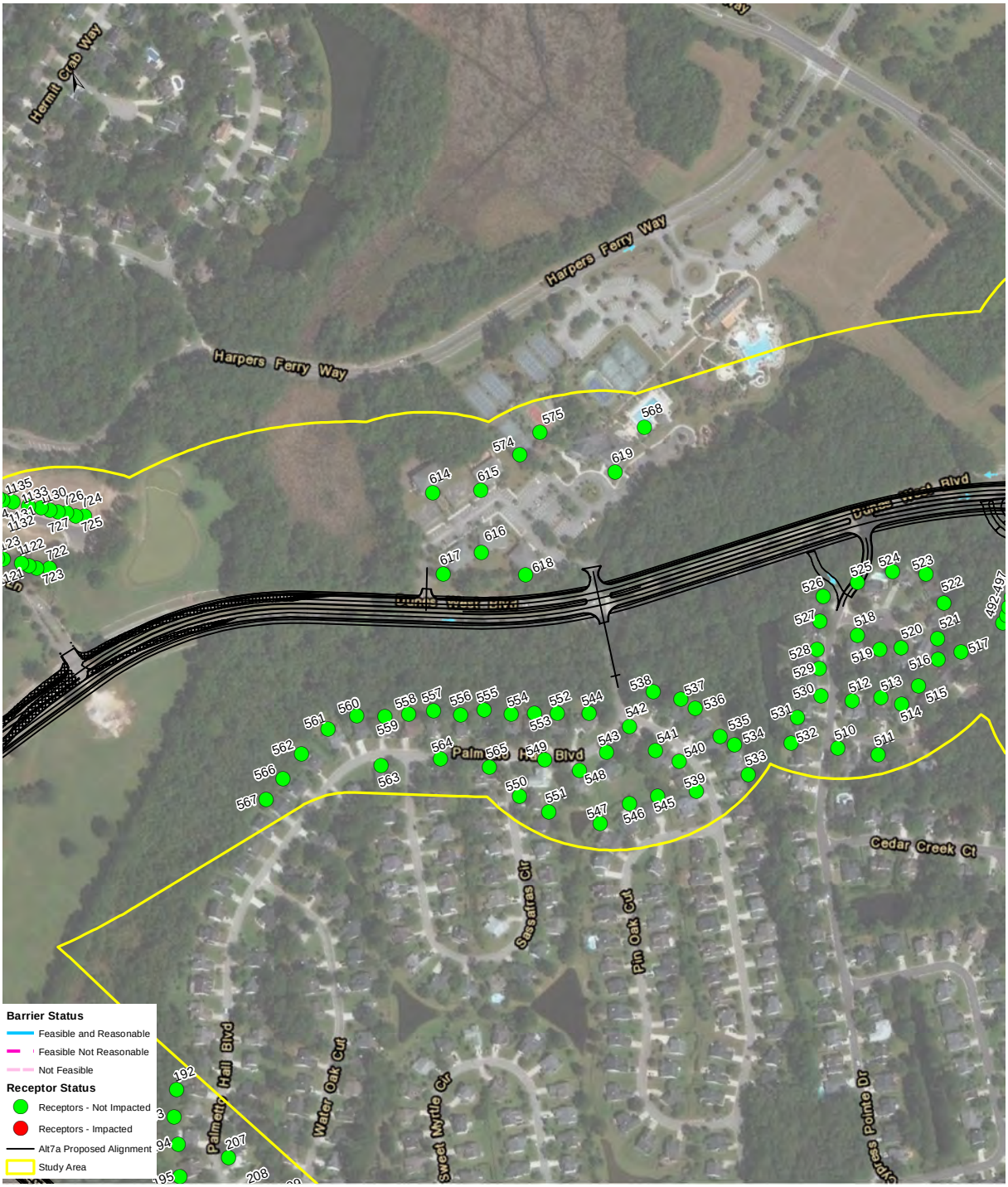


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

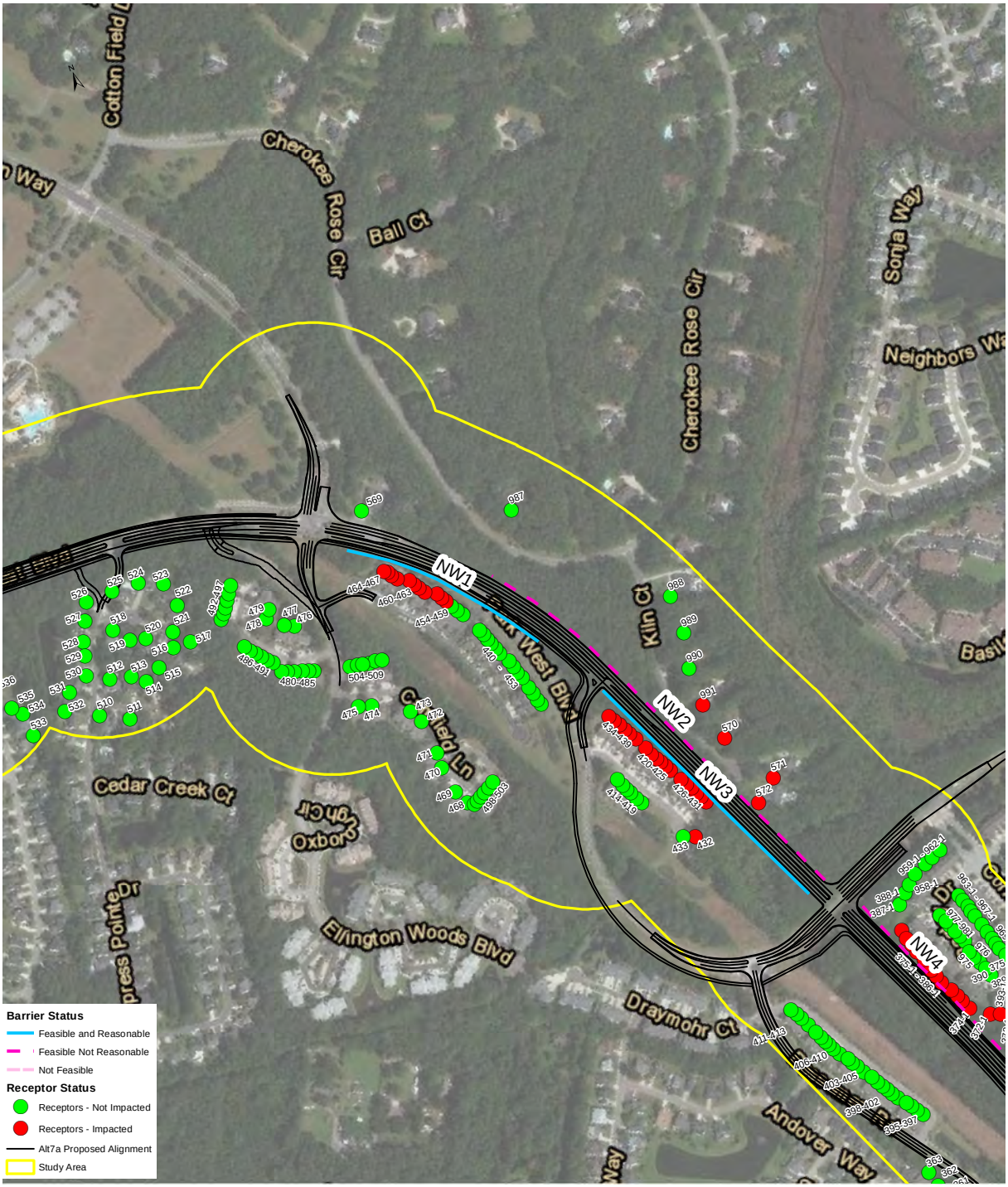


Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

0 180 360 Feet

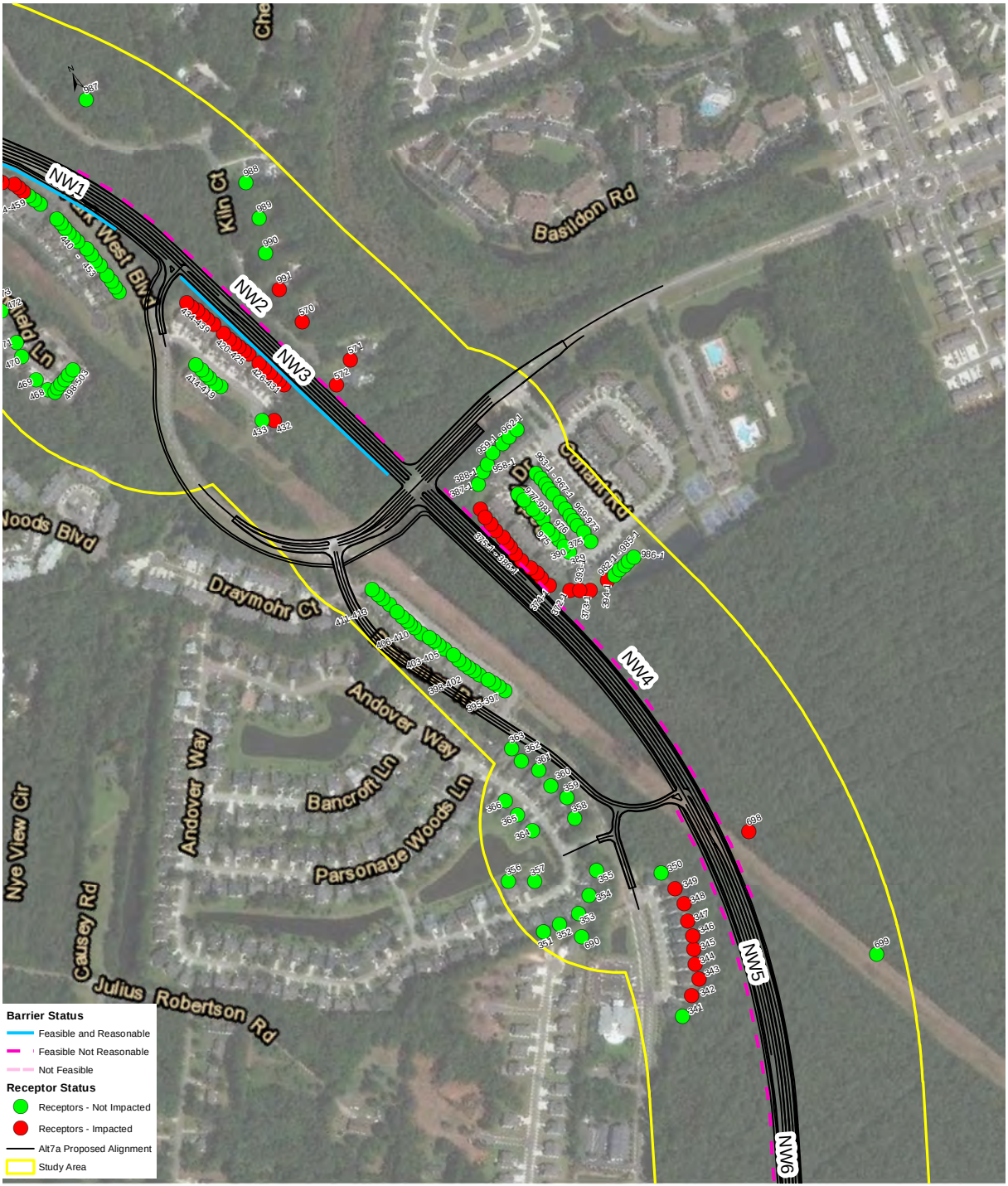
RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



Charleston County Transportation Development

HIGHWAY 41 CORRIDOR IMPROVEMENTS

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

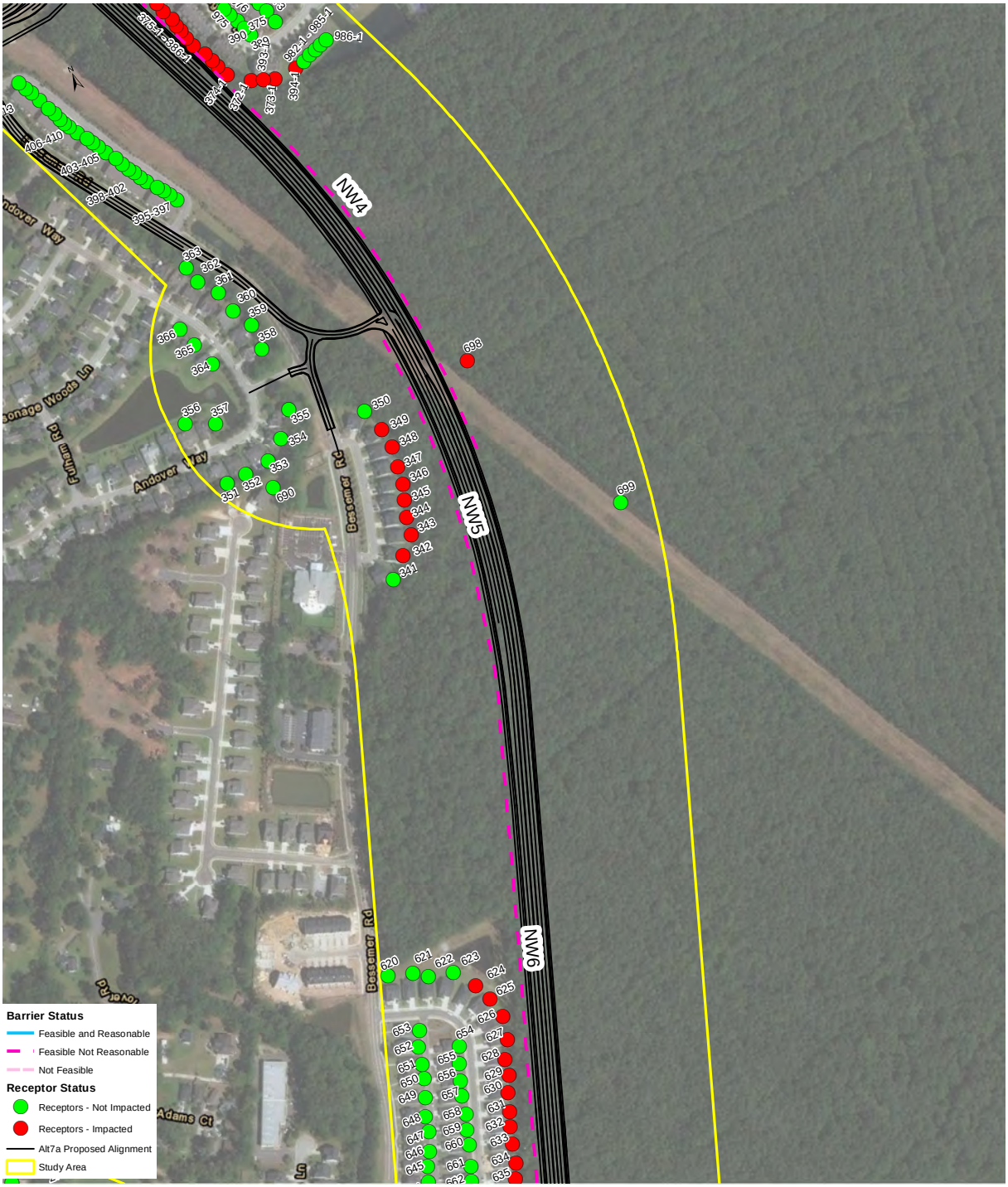


Charleston County Transportation Development

SC 41 HIGHWAY CORRIDOR IMPROVEMENTS

0 240 480 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2



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0 205 410 Feet

RECEPTORS
SC41 PRELIMINARY DESIGN
ALTERNATE 7A
FIGURE B-2

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HIGHWAY 41 CORRIDOR IMPROVEMENTS

Appendix C – Modeled Noise Level Results

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Modeled Noise Levels without Abatement

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0001	Residential	B / 66	51.3	54.4	53.8	2.5	No	54.3	3.0	No
R0002	Residential	B / 66	59.4	62.5	67.1	7.7	Yes	66.8	7.4	Yes
R0003	Residential	B / 66	60.0	63.0	63.9	3.9	No	63.1	3.1	No
R0004	Residential	B / 66	67.1	70.1	66.7	-0.4	Yes	66.1	-1.0	Yes
R0005	Residential	B / 66	64.2	67.2	63.9	-0.3	No	63.2	-1.0	No
R0006	Residential	B / 66	55.7	58.8	59.1	3.4	No	58.5	2.8	No
R0007	Residential	B / 66	54.3	57.4	57.1	2.8	No	56.3	2.0	No
R0008	Residential	B / 66	61.5	64.5	62.7	1.2	No	62.0	0.5	No
R0009	Residential	B / 66	62.5	65.5	63.4	0.9	No	62.7	0.2	No
R0010	Residential	B / 66	63.3	66.2	63.8	0.5	No	63.2	-0.1	No
R0011	Residential	B / 66	62.6	65.6	63.4	0.8	No	62.7	0.1	No
R0012	Residential	B / 66	62.1	65.1	63.6	1.5	No	63.0	0.9	No
R0013	Residential	B / 66	48.7	51.8	52.8	4.1	No	52.0	3.3	No
R0014	Residential	B / 66	50.9	53.9	52.9	2.0	No	52.1	1.2	No
R0015	Residential	B / 66	56.3	59.4	60.8	4.5	No	60.1	3.8	No
R0016	Residential	B / 66	57.7	60.8	61.9	4.2	No	61.1	3.4	No
R0017	Residential	B / 66	57.1	60.3	61.3	4.2	No	60.6	3.5	No
R0018	Residential	B / 66	62.8	66.0	65.6	2.8	No	64.7	1.9	No
R0019	Residential	B / 66	63.1	66.3	65.5	2.4	No	64.8	1.7	No
R0020	Residential	B / 66	60.6	63.8	63.5	2.9	No	62.7	2.1	No
R0021	Residential	B / 66	50.2	53.3	53.4	3.2	No	52.0	1.8	No
R0022	Residential	B / 66	55.2	58.4	58.7	3.5	No	57.0	1.8	No
R0023	Restaurant	E / 71	66.2	69.5	70.0	3.8	No	62.1	-4.1	No
R0024	Residential	B / 66	51.0	54.4	55.7	4.7	No	49.8	-1.2	No
R0025	Residential	B / 66	51.3	54.6	56.2	4.9	No	49.8	-1.5	No
R0026	Residential	B / 66	51.8	55.0	57.0	5.2	No	49.7	-2.1	No
R0027	Residential	B / 66	52.1	55.2	57.3	5.2	No	49.7	-2.4	No
R0028	Residential	B / 66	51.4	54.5	56.6	5.2	No	48.2	-3.2	No
R0029	Residential	B / 66	50.8	53.9	55.6	4.8	No	47.6	-3.2	No
R0030	Residential	B / 66	56.9	60.1	63.2	6.3	No	54.6	-2.3	No
R0031	Residential	B / 66	59.7	62.9	65.1	5.4	No	57.7	-2.0	No
R0032	Church	D / 66	49.3	52.5	55.4	6.1	No	45.8	-3.5	No
R0033	Residential	B / 66	51.1	54.2	57.5	6.4	No	47.6	-3.5	No
R0034	Residential	B / 66	60.1	63.3	65.2	5.1	No	55.4	-4.7	No
R0035	Residential	B / 66	61.9	65.1	66.2	4.3	Yes	56.9	-5.0	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0036	Residential	B / 66	62.5	65.7	66.5	4.0	Yes	58.0	-4.5	No
R0037	Residential	B / 66	68.9	72.2	71.5	2.6	Yes	63.7	-5.2	No
R0038	Residential	B / 66	71.9	75.2	73.2	1.3	Yes	65.0	-6.9	No
R0039	Residential	B / 66	69.9	73.2	72.5	2.6	Yes	64.4	-5.5	No
R0040	Residential	B / 66	50.9	54.2	56.8	5.9	No	47.4	-3.5	No
R0041	Residential	B / 66	55.1	58.4	61.0	5.9	No	51.8	-3.3	No
R0042	Residential	B / 66	53.6	56.9	59.1	5.5	No	50.3	-3.3	No
R0043	Residential	B / 66	52.3	55.6	58.0	5.7	No	48.9	-3.4	No
R0044	Residential	B / 66	65.6	68.9	68.3	2.7	Yes	59.9	-5.7	No
R0045	Residential	B / 66	66.0	69.3	68.1	2.1	Yes	60.5	-5.5	No
R0046	Residential	B / 66	65.7	68.9	68.9	3.2	Yes	60.1	-5.6	No
R0047	Residential	B / 66	49.6	52.8	55.4	5.8	No	46.2	-3.4	No
R0048	Residential	B / 66	54.1	57.4	60.3	6.2	No	50.6	-3.5	No
R0049	Residential	B / 66	48.8	52.1	55.0	6.2	No	45.5	-3.3	No
R0050	Residential	B / 66	66.3	69.6	69.7	3.4	Yes	60.7	-5.6	No
R0051	Residential	B / 66	55.6	58.9	61.5	5.9	No	51.5	-4.1	No
R0052	Residential	B / 66	53.8	57.1	60.0	6.2	No	50.3	-3.5	No
R0053	Residential	B / 66	50.5	53.7	56.6	6.1	No	47.3	-3.2	No
R0054	Residential	B / 66	47.9	51.1	53.8	5.9	No	44.6	-3.3	No
R0055	Residential	B / 66	44.8	48.0	49.8	5.0	No	44.6	-0.2	No
R0056	Residential	B / 66	44.6	47.7	48.5	3.9	No	44.6	0.0	No
R0057	Residential	B / 66	62.3	65.6	67.0	4.7	Yes	56.9	-5.4	No
R0058	Residential	B / 66	54.6	57.9	60.5	5.9	No	50.7	-3.9	No
R0059	Residential	B / 66	54.1	57.3	60.2	6.1	No	50.7	-3.4	No
R0060	Residential	B / 66	50.9	54.1	57.1	6.2	No	47.7	-3.2	No
R0061	Residential	B / 66	49.8	53.1	55.8	6.0	No	46.6	-3.2	No
R0062	Residential	B / 66	70.0	73.2	72.6	2.6	Yes	64.0	-6.0	No
R0063	Residential	B / 66	56.3	59.5	61.9	5.6	No	52.6	-3.7	No
R0064	Residential	B / 66	61.9	65.2	66.0	4.1	Yes	57.8	-4.1	No
R0065	Residential	B / 66	50.1	53.3	55.7	5.6	No	46.9	-3.2	No
R0066	Residential	B / 66	64.2	67.5	69.9	5.7	Yes	60.7	-3.5	No
R0067	Residential	B / 66	54.7	57.9	60.3	5.6	No	51.3	-3.4	No
R0068	Residential	B / 66	55.1	58.2	59.3	4.2	No	50.9	-4.2	No
R0069	Residential	B / 66	65.6	68.9	70.9	5.3	Yes	61.4	-4.2	No
R0070	Residential	B / 66	68.3	71.5	71.8	3.5	Yes	62.9	-5.4	No
R0071	Residential	B / 66	64.4	67.2	66.9	2.5	Yes	57.6	-6.8	No
R0072	Residential	B / 66	60.6	63.4	64.6	4.0	No	54.5	-6.1	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0073	Residential	B / 66	60.0	62.9	64.4	4.4	No	53.4	-6.6	No
R0074	Residential	B / 66	63.7	66.5	66.2	2.5	Yes	52.9	-10.8	No
R0075	Residential	B / 66	53.6	56.5	58.3	4.7	No	50.5	-3.1	No
R0076	Residential	B / 66	57.7	60.5	58.4	0.7	No	60.9	3.2	No
R0077	Residential	B / 66	56.9	59.7	57.6	0.7	No	60.3	3.4	No
R0078	Residential	B / 66	65.4	68.2	64.5	-0.9	No	64.7	-0.7	No
R0079-1	Residential	B / 66	66.0	68.8	65.9	-0.1	No	65.7	-0.3	No
R0080	Residential	B / 66	59.3	62.1	60.0	0.7	No	62.4	3.1	No
R0081-1	Residential	B / 66	54.4	57.2	55.3	0.9	No	56.9	2.5	No
R0082-1	Residential	B / 66	55.1	58.0	55.8	0.7	No	57.0	1.9	No
R0083-1	Residential	B / 66	69.7	72.6	69.6	-0.1	Yes	69.8	0.1	Yes
R0084-1	Residential	B / 66	65.4	68.2	65.3	-0.1	No	65.3	-0.1	No
R0085-1	Residential	B / 66	61.0	63.8	60.7	-0.3	No	61.0	0.0	No
R0086-1	Residential	B / 66	53.9	56.7	55.3	1.4	No	55.8	1.9	No
R0087	Residential	B / 66	66.2	69.0	65.4	-0.8	No	65.2	-1.0	No
R0088	Residential	B / 66	60.2	63.0	61.3	1.1	No	61.3	1.1	No
R0089	Residential	B / 66	56.7	59.5	60.2	3.5	No	60.3	3.6	No
R0090	Residential	B / 66	54.8	57.6	58.1	3.3	No	58.2	3.4	No
R0091	Residential	B / 66	46.1	48.9	49.8	3.7	No	49.9	3.8	No
R0092	Residential	B / 66	49.9	52.7	52.2	2.3	No	52.8	2.9	No
R0093	Residential	B / 66	57.7	60.5	61.9	4.2	No	62.0	4.3	No
R0094	Residential	B / 66	57.7	60.6	62.2	4.5	No	62.3	4.6	No
R0095	Residential	B / 66	57.4	60.3	61.9	4.5	No	62.0	4.6	No
R0096	Residential	B / 66	56.8	59.6	61.2	4.4	No	61.3	4.5	No
R0097	Residential	B / 66	57.0	59.8	61.3	4.3	No	61.4	4.4	No
R0098	Residential	B / 66	50.7	53.5	54.3	3.6	No	54.3	3.6	No
R0099	Residential	B / 66	51.9	54.7	55.4	3.5	No	55.4	3.5	No
R0100	Residential	B / 66	49.6	52.4	52.5	2.9	No	52.5	2.9	No
R0101	Residential	B / 66	57.3	60.1	60.3	3.0	No	60.3	3.0	No
R0102	Residential	B / 66	63.6	66.4	65.6	2.0	No	65.6	2.0	No
R0103	Residential	B / 66	64.4	67.2	65.9	1.5	No	65.9	1.5	No
R0104	Residential	B / 66	62.4	65.3	64.3	1.9	No	64.3	1.9	No
R0105	Residential	B / 66	56.0	58.9	59.7	3.7	No	59.7	3.7	No
R0106	Residential	B / 66	54.5	57.3	58.4	3.9	No	58.4	3.9	No
R0107	Residential	B / 66	58.6	61.4	61.9	3.3	No	61.9	3.3	No
R0108	Residential	B / 66	61.3	64.1	64.3	3.0	No	64.3	3.0	No
R0109	Residential	B / 66	62.6	65.5	64.9	2.3	No	64.9	2.3	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0110	Residential	B / 66	62.3	65.2	64.9	2.6	No	64.9	2.6	No
R0111	Residential	B / 66	62.4	65.3	65.3	2.9	No	65.3	2.9	No
R0112	Residential	B / 66	61.7	64.5	65.1	3.4	No	65.0	3.3	No
R0113	Residential	B / 66	62.4	65.2	65.6	3.2	No	65.6	3.2	No
R0114	Residential	B / 66	62.2	65.0	65.1	2.9	No	65.0	2.8	No
R0115	Residential	B / 66	62.2	65.0	64.8	2.6	No	64.7	2.5	No
R0116	Residential	B / 66	61.9	64.7	64.5	2.6	No	64.4	2.5	No
R0117	Residential	B / 66	63.5	66.4	65.2	1.7	No	65.0	1.5	No
R0118	Residential	B / 66	63.6	66.5	65.1	1.5	No	65.0	1.4	No
R0119	Residential	B / 66	62.0	64.8	63.8	1.8	No	63.7	1.7	No
R0120	Residential	B / 66	58.3	61.2	60.4	2.1	No	60.3	2.0	No
R0121	Residential	B / 66	56.6	59.5	58.6	2.0	No	58.6	2.0	No
R0122	Residential	B / 66	50.4	53.3	54.9	4.5	No	53.5	3.1	No
R0123	Residential	B / 66	50.4	53.2	54.6	4.2	No	54.2	3.8	No
R0124	Residential	B / 66	50.0	52.8	53.6	3.6	No	53.4	3.4	No
R0125	Residential	B / 66	49.4	52.3	52.5	3.1	No	52.3	2.9	No
R0126	Restaurant/Patio	E / 71	65.1	68.1	65.9	0.8	No	65.9	0.8	No
R0127	Restaurant/Patio	E / 71	56.0	59.1	60.5	4.5	No	62.8	6.8	No
R0128	Restaurant	E / 71	66.4	69.4	70.2	3.8	No	70.1	3.7	No
R0129	Residential	B / 66	70.1	73.3	73.2	3.1	Yes	73.2	3.1	Yes
R0130	Residential	B / 66	66.5	69.6	70.9	4.4	Yes	70.9	4.4	Yes
R0131	Residential	B / 66	70.2	73.4	73.4	3.2	Yes	73.4	3.2	Yes
R0132	Residential	B / 66	68.9	72.1	72.7	3.8	Yes	72.7	3.8	Yes
R0133	Residential	B / 66	63.9	67.0	68.8	4.9	Yes	68.7	4.8	Yes
R0134	Residential	B / 66	72.3	75.2	76.7	4.4	Yes	76.7	4.4	Yes
R0135	Residential	B / 66	59.2	62.3	61.0	1.8	No	61.7	2.5	No
R0136	Residential	B / 66	55.3	58.5	57.9	2.6	No	57.5	2.2	No
R0137	Residential	B / 66	56.5	59.6	59.0	2.5	No	58.5	2.0	No
R0138	Residential	B / 66	61.2	64.4	63.6	2.4	No	63.0	1.8	No
R0139	Residential	B / 66	61.9	65.0	64.4	2.5	No	63.8	1.9	No
R0140	Residential	B / 66	62.4	65.6	65.3	2.9	No	64.7	2.3	No
R0141	Residential	B / 66	62.3	65.5	65.3	3.0	No	64.7	2.4	No
R0142	Residential	B / 66	60.8	63.9	64.1	3.3	No	63.5	2.7	No
R0143	Residential	B / 66	61.0	64.2	64.3	3.3	No	63.7	2.7	No
R0144	Residential	B / 66	59.0	62.1	62.6	3.6	No	62.0	3.0	No
R0145	Residential	B / 66	59.5	62.6	62.9	3.4	No	62.3	2.8	No
R0146	Residential	B / 66	59.4	62.5	62.9	3.5	No	62.3	2.9	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0147	Residential	B / 66	59.3	62.5	62.8	3.5	No	62.2	2.9	No
R0148	Residential	B / 66	59.1	62.3	62.7	3.6	No	62.0	2.9	No
R0149	Residential	B / 66	59.0	62.2	62.6	3.6	No	61.9	2.9	No
R0150	Residential	B / 66	59.8	62.9	63.2	3.4	No	62.6	2.8	No
R0151	Residential	B / 66	59.8	62.9	63.1	3.3	No	62.5	2.7	No
R0152	Residential	B / 66	59.6	62.7	62.8	3.2	No	62.3	2.7	No
R0153	Residential	B / 66	59.6	62.8	62.7	3.1	No	62.1	2.5	No
R0154	Residential	B / 66	59.3	62.4	62.5	3.2	No	61.8	2.5	No
R0155	Residential	B / 66	59.5	62.6	62.7	3.2	No	62.0	2.5	No
R0156	Residential	B / 66	59.3	62.5	62.6	3.3	No	61.8	2.5	No
R0157	Residential	B / 66	59.6	62.7	62.7	3.1	No	62.0	2.4	No
R0158	Residential	B / 66	59.4	62.5	62.5	3.1	No	61.8	2.4	No
R0159	Residential	B / 66	59.3	62.5	62.5	3.2	No	61.8	2.5	No
R0160	Residential	B / 66	59.8	62.9	62.9	3.1	No	62.1	2.3	No
R0161	Residential	B / 66	59.8	62.9	63.1	3.3	No	62.1	2.3	No
R0162	Residential	B / 66	60.1	63.2	63.5	3.4	No	62.4	2.3	No
R0163	Residential	B / 66	59.9	63.0	63.4	3.5	No	62.3	2.4	No
R0164	Residential	B / 66	59.9	63.0	63.4	3.5	No	62.3	2.4	No
R0165	Residential	B / 66	60.1	63.3	63.5	3.4	No	62.6	2.5	No
R0166	Residential	B / 66	59.6	62.7	63.0	3.4	No	62.1	2.5	No
R0167	Residential	B / 66	59.7	62.9	63.2	3.5	No	62.1	2.4	No
R0168	Residential	B / 66	59.4	62.6	63.0	3.6	No	61.8	2.4	No
R0169	Residential	B / 66	59.5	62.7	62.9	3.4	No	62.0	2.5	No
R0170	Residential	B / 66	59.9	63.0	63.0	3.1	No	62.2	2.3	No
R0171	Residential	B / 66	60.0	63.1	63.1	3.1	No	62.2	2.2	No
R0172	Residential	B / 66	59.8	63.0	63.0	3.2	No	62.0	2.2	No
R0173	Residential	B / 66	60.1	63.3	63.2	3.1	No	62.2	2.1	No
R0174	Residential	B / 66	60.4	63.5	63.4	3.0	No	62.4	2.0	No
R0175	Residential	B / 66	60.1	63.3	63.2	3.1	No	62.1	2.0	No
R0176	Residential	B / 66	59.6	62.8	62.8	3.2	No	61.6	2.0	No
R0177	Residential	B / 66	59.7	62.9	62.9	3.2	No	61.7	2.0	No
R0178	Residential	B / 66	59.5	62.7	62.8	3.3	No	61.3	1.8	No
R0179	Residential	B / 66	59.7	62.8	63.0	3.3	No	61.3	1.6	No
R0180	Residential	B / 66	60.0	63.2	63.3	3.3	No	61.6	1.6	No
R0181	Residential	B / 66	59.5	62.7	63.0	3.5	No	61.1	1.6	No
R0182	Residential	B / 66	59.7	62.9	63.2	3.5	No	61.2	1.5	No
R0183	Residential	B / 66	59.2	62.4	62.9	3.7	No	60.9	1.7	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0184	Residential	B / 66	58.8	62.0	62.6	3.8	No	60.7	1.9	No
R0185	Residential	B / 66	58.6	61.8	62.4	3.8	No	60.6	2.0	No
R0186	Residential	B / 66	57.6	60.8	61.6	4.0	No	60.0	2.4	No
R0187	Residential	B / 66	57.0	60.2	61.1	4.1	No	59.6	2.6	No
R0188	Residential	B / 66	56.3	59.5	60.7	4.4	No	59.2	2.9	No
R0189	Residential	B / 66	56.0	59.2	60.4	4.4	No	59.1	3.1	No
R0190	Residential	B / 66	55.3	58.5	59.9	4.6	No	58.7	3.4	No
R0191	Residential	B / 66	54.8	58.0	59.4	4.6	No	58.5	3.7	No
R0192	Residential	B / 66	50.5	53.8	55.2	4.7	No	49.3	-1.2	No
R0193	Residential	B / 66	51.3	54.5	56.8	5.5	No	49.6	-1.7	No
R0194	Residential	B / 66	51.9	55.2	57.8	5.9	No	49.8	-2.1	No
R0195	Residential	B / 66	53.9	57.1	60.3	6.4	No	51.5	-2.4	No
R0196	Residential	B / 66	55.0	58.2	61.5	6.5	No	52.4	-2.6	No
R0197	Residential	B / 66	54.3	57.5	61.0	6.7	No	51.5	-2.8	No
R0198	Residential	B / 66	55.0	58.2	61.7	6.7	No	52.5	-2.5	No
R0199	Residential	B / 66	55.2	58.4	61.8	6.6	No	52.7	-2.5	No
R0200	Residential	B / 66	55.1	58.3	61.7	6.6	No	52.5	-2.6	No
R0201	Residential	B / 66	55.6	58.7	62.1	6.5	No	53.1	-2.5	No
R0202	Residential	B / 66	54.5	57.7	61.3	6.8	No	51.7	-2.8	No
R0203	Residential	B / 66	53.5	56.6	60.4	6.9	No	50.7	-2.8	No
R0204	Residential	B / 66	51.6	54.7	58.3	6.7	No	48.4	-3.2	No
R0205	Residential	B / 66	49.3	52.3	55.1	5.8	No	45.8	-3.5	No
R0206	Residential	B / 66	47.8	50.7	52.9	5.1	No	44.6	-3.2	No
R0207	Residential	B / 66	46.6	49.7	51.3	4.7	No	44.6	-2.0	No
R0208	Residential	B / 66	45.8	48.9	50.3	4.5	No	44.6	-1.2	No
R0209	Residential	B / 66	45.0	48.0	48.7	3.7	No	44.6	-0.4	No
R0210	Residential	B / 66	44.6	46.0	46.4	1.8	No	44.6	0.0	No
R0211	Residential	B / 66	45.8	48.8	49.8	4.0	No	44.6	-1.2	No
R0212	Residential	B / 66	46.8	49.9	51.7	4.9	No	44.6	-2.2	No
R0213	Residential	B / 66	46.1	49.1	50.8	4.7	No	44.6	-1.5	No
R0214	Residential	B / 66	44.6	46.4	47.0	2.4	No	44.6	0.0	No
R0215	Residential	B / 66	60.5	63.7	66.1	5.6	Yes	58.2	-2.3	No
R0216	Residential	B / 66	66.7	69.9	71.6	4.9	Yes	63.6	-3.1	No
R0217	Residential	B / 66	54.2	57.4	61.0	6.8	No	51.2	-3.0	No
R0218	Residential	B / 66	56.9	60.1	63.0	6.1	No	53.4	-3.5	No
R0219	Residential	B / 66	53.7	56.8	60.4	6.7	No	50.6	-3.1	No
R0220	Residential	B / 66	51.6	54.7	58.2	6.6	No	48.3	-3.3	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0221	Residential	B / 66	48.4	51.5	54.8	6.4	No	44.9	-3.5	No
R0222	Residential	B / 66	47.7	50.8	53.3	5.6	No	44.6	-3.1	No
R0223	Residential	B / 66	47.5	50.6	52.7	5.2	No	44.6	-2.9	No
R0224	Residential	B / 66	46.7	49.8	51.6	4.9	No	44.6	-2.1	No
R0225	Residential	B / 66	54.1	57.3	60.4	6.3	No	50.7	-3.4	No
R0226	Residential	B / 66	48.2	51.4	54.4	6.2	No	45.3	-2.9	No
R0227	Residential	B / 66	46.2	49.4	51.5	5.3	No	44.6	-1.6	No
R0228	Residential	B / 66	44.6	47.8	49.1	4.5	No	44.6	0.0	No
R0229	Residential	B / 66	44.6	46.2	47.5	2.9	No	44.6	0.0	No
R0230	Residential	B / 66	51.8	55.0	58.1	6.3	No	48.4	-3.4	No
R0231	Residential	B / 66	63.7	66.9	69.1	5.4	Yes	61.2	-2.5	No
R0232	Residential	B / 66	51.3	54.5	57.3	6.0	No	48.1	-3.2	No
R0233	Residential	B / 66	48.3	51.6	53.0	4.7	No	44.7	-3.6	No
R0234	Residential	B / 66	50.7	54.0	56.3	5.6	No	47.4	-3.3	No
R0235	Residential	B / 66	61.6	64.9	67.0	5.4	Yes	58.4	-3.2	No
R0236	Residential	B / 66	64.6	67.9	69.8	5.2	Yes	61.2	-3.4	No
R0237	Residential	B / 66	51.8	55.0	57.5	5.7	No	48.7	-3.1	No
R0238	Residential	B / 66	50.7	53.9	55.7	5.0	No	47.2	-3.5	No
R0239	Residential	B / 66	50.3	53.6	55.2	4.9	No	46.8	-3.5	No
R0240	Residential	B / 66	49.1	52.4	53.6	4.5	No	45.6	-3.5	No
R0241	Residential	B / 66	66.2	69.5	70.9	4.7	Yes	63.1	-3.1	No
R0242	Residential	B / 66	63.8	67.1	68.7	4.9	Yes	60.2	-3.6	No
R0243	Residential	B / 66	68.3	71.6	72.8	4.5	Yes	64.7	-3.6	No
R0244	Residential	B / 66	65.9	69.2	71.0	5.1	Yes	62.6	-3.3	No
R0245	Residential	B / 66	68.9	72.2	73.3	4.4	Yes	65.2	-3.7	No
R0246	Residential	B / 66	65.2	68.5	70.7	5.5	Yes	62.0	-3.2	No
R0247	Residential	B / 66	52.4	55.7	58.7	6.3	No	49.4	-3.0	No
R0248	Residential	B / 66	58.8	62.0	64.5	5.7	No	54.7	-4.1	No
R0249	Residential	B / 66	61.2	64.5	66.3	5.1	Yes	57.5	-3.7	No
R0250	Residential	B / 66	62.2	65.5	67.5	5.3	Yes	58.6	-3.6	No
R0251	Residential	B / 66	48.4	51.6	53.0	4.6	No	45.3	-3.1	No
R0252	Residential	B / 66	54.0	57.3	60.3	6.3	No	51.2	-2.8	No
R0253	Residential	B / 66	48.9	52.2	54.2	5.3	No	45.9	-3.0	No
R0254	Residential	B / 66	54.1	57.3	60.6	6.5	No	51.4	-2.7	No
R0255	Residential	B / 66	51.1	54.3	57.2	6.1	No	48.1	-3.0	No
R0256	Residential	B / 66	66.5	69.8	71.6	5.1	Yes	63.7	-2.8	No
R0257	Residential	B / 66	45.8	49.0	49.1	3.3	No	44.6	-1.2	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0258	Residential	B / 66	49.8	53.1	55.4	5.6	No	46.9	-2.9	No
R0259	Residential	B / 66	51.6	54.9	57.3	5.7	No	48.8	-2.8	No
R0260	Residential	B / 66	57.6	60.9	62.6	5.0	No	54.6	-3.0	No
R0261	Residential	B / 66	54.7	57.9	60.2	5.5	No	52.3	-2.4	No
R0262	Residential	B / 66	48.9	52.1	53.7	4.8	No	46.3	-2.6	No
R0263	Residential	B / 66	52.2	55.5	57.8	5.6	No	49.5	-2.7	No
R0264	Residential	B / 66	67.9	71.2	70.7	2.8	Yes	65.0	-2.9	No
R0265	Residential	B / 66	56.0	59.3	60.9	4.9	No	53.9	-2.1	No
R0266	Residential	B / 66	50.7	53.9	55.2	4.5	No	47.7	-3.0	No
R0267	Residential	B / 66	50.0	53.2	54.5	4.5	No	47.1	-2.9	No
R0268	Residential	B / 66	49.1	52.3	53.3	4.2	No	46.3	-2.8	No
R0269	Residential	B / 66	68.6	71.9	70.8	2.2	Yes	65.5	-3.1	No
R0270	Residential	B / 66	60.0	63.3	63.4	3.4	No	57.1	-2.9	No
R0271	Residential	B / 66	48.6	51.7	51.8	3.2	No	45.3	-3.3	No
R0272	Residential	B / 66	49.1	52.1	51.8	2.7	No	45.2	-3.9	No
R0273	Residential	B / 66	45.9	49.0	48.7	2.8	No	44.6	-1.3	No
R0274	Residential	B / 66	48.9	51.9	51.6	2.7	No	44.9	-4.0	No
R0275	Residential	B / 66	50.3	53.2	53.4	3.1	No	45.8	-4.5	No
R0276	Residential	B / 66	49.4	52.3	52.7	3.3	No	45.1	-4.3	No
R0277	Residential	B / 66	51.7	54.5	55.1	3.4	No	46.6	-5.1	No
R0278	Residential	B / 66	49.5	52.4	53.8	4.3	No	53.8	4.3	No
R0279	Residential	B / 66	50.7	53.6	54.4	3.7	No	54.3	3.6	No
R0280	Residential	B / 66	49.0	51.8	54.2	5.2	No	53.7	4.7	No
R0281	Residential	B / 66	55.2	58.1	60.2	5.0	No	60.0	4.8	No
R0281-1	Residential	B / 66	58.2	61.1	62.1	3.9	No	62.0	3.8	No
R0282	Church	D / 66	57.4	60.0	57.0	-0.4	No	56.9	-0.5	No
R0283	Commercial	F / --	58.4	61.2	59.6	1.2	No	59.8	1.4	No
R0284	Residential	B / 66	64.7	67.6	66.7	2.0	Yes	66.4	1.7	Yes
R0285	Residential	B / 66	63.4	66.3	64.3	0.9	No	64.2	0.8	No
R0286	Residential	B / 66	62.7	65.5	64.1	1.4	No	63.8	1.1	No
R0287	Residential	B / 66	69.2	71.4	69.5	0.3	Yes	69.6	0.4	Yes
R0288	Residential	B / 66	69.2	71.3	69.2	0.0	Yes	69.2	0.0	Yes
R0289	Residential	B / 66	68.3	70.5	68.6	0.3	Yes	68.6	0.3	Yes
R0290	Residential	B / 66	57.7	60.2	58.9	1.2	No	59.0	1.3	No
R0291	Apartments	B / 66	48.1	51.0	54.4	6.3	No	54.1	6.0	No
R0291-1	Apartments	B / 66	50.2	53.1	55.4	5.2	No	55.1	4.9	No
R0291-2	Apartments	B / 66	52.1	55.0	56.3	4.2	No	56.1	4.0	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0291-3	Apartments	B / 66	53.9	56.8	57.4	3.5	No	57.1	3.2	No
R0292	Apartments	B / 66	49.2	52.1	55.6	6.4	No	55.3	6.1	No
R0292-1	Apartments	B / 66	51.4	54.3	56.5	5.1	No	56.3	4.9	No
R0292-2	Apartments	B / 66	53.0	56.0	57.3	4.3	No	57.1	4.1	No
R0292-3	Apartments	B / 66	54.8	57.6	58.3	3.5	No	58.1	3.3	No
R0293	Apartments	B / 66	51.0	53.9	57.2	6.2	No	56.9	5.9	No
R0293-1	Apartments	B / 66	53.0	56.0	58.0	5.0	No	57.8	4.8	No
R0293-2	Apartments	B / 66	54.2	57.2	58.6	4.4	No	58.4	4.2	No
R0293-3	Apartments	B / 66	55.8	58.7	59.4	3.6	No	59.2	3.4	No
R0294	Apartments	B / 66	47.0	49.9	53.2	6.2	No	53.0	6.0	No
R0294-1	Apartments	B / 66	48.8	51.7	54.3	5.5	No	54.0	5.2	No
R0294-2	Apartments	B / 66	51.0	53.9	55.3	4.3	No	55.1	4.1	No
R0294-3	Apartments	B / 66	53.0	55.9	56.4	3.4	No	56.2	3.2	No
R0295	Apartments	B / 66	57.2	60.0	61.7	4.5	No	61.5	4.3	No
R0295-1	Apartments	B / 66	57.8	60.7	61.9	4.1	No	61.8	4.0	No
R0295-2	Apartments	B / 66	58.4	61.3	62.0	3.6	No	61.9	3.5	No
R0295-3	Apartments	B / 66	59.1	62.0	62.5	3.4	No	62.4	3.3	No
R0296	Apartments	B / 66	58.0	60.8	62.3	4.3	No	62.2	4.2	No
R0296-1	Apartments	B / 66	58.3	61.2	62.3	4.0	No	62.3	4.0	No
R0296-2	Apartments	B / 66	58.7	61.6	62.5	3.8	No	62.4	3.7	No
R0296-3	Apartments	B / 66	59.4	62.3	62.8	3.4	No	62.7	3.3	No
R0297	Apartments	B / 66	58.3	61.1	62.5	4.2	No	62.5	4.2	No
R0297-1	Apartments	B / 66	58.6	61.5	62.5	3.9	No	62.5	3.9	No
R0297-2	Apartments	B / 66	59.0	61.9	62.6	3.6	No	62.6	3.6	No
R0297-3	Apartments	B / 66	59.5	62.4	62.9	3.4	No	62.8	3.3	No
R0298	Apartments	B / 66	58.6	61.5	62.7	4.1	No	62.7	4.1	No
R0298-1	Apartments	B / 66	58.9	61.8	62.6	3.7	No	62.6	3.7	No
R0298-2	Apartments	B / 66	59.2	62.1	62.7	3.5	No	62.7	3.5	No
R0298-3	Apartments	B / 66	59.7	62.6	63.0	3.3	No	63.0	3.3	No
R0299	Apartments	B / 66	58.2	61.1	62.4	4.2	No	62.4	4.2	No
R0299-1	Apartments	B / 66	58.7	61.7	62.4	3.7	No	62.3	3.6	No
R0299-2	Apartments	B / 66	59.1	62.1	62.5	3.4	No	62.5	3.4	No
R0299-3	Apartments	B / 66	59.5	62.4	62.7	3.2	No	62.7	3.2	No
R0300	Apartments	B / 66	45.1	47.6	47.4	2.3	No	47.0	1.9	No
R0300-1	Apartments	B / 66	44.7	47.0	45.5	0.8	No	45.5	0.8	No
R0300-2	Apartments	B / 66	46.3	48.8	47.5	1.2	No	47.6	1.3	No
R0300-3	Apartments	B / 66	48.4	51.0	50.0	1.6	No	49.9	1.5	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0301	Apartments	B / 66	44.6	45.8	45.8	1.2	No	45.4	0.8	No
R0301-1	Apartments	B / 66	44.6	44.8	44.6	0.0	No	44.6	0.0	No
R0301-2	Apartments	B / 66	45.3	47.9	47.2	1.9	No	47.1	1.8	No
R0301-3	Apartments	B / 66	47.0	49.6	48.9	1.9	No	48.8	1.8	No
R0302	Apartments	B / 66	44.6	46.7	46.9	2.3	No	46.4	1.8	No
R0302-1	Apartments	B / 66	44.6	45.9	44.8	0.2	No	44.8	0.2	No
R0302-2	Apartments	B / 66	45.7	48.2	47.2	1.5	No	47.2	1.5	No
R0302-3	Apartments	B / 66	48.1	50.7	49.9	1.8	No	49.8	1.7	No
R0303	Apartments	B / 66	44.6	46.7	46.8	2.2	No	46.4	1.8	No
R0303-1	Apartments	B / 66	44.6	46.0	44.9	0.3	No	44.9	0.3	No
R0303-2	Apartments	B / 66	45.7	48.1	47.2	1.5	No	47.2	1.5	No
R0303-3	Apartments	B / 66	48.1	50.7	49.8	1.7	No	49.8	1.7	No
R0304	Apartments	B / 66	44.6	46.6	46.7	2.1	No	46.3	1.7	No
R0304-1	Apartments	B / 66	44.6	45.9	44.8	0.2	No	44.8	0.2	No
R0304-2	Apartments	B / 66	45.5	48.0	47.1	1.6	No	47.1	1.6	No
R0304-3	Apartments	B / 66	48.0	50.5	49.7	1.7	No	49.6	1.6	No
R0305	Apartments	B / 66	44.6	45.8	45.5	0.9	No	45.2	0.6	No
R0305-1	Apartments	B / 66	44.6	44.9	44.6	0.0	No	44.6	0.0	No
R0305-2	Apartments	B / 66	44.6	47.2	46.3	1.7	No	46.2	1.6	No
R0305-3	Apartments	B / 66	47.0	49.7	48.9	1.9	No	48.8	1.8	No
R0306	Apartments	B / 66	55.4	58.3	61.5	6.1	No	61.5	6.1	No
R0306-1	Apartments	B / 66	56.1	59.2	61.5	5.4	No	61.5	5.4	No
R0306-2	Apartments	B / 66	56.5	59.5	61.7	5.2	No	61.7	5.2	No
R0306-3	Apartments	B / 66	56.7	59.7	62.0	5.3	No	61.9	5.2	No
R0307	Apartments	B / 66	60.1	62.9	62.8	2.7	No	62.8	2.7	No
R0307-1	Apartments	B / 66	60.0	62.9	62.5	2.5	No	62.5	2.5	No
R0307-2	Apartments	B / 66	60.3	63.1	62.7	2.4	No	62.6	2.3	No
R0307-3	Apartments	B / 66	60.6	63.4	62.9	2.3	No	62.9	2.3	No
R0308	Apartments	B / 66	60.3	63.0	62.7	2.4	No	62.7	2.4	No
R0308-1	Apartments	B / 66	60.1	62.9	62.4	2.3	No	62.4	2.3	No
R0308-2	Apartments	B / 66	60.4	63.2	62.6	2.2	No	62.5	2.1	No
R0308-3	Apartments	B / 66	60.8	63.5	62.7	1.9	No	62.7	1.9	No
R0309	Apartments	B / 66	60.3	63.0	63.0	2.7	No	63.0	2.7	No
R0309-1	Apartments	B / 66	60.2	62.9	62.8	2.6	No	62.7	2.5	No
R0309-2	Apartments	B / 66	60.4	63.1	62.9	2.5	No	62.8	2.4	No
R0309-3	Apartments	B / 66	60.8	63.5	63.1	2.3	No	63.1	2.3	No
R0310	Apartments	B / 66	61.5	63.9	62.9	1.4	No	62.9	1.4	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0310-1	Apartments	B / 66	61.3	63.7	62.7	1.4	No	62.7	1.4	No
R0310-2	Apartments	B / 66	61.5	63.9	62.9	1.4	No	62.9	1.4	No
R0310-3	Apartments	B / 66	61.9	64.3	63.1	1.2	No	63.2	1.3	No
R0311	Apartments	B / 66	55.5	58.2	58.5	3.0	No	58.5	3.0	No
R0311-1	Apartments	B / 66	57.1	59.9	59.1	2.0	No	59.1	2.0	No
R0311-2	Apartments	B / 66	57.8	60.5	59.7	1.9	No	59.7	1.9	No
R0311-3	Apartments	B / 66	58.4	61.0	60.1	1.7	No	60.1	1.7	No
R0312	Apartments	B / 66	54.2	56.9	55.8	1.6	No	55.8	1.6	No
R0312-1	Apartments	B / 66	56.2	58.8	57.3	1.1	No	57.4	1.2	No
R0312-2	Apartments	B / 66	57.1	59.7	58.3	1.2	No	58.4	1.3	No
R0312-3	Apartments	B / 66	57.7	60.3	58.9	1.2	No	59.0	1.3	No
R0313	Apartments	B / 66	54.0	56.6	55.2	1.2	No	55.2	1.2	No
R0313-1	Apartments	B / 66	55.7	58.4	56.7	1.0	No	56.8	1.1	No
R0313-2	Apartments	B / 66	56.8	59.4	57.8	1.0	No	58.0	1.2	No
R0313-3	Apartments	B / 66	57.4	60.0	58.5	1.1	No	58.6	1.2	No
R0314	Apartments	B / 66	53.6	56.3	54.7	1.1	No	54.7	1.1	No
R0314-1	Apartments	B / 66	55.2	57.8	56.1	0.9	No	56.3	1.1	No
R0314-2	Apartments	B / 66	56.4	59.1	57.4	1.0	No	57.5	1.1	No
R0314-3	Apartments	B / 66	57.2	59.7	58.1	0.9	No	58.2	1.0	No
R0315	Apartments	B / 66	45.9	48.3	47.7	1.8	No	47.5	1.6	No
R0315-1	Apartments	B / 66	46.6	48.9	47.7	1.1	No	47.8	1.2	No
R0315-2	Apartments	B / 66	48.0	50.3	49.6	1.6	No	49.6	1.6	No
R0315-3	Apartments	B / 66	50.3	52.7	51.7	1.4	No	51.7	1.4	No
R0316	Apartments	B / 66	44.6	46.9	45.5	0.9	No	45.5	0.9	No
R0316-1	Apartments	B / 66	44.6	45.6	44.6	0.0	No	44.6	0.0	No
R0316-2	Apartments	B / 66	46.0	48.5	47.6	1.6	No	47.6	1.6	No
R0316-3	Apartments	B / 66	48.8	51.3	49.9	1.1	No	49.9	1.1	No
R0317	Apartments	B / 66	45.4	47.8	47.1	1.7	No	46.9	1.5	No
R0317-1	Apartments	B / 66	45.7	47.9	46.7	1.0	No	46.9	1.2	No
R0317-2	Apartments	B / 66	47.0	49.4	48.8	1.8	No	48.8	1.8	No
R0317-3	Apartments	B / 66	49.6	52.1	51.1	1.5	No	51.1	1.5	No
R0318	Apartments	B / 66	45.2	47.6	47.0	1.8	No	46.8	1.6	No
R0318-1	Apartments	B / 66	45.6	47.8	46.5	0.9	No	46.6	1.0	No
R0318-2	Apartments	B / 66	46.9	49.2	48.6	1.7	No	48.6	1.7	No
R0318-3	Apartments	B / 66	49.3	51.8	50.8	1.5	No	50.7	1.4	No
R0319	Apartments	B / 66	45.0	47.4	46.8	1.8	No	46.6	1.6	No
R0319-1	Apartments	B / 66	45.5	47.8	46.3	0.8	No	46.5	1.0	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0319-2	Apartments	B / 66	46.7	49.0	48.2	1.5	No	48.2	1.5	No
R0319-3	Apartments	B / 66	49.2	51.6	50.5	1.3	No	50.5	1.3	No
R0320	Apartments	B / 66	44.6	47.4	48.4	3.8	No	48.0	3.4	No
R0320-1	Apartments	B / 66	46.0	49.0	49.2	3.2	No	48.9	2.9	No
R0320-2	Apartments	B / 66	47.4	50.4	50.1	2.7	No	49.7	2.3	No
R0320-3	Apartments	B / 66	47.8	50.8	50.7	2.9	No	50.1	2.3	No
R0321	Pool	C / 66	47.9	50.4	50.8	2.9	No	50.4	2.5	No
R0322	Apartments	B / 66	51.0	53.4	51.9	0.9	No	51.7	0.7	No
R0322-1	Apartments	B / 66	52.0	54.4	52.3	0.3	No	52.3	0.3	No
R0322-2	Apartments	B / 66	53.1	55.6	53.7	0.6	No	53.8	0.7	No
R0322-3	Apartments	B / 66	54.1	56.6	54.7	0.6	No	54.8	0.7	No
R0323	Apartments	B / 66	52.7	55.3	53.9	1.2	No	53.8	1.1	No
R0323-1	Apartments	B / 66	54.3	56.8	55.0	0.7	No	55.1	0.8	No
R0323-2	Apartments	B / 66	55.5	58.1	56.4	0.9	No	56.6	1.1	No
R0323-3	Apartments	B / 66	56.4	58.9	57.3	0.9	No	57.4	1.0	No
R0324	Apartments	B / 66	52.4	54.9	53.6	1.2	No	53.4	1.0	No
R0324-1	Apartments	B / 66	53.9	56.4	54.7	0.8	No	54.8	0.9	No
R0324-2	Apartments	B / 66	55.1	57.7	56.1	1.0	No	56.2	1.1	No
R0324-3	Apartments	B / 66	56.1	58.6	57.0	0.9	No	57.1	1.0	No
R0325	Apartments	B / 66	52.2	54.8	53.4	1.2	No	53.3	1.1	No
R0325-1	Apartments	B / 66	53.8	56.3	54.5	0.7	No	54.6	0.8	No
R0325-2	Apartments	B / 66	55.0	57.5	55.9	0.9	No	56.0	1.0	No
R0325-3	Apartments	B / 66	55.9	58.4	56.9	1.0	No	56.9	1.0	No
R0326	Playground	C / 66	53.4	56.1	54.5	1.1	No	54.6	1.2	No
R0327	Church	D / 66	62.6	64.7	64.8	2.2	No	64.8	2.2	No
R0328	Residential	B / 66	65.0	68.6	68.4	3.4	Yes	68.3	3.3	Yes
R0329	Restaurant	E / 71	72.1	75.9	73.9	1.8	Yes	73.8	1.7	Yes
R0330	Residential	B / 66	70.2	73.9	71.9	1.7	Yes	71.8	1.6	Yes
R0331	Residential	B / 66	74.3	76.7	74.0	-0.3	Yes	74.1	-0.2	Yes
R0332	Residential	B / 66	59.8	62.3	59.7	-0.1	No	59.4	-0.4	No
R0333	Residential	B / 66	70.2	72.5	70.7	0.5	Yes	70.8	0.6	Yes
R0334	Residential	B / 66	72.4	74.6	72.2	-0.2	Yes	72.4	0.0	Yes
R0335	Residential	B / 66	60.5	62.7	60.1	-0.4	No	60.3	-0.2	No
R0336	Residential	B / 66	66.7	68.9	64.8	-1.9	No	65.0	-1.7	No
R0337	Residential	B / 66	64.2	66.3	64.4	0.2	No	64.4	0.2	No
R0338	Residential	B / 66	60.9	63.0	62.8	1.9	No	62.5	1.6	No
R0339-1	Residential	B / 66	52.6	55.4	54.1	1.5	No	55.3	2.7	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0340	Residential	B / 66	54.5	57.3	59.5	5.0	No	54.3	-0.2	No
R0341	Residential	B / 66	46.7	49.3	NA	NA	NA	57.7	11.0	No
R0342	Residential	B / 66	44.6	44.6	NA	NA	NA	59.8	15.2	Yes
R0343	Residential	B / 66	44.6	44.6	NA	NA	NA	60.8	16.2	Yes
R0344	Residential	B / 66	44.6	44.6	NA	NA	NA	60.9	16.3	Yes
R0345	Residential	B / 66	44.6	44.6	NA	NA	NA	61.2	16.6	Yes
R0346	Residential	B / 66	44.6	44.6	NA	NA	NA	61.6	17.0	Yes
R0347	Residential	B / 66	44.6	44.6	NA	NA	NA	61.5	16.9	Yes
R0348	Residential	B / 66	44.6	44.6	NA	NA	NA	61.9	17.3	Yes
R0349	Residential	B / 66	44.6	45.3	NA	NA	NA	61.4	16.8	Yes
R0350	Residential	B / 66	47.4	50.0	NA	NA	NA	60.5	13.1	No
R0351	Residential	B / 66	44.6	44.6	NA	NA	NA	46.9	2.3	No
R0352	Residential	B / 66	44.6	45.7	NA	NA	NA	47.4	2.8	No
R0353	Residential	B / 66	46.3	48.9	NA	NA	NA	50.3	4.0	No
R0354	Residential	B / 66	50.1	52.7	NA	NA	NA	52.7	2.6	No
R0355	Residential	B / 66	53.9	56.5	NA	NA	NA	54.9	1.0	No
R0356	Residential	B / 66	44.6	44.6	NA	NA	NA	47.5	2.9	No
R0357	Residential	B / 66	44.6	45.0	NA	NA	NA	49.3	4.7	No
R0358	Residential	B / 66	55.0	57.6	NA	NA	NA	55.9	0.9	No
R0359	Residential	B / 66	57.4	60.0	NA	NA	NA	56.2	-1.2	No
R0360	Residential	B / 66	55.2	57.7	NA	NA	NA	56.1	0.9	No
R0361	Residential	B / 66	56.9	59.5	NA	NA	NA	55.8	-1.1	No
R0362	Residential	B / 66	55.6	58.2	NA	NA	NA	54.7	-0.9	No
R0363	Residential	B / 66	58.3	60.9	NA	NA	NA	54.5	-3.8	No
R0364	Residential	B / 66	44.6	46.3	NA	NA	NA	49.1	4.5	No
R0365	Residential	B / 66	44.6	45.5	NA	NA	NA	47.8	3.2	No
R0366	Residential	B / 66	44.6	46.0	NA	NA	NA	47.5	2.9	No
R0367	Residential	B / 66	45.9	48.7	NA	NA	NA	58.8	12.9	No
R0368	Residential	B / 66	44.6	46.0	NA	NA	NA	58.0	13.4	No
R0369	Residential	B / 66	44.6	46.8	NA	NA	NA	57.5	12.9	No
R0370	Residential	B / 66	44.6	48.4	NA	NA	NA	57.2	12.6	No
R0371	Residential	B / 66	47.1	51.9	NA	NA	NA	57.6	10.5	No
R0372-1	Residential	B / 66	44.6	44.6	NA	NA	NA	64.4	19.8	Yes
R0373-1	Residential	B / 66	44.6	46.1	NA	NA	NA	67.1	22.5	Yes
R0374-1	Residential	B / 66	44.8	48.6	NA	NA	NA	69.5	24.7	Yes
R0375-1	Residential	B / 66	45.1	49.0	NA	NA	NA	69.6	24.5	Yes
R0376-1	Residential	B / 66	45.3	49.2	NA	NA	NA	69.5	24.2	Yes

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0377-1	Residential	B / 66	45.6	49.7	NA	NA	NA	69.5	23.9	Yes
R0378-1	Residential	B / 66	46.2	50.5	NA	NA	NA	69.8	23.6	Yes
R0379-1	Residential	B / 66	46.6	51.0	NA	NA	NA	69.7	23.1	Yes
R0380-1	Residential	B / 66	47.0	51.5	NA	NA	NA	69.4	22.4	Yes
R0381-1	Residential	B / 66	47.4	51.9	NA	NA	NA	69.3	21.9	Yes
R0382-1	Residential	B / 66	47.7	52.4	NA	NA	NA	68.9	21.2	Yes
R0383-1	Residential	B / 66	48.7	53.5	NA	NA	NA	69.0	20.3	Yes
R0384-1	Residential	B / 66	52.7	57.8	NA	NA	NA	68.2	15.5	Yes
R0385-1	Residential	B / 66	49.5	54.5	NA	NA	NA	68.7	19.2	Yes
R0386-1	Residential	B / 66	50.8	55.8	NA	NA	NA	68.6	17.8	Yes
R0387-1	Residential	B / 66	55.9	61.2	NA	NA	NA	65.4	9.5	No
R0388-1	Residential	B / 66	56.6	61.9	NA	NA	NA	63.5	6.9	No
R0389	Residential	B / 66	44.6	44.6	NA	NA	NA	51.7	7.1	No
R0390	Residential	B / 66	44.6	44.6	NA	NA	NA	52.6	8.0	No
R0391	Residential	B / 66	44.6	44.6	NA	NA	NA	52.7	8.1	No
R0392	Residential	B / 66	44.6	44.6	NA	NA	NA	49.9	5.3	No
R0393-1	Residential	B / 66	44.6	44.7	NA	NA	NA	65.8	21.2	Yes
R0394-1	Residential	B / 66	44.6	44.6	NA	NA	NA	60.4	15.8	Yes
R0395	Residential	B / 66	44.6	44.8	NA	NA	NA	58.6	14.0	No
R0396	Residential	B / 66	44.6	45.0	NA	NA	NA	58.5	13.9	No
R0397	Residential	B / 66	44.6	45.3	NA	NA	NA	58.3	13.7	No
R0398	Residential	B / 66	44.6	45.9	NA	NA	NA	57.9	13.3	No
R0399	Residential	B / 66	44.6	46.0	NA	NA	NA	57.9	13.3	No
R0400	Residential	B / 66	44.6	46.1	NA	NA	NA	57.8	13.2	No
R0401	Residential	B / 66	44.6	46.3	NA	NA	NA	57.6	13.0	No
R0402	Residential	B / 66	44.6	47.1	NA	NA	NA	57.7	13.1	No
R0403	Residential	B / 66	44.6	47.1	NA	NA	NA	57.5	12.9	No
R0404	Residential	B / 66	44.6	47.4	NA	NA	NA	57.5	12.9	No
R0405	Residential	B / 66	44.6	47.8	NA	NA	NA	57.5	12.9	No
R0406	Residential	B / 66	44.6	48.9	NA	NA	NA	57.2	12.6	No
R0407	Residential	B / 66	44.6	49.1	NA	NA	NA	57.2	12.6	No
R0408	Residential	B / 66	44.9	49.5	NA	NA	NA	57.3	12.4	No
R0409	Residential	B / 66	45.5	50.1	NA	NA	NA	57.4	11.9	No
R0410	Residential	B / 66	46.2	50.8	NA	NA	NA	57.4	11.2	No
R0411	Residential	B / 66	48.7	53.3	NA	NA	NA	57.6	8.9	No
R0412	Residential	B / 66	51.3	55.4	NA	NA	NA	57.7	6.4	No
R0413	Residential	B / 66	54.0	57.7	NA	NA	NA	57.7	3.7	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0414	Residential	B / 66	46.2	49.4	NA	NA	NA	52.8	6.6	No
R0415	Residential	B / 66	46.6	49.8	NA	NA	NA	52.3	5.7	No
R0416	Residential	B / 66	47.6	50.7	NA	NA	NA	52.1	4.5	No
R0417	Residential	B / 66	48.4	51.6	NA	NA	NA	51.9	3.5	No
R0418	Residential	B / 66	49.7	52.9	NA	NA	NA	52.0	2.3	No
R0419	Residential	B / 66	52.3	55.4	NA	NA	NA	53.4	1.1	No
R0420	Residential	B / 66	44.6	44.6	NA	NA	NA	71.1	26.5	Yes
R0421	Residential	B / 66	44.6	44.6	NA	NA	NA	70.9	26.3	Yes
R0422	Residential	B / 66	44.6	45.0	NA	NA	NA	70.7	26.1	Yes
R0423	Residential	B / 66	44.6	45.4	NA	NA	NA	70.5	25.9	Yes
R0424	Residential	B / 66	44.6	45.7	NA	NA	NA	70.1	25.5	Yes
R0425	Residential	B / 66	44.6	46.3	NA	NA	NA	70.2	25.6	Yes
R0426	Residential	B / 66	44.6	45.9	NA	NA	NA	72.1	27.5	Yes
R0427	Residential	B / 66	44.6	45.0	NA	NA	NA	72.1	27.5	Yes
R0428	Residential	B / 66	44.6	44.6	NA	NA	NA	71.8	27.2	Yes
R0429	Residential	B / 66	44.6	44.6	NA	NA	NA	71.9	27.3	Yes
R0430	Residential	B / 66	44.6	44.6	NA	NA	NA	71.5	26.9	Yes
R0431	Residential	B / 66	44.6	44.6	NA	NA	NA	71.4	26.8	Yes
R0432	Residential	B / 66	45.4	49.5	NA	NA	NA	61.0	15.6	Yes
R0433	Residential	B / 66	44.6	47.2	NA	NA	NA	58.4	13.8	No
R0434	Residential	B / 66	44.6	47.2	NA	NA	NA	70.2	25.6	Yes
R0435	Residential	B / 66	44.6	47.8	NA	NA	NA	69.7	25.1	Yes
R0436	Residential	B / 66	45.3	48.6	NA	NA	NA	69.6	24.3	Yes
R0437	Residential	B / 66	46.6	49.8	NA	NA	NA	69.5	22.9	Yes
R0438	Residential	B / 66	48.1	51.3	NA	NA	NA	69.1	21.0	Yes
R0439	Residential	B / 66	51.8	54.9	NA	NA	NA	68.9	17.1	Yes
R0440	Residential	B / 66	59.4	62.4	NA	NA	NA	60.7	1.3	No
R0441	Residential	B / 66	59.0	62.1	NA	NA	NA	60.8	1.8	No
R0442	Residential	B / 66	58.9	62.0	NA	NA	NA	61.0	2.1	No
R0443	Residential	B / 66	58.6	61.6	NA	NA	NA	61.1	2.5	No
R0444	Residential	B / 66	58.9	61.9	NA	NA	NA	61.8	2.9	No
R0445	Residential	B / 66	58.3	61.4	NA	NA	NA	61.9	3.6	No
R0446	Residential	B / 66	58.6	61.6	NA	NA	NA	62.1	3.5	No
R0447	Residential	B / 66	58.5	61.5	NA	NA	NA	62.3	3.8	No
R0448	Residential	B / 66	57.5	60.6	NA	NA	NA	62.5	5.0	No
R0449	Residential	B / 66	57.6	60.7	NA	NA	NA	62.8	5.2	No
R0450	Residential	B / 66	57.6	60.6	NA	NA	NA	62.9	5.3	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0451	Residential	B / 66	57.7	60.7	NA	NA	NA	63.3	5.6	No
R0452	Residential	B / 66	58.0	61.1	NA	NA	NA	63.7	5.7	No
R0453	Residential	B / 66	58.2	61.2	NA	NA	NA	64.0	5.8	No
R0454	Residential	B / 66	58.3	61.4	NA	NA	NA	65.2	6.9	No
R0455	Residential	B / 66	58.2	61.2	NA	NA	NA	65.6	7.4	No
R0456	Residential	B / 66	57.9	61.0	NA	NA	NA	65.7	7.8	No
R0457	Residential	B / 66	58.2	61.3	NA	NA	NA	66.3	8.1	Yes
R0458	Residential	B / 66	58.4	61.5	NA	NA	NA	66.9	8.5	Yes
R0459	Residential	B / 66	58.6	61.6	NA	NA	NA	67.4	8.8	Yes
R0460	Residential	B / 66	56.3	59.4	NA	NA	NA	66.1	9.8	Yes
R0461	Residential	B / 66	56.7	59.8	NA	NA	NA	66.6	9.9	Yes
R0462	Residential	B / 66	57.1	60.2	NA	NA	NA	67.0	9.9	Yes
R0463	Residential	B / 66	57.6	60.7	NA	NA	NA	67.8	10.2	Yes
R0464	Residential	B / 66	56.5	59.6	NA	NA	NA	66.9	10.4	Yes
R0465	Residential	B / 66	56.8	59.8	NA	NA	NA	67.3	10.5	Yes
R0466	Residential	B / 66	57.2	60.2	NA	NA	NA	67.7	10.5	Yes
R0467	Residential	B / 66	57.4	60.4	NA	NA	NA	68.0	10.6	Yes
R0468	Residential	B / 66	44.6	44.6	NA	NA	NA	46.1	1.5	No
R0468-1	Residential	B / 66	44.6	44.6	NA	NA	NA	48.9	4.3	No
R0469	Residential	B / 66	44.6	44.6	NA	NA	NA	46.0	1.4	No
R0469-1	Residential	B / 66	44.6	44.9	NA	NA	NA	49.0	4.4	No
R0470	Residential	B / 66	44.6	44.6	NA	NA	NA	46.2	1.6	No
R0470-1	Residential	B / 66	44.6	46.0	NA	NA	NA	49.0	4.4	No
R0471	Residential	B / 66	44.6	44.6	NA	NA	NA	46.6	2.0	No
R0471-1	Residential	B / 66	44.6	46.4	NA	NA	NA	49.4	4.8	No
R0472	Residential	B / 66	44.6	44.6	NA	NA	NA	48.7	4.1	No
R0472-1	Residential	B / 66	44.6	46.8	NA	NA	NA	50.7	6.1	No
R0473	Residential	B / 66	44.6	44.6	NA	NA	NA	48.2	3.6	No
R0473-1	Residential	B / 66	44.6	46.1	NA	NA	NA	50.1	5.5	No
R0474	Residential	B / 66	44.6	44.6	NA	NA	NA	45.5	0.9	No
R0475	Residential	B / 66	44.6	44.6	NA	NA	NA	49.3	4.7	No
R0476	Residential	B / 66	47.7	50.8	NA	NA	NA	58.4	10.7	No
R0477	Residential	B / 66	47.5	50.6	NA	NA	NA	58.2	10.7	No
R0478	Residential	B / 66	46.8	49.9	NA	NA	NA	57.4	10.6	No
R0479	Residential	B / 66	47.8	50.8	NA	NA	NA	58.5	10.7	No
R0480	Residential	B / 66	44.6	47.0	NA	NA	NA	53.8	9.2	No
R0481	Residential	B / 66	44.6	46.3	NA	NA	NA	52.8	8.2	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0482	Residential	B / 66	44.6	44.6	NA	NA	NA	49.9	5.3	No
R0483	Residential	B / 66	44.6	44.6	NA	NA	NA	47.7	3.1	No
R0484	Residential	B / 66	44.6	44.6	NA	NA	NA	46.2	1.6	No
R0485	Residential	B / 66	44.6	44.6	NA	NA	NA	45.7	1.1	No
R0486	Residential	B / 66	44.6	44.6	NA	NA	NA	46.2	1.6	No
R0487	Residential	B / 66	44.6	44.6	NA	NA	NA	46.9	2.3	No
R0488	Residential	B / 66	44.6	45.5	NA	NA	NA	52.1	7.5	No
R0489	Residential	B / 66	44.6	46.8	NA	NA	NA	53.5	8.9	No
R0490	Residential	B / 66	44.6	46.8	NA	NA	NA	53.7	9.1	No
R0491	Residential	B / 66	44.6	44.6	NA	NA	NA	50.7	6.1	No
R0492	Residential	B / 66	45.4	48.5	NA	NA	NA	54.8	9.4	No
R0493	Residential	B / 66	45.5	48.6	NA	NA	NA	55.5	10.0	No
R0494	Residential	B / 66	46.1	49.2	NA	NA	NA	56.1	10.0	No
R0495	Residential	B / 66	46.8	49.9	NA	NA	NA	57.1	10.3	No
R0496	Residential	B / 66	47.4	50.5	NA	NA	NA	57.8	10.4	No
R0497	Residential	B / 66	48.0	51.1	NA	NA	NA	58.7	10.7	No
R0498	Residential	B / 66	44.6	44.6	NA	NA	NA	45.5	0.9	No
R0499	Residential	B / 66	44.6	44.6	NA	NA	NA	46.2	1.6	No
R0500	Residential	B / 66	44.6	44.6	NA	NA	NA	47.0	2.4	No
R0501	Residential	B / 66	44.6	44.6	NA	NA	NA	47.6	3.0	No
R0502	Residential	B / 66	44.6	44.6	NA	NA	NA	48.4	3.8	No
R0503	Residential	B / 66	44.6	44.6	NA	NA	NA	49.3	4.7	No
R0504	Residential	B / 66	44.7	47.8	NA	NA	NA	54.4	9.7	No
R0505	Residential	B / 66	44.6	47.6	NA	NA	NA	54.4	9.8	No
R0506	Residential	B / 66	44.6	47.6	NA	NA	NA	54.4	9.8	No
R0507	Residential	B / 66	44.6	47.6	NA	NA	NA	54.4	9.8	No
R0508	Residential	B / 66	44.6	47.6	NA	NA	NA	54.4	9.8	No
R0509	Residential	B / 66	44.6	47.7	NA	NA	NA	54.4	9.8	No
R0510	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0511	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0512	Residential	B / 66	44.6	44.6	NA	NA	NA	48.2	3.6	No
R0513	Residential	B / 66	44.6	44.6	NA	NA	NA	44.8	0.2	No
R0514	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0515	Residential	B / 66	44.6	44.6	NA	NA	NA	47.6	3.0	No
R0516	Residential	B / 66	44.6	44.6	NA	NA	NA	49.3	4.7	No
R0517	Residential	B / 66	44.6	44.6	NA	NA	NA	52.7	8.1	No
R0518	Residential	B / 66	44.6	47.5	NA	NA	NA	55.0	10.4	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0519	Residential	B / 66	44.6	45.2	NA	NA	NA	52.7	8.1	No
R0520	Residential	B / 66	44.6	44.6	NA	NA	NA	51.1	6.5	No
R0521	Residential	B / 66	44.6	44.6	NA	NA	NA	49.2	4.6	No
R0522	Residential	B / 66	45.5	48.6	NA	NA	NA	57.8	12.3	No
R0523	Residential	B / 66	50.1	53.2	NA	NA	NA	62.2	12.1	No
R0524	Residential	B / 66	51.5	54.6	NA	NA	NA	63.0	11.5	No
R0525	Residential	B / 66	51.3	54.4	NA	NA	NA	62.1	10.8	No
R0526	Residential	B / 66	51.1	54.1	NA	NA	NA	62.2	11.1	No
R0527	Residential	B / 66	44.7	47.8	NA	NA	NA	55.0	10.3	No
R0528	Residential	B / 66	44.6	45.7	NA	NA	NA	52.2	7.6	No
R0529	Residential	B / 66	44.6	44.9	NA	NA	NA	51.8	7.2	No
R0530	Residential	B / 66	44.6	44.6	NA	NA	NA	50.3	5.7	No
R0531	Residential	B / 66	44.6	45.0	NA	NA	NA	50.8	6.2	No
R0532	Residential	B / 66	44.6	44.6	NA	NA	NA	49.2	4.6	No
R0533	Residential	B / 66	44.6	44.6	NA	NA	NA	46.4	1.8	No
R0534	Residential	B / 66	44.6	44.6	NA	NA	NA	49.6	5.0	No
R0535	Residential	B / 66	44.6	44.6	NA	NA	NA	49.7	5.1	No
R0536	Residential	B / 66	45.0	48.1	NA	NA	NA	53.7	8.7	No
R0537	Residential	B / 66	46.1	49.2	NA	NA	NA	55.1	9.0	No
R0538	Residential	B / 66	47.9	51.0	NA	NA	NA	57.1	9.2	No
R0539	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0540	Residential	B / 66	44.6	44.6	NA	NA	NA	47.5	2.9	No
R0541	Residential	B / 66	44.6	44.8	NA	NA	NA	49.0	4.4	No
R0542	Residential	B / 66	45.2	48.2	NA	NA	NA	54.1	8.9	No
R0543	Residential	B / 66	44.6	45.7	NA	NA	NA	50.7	6.1	No
R0544	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0545	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0546	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0547	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0548	Residential	B / 66	44.6	44.6	NA	NA	NA	48.1	3.5	No
R0549	Residential	B / 66	44.6	44.6	NA	NA	NA	47.3	2.7	No
R0550	Residential	B / 66	44.6	44.7	NA	NA	NA	45.5	0.9	No
R0551	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0552	Residential	B / 66	47.4	50.4	NA	NA	NA	57.4	10.0	No
R0553	Residential	B / 66	47.4	50.4	NA	NA	NA	57.8	10.4	No
R0554	Residential	B / 66	47.3	50.4	NA	NA	NA	58.1	10.8	No
R0555	Residential	B / 66	47.7	50.7	NA	NA	NA	58.2	10.5	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0556	Residential	B / 66	47.2	50.2	NA	NA	NA	58.1	10.9	No
R0557	Residential	B / 66	47.6	50.6	NA	NA	NA	58.7	11.1	No
R0558	Residential	B / 66	47.7	50.7	NA	NA	NA	58.6	10.9	No
R0559	Residential	B / 66	47.4	50.5	NA	NA	NA	58.7	11.3	No
R0560	Residential	B / 66	48.3	51.3	NA	NA	NA	59.0	10.7	No
R0561	Residential	B / 66	48.5	51.7	NA	NA	NA	58.0	9.5	No
R0562	Residential	B / 66	47.7	50.9	NA	NA	NA	56.1	8.4	No
R0563	Residential	B / 66	44.6	44.6	NA	NA	NA	49.9	5.3	No
R0564	Residential	B / 66	44.6	44.6	NA	NA	NA	46.7	2.1	No
R0565	Residential	B / 66	44.6	44.6	NA	NA	NA	46.9	2.3	No
R0566	Residential	B / 66	47.3	50.4	NA	NA	NA	54.8	7.5	No
R0567	Residential	B / 66	47.5	50.7	NA	NA	NA	54.1	6.6	No
R0568	Pool	C / 66	45.3	48.3	NA	NA	NA	55.1	9.8	No
R0569	Fire Station	F / --	59.5	62.6	NA	NA	NA	66.9	7.4	No
R0570	Residential	B / 66	44.6	46.0	NA	NA	NA	64.3	19.7	Yes
R0571	Residential	B / 66	44.6	44.6	NA	NA	NA	59.8	15.2	Yes
R0572	Residential	B / 66	44.6	47.7	NA	NA	NA	70.6	26.0	Yes
R0573	Residential	B / 66	68.6	70.8	69.4	0.8	Yes	69.5	0.9	Yes
R0574	Tennis Court	C / 66	44.6	47.6	NA	NA	NA	54.0	9.4	No
R0575	Tennis Court	C / 66	44.6	46.8	NA	NA	NA	52.7	8.1	No
R0576	Childrens Health	F / --	71.1	74.9	73.6	2.5	No	73.5	2.4	No
R0577	Offices/Outdoor use	E / 71	73.1	77.0	75.1	2.0	Yes	75.0	1.9	Yes
R0578	Car Wash	F / --	72.5	76.3	74.9	2.4	No	74.8	2.3	No
R0579	Retail/Advance Auto	F / --	71.7	75.4	73.7	2.0	No	73.6	1.9	No
R0580	Retail/Laundry	F / --	71.4	75.1	73.4	2.0	No	73.3	1.9	No
R0581	Health First	F / --	74.0	77.7	73.0	-1.0	No	72.8	-1.2	No
R0582	Walgreens	F / --	66.8	69.5	66.2	-0.6	No	65.7	-1.1	No
R0583	Office/Outdoor area	E / 71	66.5	68.8	67.5	1.0	No	67.7	1.2	No
R0584	Commercial/Outdoor	E / 71	68.3	70.4	69.5	1.2	No	68.9	0.6	No
R0585	Commercial	F / --	62.4	64.5	64.1	1.7	No	63.8	1.4	No
R0586	Retail	F / --	65.4	67.4	68.7	3.3	No	68.7	3.3	No
R0587	Office	E / 71	67.6	69.7	69.9	2.3	No	69.9	2.3	No
R0588	Office	E / 71	68.3	70.4	70.4	2.1	No	70.4	2.1	No
R0589	Commercial	F / --	65.8	67.9	68.0	2.2	No	67.9	2.1	No
R0590	Commercial	F / --	67.3	69.4	69.5	2.2	No	69.5	2.2	No
R0591	Commercial	F / --	68.4	70.5	71.4	3.0	No	71.4	3.0	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0592	Gas Station	F / --	64.3	66.6	65.4	1.1	No	65.4	1.1	No
R0593	Storage	F / --	61.7	64.0	62.4	0.7	No	62.5	0.8	No
R0594	Commercial	F / --	53.5	56.3	54.7	1.2	No	54.6	1.1	No
R0595	Commercial	F / --	53.9	56.7	54.9	1.0	No	54.7	0.8	No
R0596	Commercial	F / --	66.9	69.8	68.6	1.7	No	68.5	1.6	No
R0597	Commercial	F / --	70.3	73.2	72.8	2.5	No	72.6	2.3	No
R0598	Commercial	F / --	60.4	63.3	61.8	1.4	No	61.8	1.4	No
R0599	Commercial	F / --	68.0	70.9	68.2	0.2	No	68.1	0.1	No
R0600	Commercial	F / --	68.4	71.4	70.5	2.1	No	64.1	-4.3	No
R0601	Residential	B / 66	62.1	65.2	64.2	2.1	No	57.9	-4.2	No
R0602	Residential	B / 66	58.5	61.7	60.8	2.3	No	54.5	-4.0	No
R0603	Residential	B / 66	53.9	57.1	57.7	3.8	No	50.4	-3.5	No
R0604	Residential	B / 66	45.2	48.4	48.1	2.9	No	44.6	-0.6	No
R0605	Residential	B / 66	44.6	47.8	47.6	3.0	No	44.6	0.0	No
R0606	Residential	B / 66	44.6	47.0	46.6	2.0	No	44.6	0.0	No
R0607	Residential	B / 66	45.4	48.7	49.0	3.6	No	44.6	-0.8	No
R0608	Residential	B / 66	59.1	62.3	64.7	5.6	No	54.2	-4.9	No
R0609	Commercial	F / --	67.2	70.6	71.1	3.9	No	63.1	-4.1	No
R0609-1	Commercial	F / --	68.5	71.7	71.5	3.0	No	63.7	-4.8	No
R0610	Commercial	F / --	67.7	71.4	71.6	3.9	No	63.6	-4.1	No
R0610-1	Commercial	F / --	68.8	72.0	71.6	2.8	No	64.2	-4.6	No
R0611	Sports Complex	C / 66	54.1	57.1	56.7	2.6	No	56.1	2.0	No
R0612	Restaurant	E / 71	56.8	59.8	59.4	2.6	No	58.8	2.0	No
R0613	Commercial	F / --	59.5	62.7	61.1	1.6	No	61.8	2.3	No
R0614	Commercial	F / --	46.3	49.4	NA	NA	NA	55.1	8.8	No
R0614-1	Commercial	F / --	49.7	52.8	NA	NA	NA	58.9	9.2	No
R0615	Commercial	F / --	46.9	50.0	NA	NA	NA	55.9	9.0	No
R0616	Commercial	F / --	51.0	54.2	NA	NA	NA	61.9	10.9	No
R0617	Commercial	F / --	56.9	60.0	NA	NA	NA	65.9	9.0	No
R0618	Commercial	F / --	56.5	59.6	NA	NA	NA	67.2	10.7	No
R0619	Commercial	F / --	47.8	50.8	NA	NA	NA	58.1	10.3	No
R0620	Residential	B / 66	57.0	59.4	NA	NA	NA	52.1	-4.9	No
R0621	Residential	B / 66	47.9	50.4	NA	NA	NA	53.7	5.8	No
R0622	Residential	B / 66	45.0	47.6	NA	NA	NA	54.6	9.6	No
R0623	Residential	B / 66	44.6	45.4	NA	NA	NA	58.5	13.9	No
R0624	Residential	B / 66	44.6	44.6	NA	NA	NA	60.9	16.3	Yes
R0625	Residential	B / 66	44.6	44.6	NA	NA	NA	62.0	17.4	Yes

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0626	Residential	B / 66	44.6	44.6	NA	NA	NA	63.4	18.8	Yes
R0627	Residential	B / 66	44.6	44.6	NA	NA	NA	63.8	19.2	Yes
R0628	Residential	B / 66	44.6	44.6	NA	NA	NA	63.5	18.9	Yes
R0629	Residential	B / 66	44.6	44.6	NA	NA	NA	64.5	19.9	Yes
R0630	Residential	B / 66	44.6	44.6	NA	NA	NA	62.9	18.3	Yes
R0631	Residential	B / 66	44.6	44.6	NA	NA	NA	64.2	19.6	Yes
R0632	Residential	B / 66	44.6	44.6	NA	NA	NA	63.8	19.2	Yes
R0633	Residential	B / 66	44.6	44.6	NA	NA	NA	63.9	19.3	Yes
R0634	Residential	B / 66	44.6	44.6	NA	NA	NA	63.9	19.3	Yes
R0635	Residential	B / 66	44.6	44.6	NA	NA	NA	63.9	19.3	Yes
R0636	Residential	B / 66	44.6	44.6	NA	NA	NA	63.9	19.3	Yes
R0637	Residential	B / 66	44.6	44.6	NA	NA	NA	64.2	19.6	Yes
R0638	Residential	B / 66	44.6	44.6	NA	NA	NA	64.3	19.7	Yes
R0639	Residential	B / 66	44.6	44.6	NA	NA	NA	65.1	20.5	Yes
R0640	Residential	B / 66	44.6	44.6	NA	NA	NA	64.0	19.4	Yes
R0641	Residential	B / 66	44.6	44.6	NA	NA	NA	64.4	19.8	Yes
R0642	Residential	B / 66	45.5	48.3	NA	NA	NA	62.0	16.5	Yes
R0643	Residential	B / 66	44.6	44.6	NA	NA	NA	50.1	5.5	No
R0644	Residential	B / 66	44.6	44.6	NA	NA	NA	48.9	4.3	No
R0645	Residential	B / 66	44.6	44.6	NA	NA	NA	48.7	4.1	No
R0646	Residential	B / 66	44.6	44.6	NA	NA	NA	47.9	3.3	No
R0647	Residential	B / 66	44.6	44.6	NA	NA	NA	47.5	2.9	No
R0648	Residential	B / 66	44.6	44.6	NA	NA	NA	47.6	3.0	No
R0649	Residential	B / 66	44.6	44.6	NA	NA	NA	48.0	3.4	No
R0650	Residential	B / 66	44.6	44.6	NA	NA	NA	49.0	4.4	No
R0651	Residential	B / 66	44.6	44.6	NA	NA	NA	48.9	4.3	No
R0652	Residential	B / 66	44.6	44.6	NA	NA	NA	50.0	5.4	No
R0653	Residential	B / 66	44.6	44.6	NA	NA	NA	50.2	5.6	No
R0654	Residential	B / 66	44.6	44.6	NA	NA	NA	53.8	9.2	No
R0655	Residential	B / 66	44.6	44.6	NA	NA	NA	53.3	8.7	No
R0656	Residential	B / 66	44.6	44.6	NA	NA	NA	53.2	8.6	No
R0657	Residential	B / 66	44.6	44.6	NA	NA	NA	52.9	8.3	No
R0658	Residential	B / 66	44.6	44.6	NA	NA	NA	52.2	7.6	No
R0659	Residential	B / 66	44.6	44.6	NA	NA	NA	52.3	7.7	No
R0660	Residential	B / 66	44.6	44.6	NA	NA	NA	53.0	8.4	No
R0661	Residential	B / 66	44.6	44.6	NA	NA	NA	52.5	7.9	No
R0662	Residential	B / 66	44.6	44.6	NA	NA	NA	52.1	7.5	No

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R0663	Residential	B / 66	44.6	44.6	NA	NA	NA	52.3	7.7	No
R0664	Residential	B / 66	58.7	61.8	64.9	6.2	No	64.4	5.7	No
R0665	Residential	B / 66	59.2	62.3	65.7	6.5	No	65.2	6.0	No
R0666	Residential	B / 66	58.8	61.9	65.7	6.9	No	65.2	6.4	No
R0667	Residential	B / 66	58.6	61.6	65.6	7.0	No	65.1	6.5	No
R0668	Residential	B / 66	58.6	61.6	65.8	7.2	No	65.3	6.7	No
R0669	Residential	B / 66	58.4	61.5	66.0	7.6	Yes	65.5	7.1	No
R0670	Residential	B / 66	57.8	60.9	65.6	7.8	No	65.1	7.3	No
R0671	Residential	B / 66	57.6	60.6	65.5	7.9	No	65.0	7.4	No
R0672	Residential	B / 66	57.4	60.4	65.5	8.1	No	65.0	7.6	No
R0673	Residential	B / 66	56.6	59.6	65.1	8.5	No	64.7	8.1	No
R0674	Residential	B / 66	56.5	59.5	65.3	8.8	No	64.8	8.3	No
R0675	Residential	B / 66	56.3	59.3	65.5	9.2	No	65.0	8.7	No
R0676	Residential	B / 66	55.6	58.6	64.9	9.3	No	64.4	8.8	No
R0677	Residential	B / 66	55.4	58.4	64.7	9.3	No	64.2	8.8	No
R0678	Residential	B / 66	55.7	58.7	65.2	9.5	No	64.7	9.0	No
R0679	Residential	B / 66	52.1	55.0	61.9	9.8	No	61.5	9.4	No
R0680	Residential	B / 66	48.9	51.8	58.0	9.1	No	57.6	8.7	No
R0681	Residential	B / 66	44.6	45.9	49.3	4.7	No	48.7	4.1	No
R0682	Residential	B / 66	44.6	47.1	51.3	6.7	No	50.9	6.3	No
R0683	Residential	B / 66	44.6	46.6	50.2	5.6	No	49.7	5.1	No
R0684	Residential	B / 66	44.6	47.5	51.7	7.1	No	51.3	6.7	No
R0685	Residential	B / 66	44.7	47.7	51.7	7.0	No	51.3	6.6	No
R0686	Residential	B / 66	45.4	48.4	52.5	7.1	No	52.0	6.6	No
R0687	Residential	B / 66	47.4	50.4	55.2	7.8	No	54.7	7.3	No
R0688	Commercial	F / --	70.8	73.6	72.8	2.0	No	72.6	1.8	No
R0689	Commercial	F / --	70.7	73.7	72.7	2.0	No	72.5	1.8	No
R0690	Residential	B / 66	46.3	49.0	NA	NA	NA	50.7	4.4	No
R0691	Commercial	F / --	59.3	62.4	63.1	3.8	No	62.6	3.3	No
R0692	Commercial	F / --	57.2	60.2	61.0	3.8	No	60.5	3.3	No
R0693	Commercial	F / --	56.0	59.1	60.1	4.1	No	59.6	3.6	No
R0694	Commercial	F / --	55.4	58.4	59.5	4.1	No	59.1	3.7	No
R0695	Commercial	F / --	54.7	57.7	58.9	4.2	No	58.5	3.8	No
R0696	Commercial	F / --	54.0	57.1	58.2	4.2	No	57.8	3.8	No
R0697	Commercial	F / --	53.4	56.4	57.5	4.1	No	57.1	3.7	No
R0698	Trail	C / 66	44.6	44.6	NA	NA	NA	62.2	17.6	Yes
R0699	Trail	C / 66	44.6	44.6	NA	NA	NA	53.6	9.0	No

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R0700	Trail	C / 66	45.0	47.9	NA	NA	NA	53.7	8.7	No
R0701	Residential	B / 66	57.0	60.1	61.5	4.5	No	61.1	4.1	No
R0702	Residential	B / 66	57.1	60.2	61.6	4.5	No	61.3	4.2	No
R0703	Residential	B / 66	57.2	60.2	61.8	4.6	No	61.5	4.3	No
R0704	Residential	B / 66	57.4	60.4	62.0	4.6	No	61.7	4.3	No
R0705	Residential	B / 66	57.5	60.6	62.2	4.7	No	61.8	4.3	No
R0706	Residential	B / 66	48.1	51.3	53.8	5.7	No	44.6	-3.5	No
R0707	Residential	B / 66	50.0	53.3	56.0	6.0	No	46.6	-3.4	No
R0708	Commercial	F / --	67.6	69.7	68.3	0.7	No	68.3	0.7	No
R0709	Commercial	F / --	67.3	69.5	68.5	1.2	No	68.5	1.2	No
R0710	Commercial	F / --	67.4	69.5	68.5	1.1	No	68.6	1.2	No
R0711	Commercial	F / --	53.2	55.6	55.3	2.1	No	55.3	2.1	No
R0712	Commercial	F / --	58.3	60.8	59.2	0.9	No	59.3	1.0	No
R0713	Commercial	F / --	58.2	60.9	58.7	0.5	No	59.0	0.8	No
R0714	Commercial	F / --	58.5	61.3	58.9	0.4	No	59.3	0.8	No
R0715	Commercial	F / --	58.6	61.5	59.9	1.3	No	60.4	1.8	No
R0716	Commercial	F / --	57.0	60.1	56.8	-0.2	No	57.2	0.2	No
R0717	Commercial	F / --	54.4	57.5	60.0	5.6	No	60.2	5.8	No
R0718	Commercial	F / --	53.9	56.8	61.5	7.6	No	61.6	7.7	No
R0719	Commercial	F / --	57.9	61.0	60.6	2.7	No	61.2	3.3	No
R0720	Commercial	F / --	47.4	50.4	52.5	5.1	No	52.6	5.2	No
R0721	Commercial	F / --	52.0	55.1	54.1	2.1	No	54.7	2.7	No
R0722	Residential	B / 66	48.8	51.9	51.9	3.1	No	56.4	7.6	No
R0723	Residential	B / 66	48.4	51.5	51.7	3.3	No	55.9	7.5	No
R0724	Residential	B / 66	47.0	50.1	50.0	3.0	No	53.2	6.2	No
R0725	Residential	B / 66	46.8	49.9	49.6	2.8	No	52.8	6.0	No
R0726	Residential	B / 66	46.3	49.4	49.1	2.8	No	52.1	5.8	No
R0727	Residential	B / 66	44.9	48.0	46.7	1.8	No	51.2	6.3	No
R0728	Residential	B / 66	51.6	54.4	56.3	4.7	No	49.6	-2.0	No
R0729	Gas Station	F / --	67.1	70.1	69.7	2.6	No	69.6	2.5	No
R0730	Office/Retail	E / 71	59.7	62.7	60.9	1.2	No	60.5	0.8	No
R0731	Office/Retail	E / 71	61.0	64.0	62.1	1.1	No	61.7	0.7	No
R0732	Office/Retail	E / 71	64.0	66.9	65.1	1.1	No	64.4	0.4	No
R0733	Office/Retail	E / 71	62.2	65.2	63.7	1.5	No	63.8	1.6	No
R0734	Office/Retail	E / 71	58.0	61.1	59.7	1.7	No	60.8	2.8	No
R0735	Office/Retail	E / 71	55.3	58.4	59.7	4.4	No	62.1	6.8	No
R0736	Office/Retail	E / 71	57.8	60.8	59.9	2.1	No	61.1	3.3	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0737	Office/Retail	E / 71	61.6	64.6	62.9	1.3	No	62.9	1.3	No
R0738	Office/Retail	E / 71	56.4	59.5	59.2	2.8	No	60.6	4.2	No
R0739	Office/Retail	E / 71	59.3	62.4	60.7	1.4	No	60.9	1.6	No
R0740	CVS	F / --	68.4	71.4	69.1	0.7	No	68.6	0.2	No
R0741	Retail/Boat Dealer	F / --	69.1	71.9	69.3	0.2	No	69.0	-0.1	No
R0742	Residential	B / 66	66.1	69.4	69.3	3.2	Yes	60.5	-5.6	No
R0743	Residential	B / 66	64.3	67.5	67.7	3.4	Yes	58.8	-5.5	No
R0744	Recreation	C / 66	58.1	61.2	61.7	3.6	No	60.9	2.8	No
R0745	Retail	F / --	72.3	75.5	75.7	3.4	No	75.7	3.4	No
R0746	Residential	B / 66	56.5	59.6	57.6	1.1	No	58.3	1.8	No
R0747	Residential	B / 66	55.8	59.0	57.2	1.4	No	57.9	2.1	No
R0748	Residential	B / 66	45.2	48.4	46.8	1.6	No	47.3	2.1	No
R0749	Baseball Field	C / 66	49.1	52.1	52.4	3.3	No	51.8	2.7	No
R0750	Residential	B / 66	46.8	49.9	51.5	4.7	No	50.5	3.7	No
R0751	Residential	B / 66	53.5	56.6	56.5	3.0	No	55.9	2.4	No
R0752	Residential	B / 66	50.8	53.9	55.0	4.2	No	54.1	3.3	No
R0753	Residential	B / 66	48.0	51.1	51.8	3.8	No	51.0	3.0	No
R0754	Residentail	B / 66	50.4	53.5	54.8	4.4	No	53.8	3.4	No
R0755	Residential	B / 66	50.7	53.7	54.8	4.1	No	53.9	3.2	No
R0756	Residential	B / 66	53.8	56.9	57.8	4.0	No	57.1	3.3	No
R0757	Residential	B / 66	47.5	50.5	49.2	1.7	No	48.5	1.0	No
R0758	Residential	B / 66	47.1	50.0	48.8	1.7	No	48.1	1.0	No
R0759	Residential	B / 66	46.7	49.7	48.4	1.7	No	47.6	0.9	No
R0760	Pool	C / 66	52.2	55.4	56.1	3.9	No	55.4	3.2	No
R0761	Tennis Court	C / 66	52.6	55.7	56.5	3.9	No	55.6	3.0	No
R0762	Basketball Court	C / 66	52.7	55.8	57.0	4.3	No	56.0	3.3	No
R0763	Residential	B / 66	51.1	54.2	55.3	4.2	No	54.8	3.7	No
R0764	Residential	B / 66	51.9	55.1	56.4	4.5	No	55.8	3.9	No
R0765	Residential	B / 66	52.2	55.4	56.6	4.4	No	56.2	4.0	No
R0766	Residential	B / 66	51.9	55.1	56.3	4.4	No	55.9	4.0	No
R0767	Residential	B / 66	51.7	54.9	56.1	4.4	No	55.6	3.9	No
R0768	Residential	B / 66	50.6	53.7	55.1	4.5	No	54.2	3.6	No
R0769	Residential	B / 66	53.1	56.3	57.6	4.5	No	57.0	3.9	No
R0770	Residential	B / 66	55.4	58.6	59.5	4.1	No	58.7	3.3	No
R0771	Residential	B / 66	53.4	56.5	57.7	4.3	No	56.8	3.4	No
R0772	Residential	B / 66	48.0	51.1	51.2	3.2	No	50.5	2.5	No
R0773	Residential	B / 66	47.5	50.6	50.4	2.9	No	49.6	2.1	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0774	Residential	B / 66	44.6	47.2	46.0	1.4	No	45.8	1.2	No
R0775	Residential	B / 66	47.9	51.1	50.6	2.7	No	49.9	2.0	No
R0776	Residential	B / 66	54.7	57.9	58.9	4.2	No	56.9	2.2	No
R0777	Residential	B / 66	46.1	49.3	48.6	2.5	No	48.1	2.0	No
R0778	Residential	B / 66	52.9	56.2	57.1	4.2	No	55.0	2.1	No
R0779	Residential	B / 66	51.0	54.3	54.8	3.8	No	53.8	2.8	No
R0780	Residential	B / 66	56.7	59.5	60.7	4.0	No	60.7	4.0	No
R0781	Residential	B / 66	56.7	59.5	60.4	3.7	No	60.4	3.7	No
R0782	Residential	B / 66	47.6	50.4	49.7	2.1	No	49.8	2.2	No
R0783	Residential	B / 66	46.2	49.0	47.9	1.7	No	48.0	1.8	No
R0784	Residential	B / 66	45.8	48.6	48.1	2.3	No	48.1	2.3	No
R0785	Residential	B / 66	46.0	48.9	48.6	2.6	No	48.5	2.5	No
R0786	Residential	B / 66	51.2	54.0	55.1	3.9	No	55.0	3.8	No
R0787	Residential	B / 66	56.1	59.0	59.4	3.3	No	59.4	3.3	No
R0788	Residential	B / 66	54.1	56.9	56.9	2.8	No	56.9	2.8	No
R0789	Residential	B / 66	53.1	55.9	55.8	2.7	No	55.8	2.7	No
R0790	Residential	B / 66	48.5	51.3	52.4	3.9	No	52.4	3.9	No
R0791	Residential	B / 66	47.9	50.8	51.4	3.5	No	51.4	3.5	No
R0792	Residential	B / 66	52.0	54.8	55.8	3.8	No	55.8	3.8	No
R0793	Residential	B / 66	54.4	57.4	56.6	2.2	No	56.5	2.1	No
R0794	Residential	B / 66	53.7	56.7	55.8	2.1	No	56.0	2.3	No
R0795	Residential	B / 66	46.7	49.5	49.8	3.1	No	49.4	2.7	No
R0796	Residential	B / 66	48.7	51.5	52.6	3.9	No	51.9	3.2	No
R0797	Residential	B / 66	50.0	52.8	56.3	6.3	No	53.1	3.1	No
R0798	Residential	B / 66	49.8	52.6	52.0	2.2	No	51.8	2.0	No
R0799	Residential	B / 66	50.6	53.5	52.4	1.8	No	52.2	1.6	No
R0800	Residential	B / 66	48.6	51.5	50.4	1.8	No	50.2	1.6	No
R0801	Residential	B / 66	47.5	50.5	49.9	2.4	No	48.9	1.4	No
R0802	Residential	B / 66	44.6	46.9	46.9	2.3	No	46.3	1.7	No
R0803	Residential	B / 66	46.0	48.8	50.8	4.8	No	49.7	3.7	No
R0804	Residential	B / 66	45.9	48.7	51.1	5.2	No	49.6	3.7	No
R0805	Residential	B / 66	47.1	50.0	50.3	3.2	No	49.9	2.8	No
R0806	Residential	B / 66	45.2	48.0	47.6	2.4	No	47.3	2.1	No
R0807	Residential	B / 66	46.4	49.4	48.3	1.9	No	48.3	1.9	No
R0808	Residential	B / 66	54.1	57.1	56.5	2.4	No	56.7	2.6	No
R0809	Residential	B / 66	58.4	61.8	61.3	2.9	No	61.7	3.3	No
R0810	Church	D / 66	60.5	63.8	63.3	2.8	No	63.9	3.4	No

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					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0811	Residential	B / 66	57.4	61.0	60.9	3.5	No	61.0	3.6	No
R0812	Residential	B / 66	59.7	63.3	63.5	3.8	No	63.4	3.7	No
R0813	Residential	B / 66	62.4	65.8	66.1	3.7	Yes	66.0	3.6	Yes
R0814	Residential	B / 66	61.5	64.7	66.7	5.2	Yes	66.6	5.1	Yes
R0815	Residential	B / 66	57.8	61.0	59.1	1.3	No	59.8	2.0	No
R0816	Residential	B / 66	53.4	56.5	54.4	1.0	No	55.2	1.8	No
R0817	Residential	B / 66	51.4	54.6	52.5	1.1	No	53.2	1.8	No
R0818	Residential	B / 66	49.9	53.0	50.8	0.9	No	51.6	1.7	No
R0819	Residential	B / 66	49.1	52.3	50.0	0.9	No	50.8	1.7	No
R0820	Residential	B / 66	54.9	58.0	56.3	1.4	No	57.0	2.1	No
R0821	Residential	B / 66	53.0	56.1	54.6	1.6	No	55.2	2.2	No
R0822	Residential	B / 66	51.7	54.8	53.2	1.5	No	53.8	2.1	No
R0823	Residential	B / 66	50.8	53.9	52.3	1.5	No	52.9	2.1	No
R0824	Residential	B / 66	46.2	49.3	47.5	1.3	No	48.1	1.9	No
R0825	Residential	B / 66	46.4	49.5	47.7	1.3	No	48.3	1.9	No
R0825-1	Residential	B / 66	49.7	52.8	51.2	1.5	No	51.8	2.1	No
R0826	Residential	B / 66	46.1	49.3	47.9	1.8	No	48.4	2.3	No
R0827	Residential	B / 66	44.6	47.1	45.3	0.7	No	45.9	1.3	No
R0828	Residential	B / 66	44.6	46.2	44.6	0.0	No	45.1	0.5	No
R0829	Residential	B / 66	48.2	51.3	49.9	1.7	No	50.5	2.3	No
R0830	Residential	B / 66	48.9	52.1	50.7	1.8	No	51.2	2.3	No
R0831	Residential	B / 66	49.3	52.4	51.0	1.7	No	51.6	2.3	No
R0832	Restaurant	E / 71	51.0	54.0	60.1	9.1	No	59.4	8.4	No
R0833	Residential	B / 66	50.0	53.1	53.4	3.4	No	52.8	2.8	No
R0834	Residential	B / 66	50.6	53.7	53.8	3.2	No	53.3	2.7	No
R0835	Residential	B / 66	51.5	54.6	55.0	3.5	No	54.4	2.9	No
R0836	Residential	B / 66	52.9	56.1	55.8	2.9	No	55.3	2.4	No
R0837	Residential	B / 66	54.1	57.4	58.9	4.8	No	58.2	4.1	No
R0838	Residential	B / 66	53.9	57.2	58.7	4.8	No	58.3	4.4	No
R0839	Residential	B / 66	53.8	57.1	58.6	4.8	No	58.6	4.8	No
R0840	Residential	B / 66	53.6	56.9	58.5	4.9	No	58.8	5.2	No
R0841	Residential	B / 66	53.5	56.8	58.3	4.8	No	58.9	5.4	No
R0842	Residential	B / 66	53.2	56.6	58.1	4.9	No	58.9	5.7	No
R0843	Residential	B / 66	52.7	56.1	58.0	5.3	No	59.9	7.2	No
R0844	Residential	B / 66	52.8	56.2	57.7	4.9	No	60.0	7.2	No
R0845	Residential	B / 66	52.7	56.1	57.7	5.0	No	60.1	7.4	No
R0846	Residential	B / 66	52.5	55.8	57.5	5.0	No	60.0	7.5	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0847	Residential	B / 66	45.8	48.9	48.5	2.7	No	47.7	1.9	No
R0848	Residential	B / 66	46.8	49.9	49.6	2.8	No	48.8	2.0	No
R0849	Residential	B / 66	47.4	50.5	50.1	2.7	No	49.4	2.0	No
R0850	Residential	B / 66	46.2	49.4	49.0	2.8	No	48.3	2.1	No
R0851	Residential	B / 66	47.3	50.4	50.0	2.7	No	49.3	2.0	No
R0852	Residential	B / 66	46.9	50.0	49.9	3.0	No	49.1	2.2	No
R0853	Residential	B / 66	46.5	49.7	49.2	2.7	No	48.5	2.0	No
R0854	Residential	B / 66	46.8	49.9	49.6	2.8	No	48.7	1.9	No
R0855	Residential	B / 66	46.8	49.9	49.9	3.1	No	48.7	1.9	No
R0856	Residential	B / 66	47.0	50.2	50.2	3.2	No	48.9	1.9	No
R0857	Residential	B / 66	46.7	49.8	49.4	2.7	No	48.4	1.7	No
R0858	Residential	B / 66	46.6	49.8	49.1	2.5	No	48.2	1.6	No
R0859	Residential	B / 66	46.6	49.8	49.4	2.8	No	48.3	1.7	No
R0860	Residential	B / 66	46.6	49.7	48.8	2.2	No	48.1	1.5	No
R0861	Residential	B / 66	46.4	49.6	48.6	2.2	No	47.8	1.4	No
R0862	Residential	B / 66	46.5	49.7	48.9	2.4	No	48.0	1.5	No
R0863	Residential	B / 66	45.9	49.0	48.1	2.2	No	47.0	1.1	No
R0864	Residential	B / 66	46.0	49.2	48.3	2.3	No	47.3	1.3	No
R0865	Residential	B / 66	46.1	49.3	48.4	2.3	No	47.3	1.2	No
R0866	Residential	B / 66	46.2	49.4	48.5	2.3	No	47.4	1.2	No
R0867	Residential	B / 66	46.3	49.4	48.5	2.2	No	47.4	1.1	No
R0868	Residential	B / 66	46.2	49.3	48.5	2.3	No	47.5	1.3	No
R0869	Residential	B / 66	46.6	49.8	49.0	2.4	No	47.9	1.3	No
R0870	Residential	B / 66	46.7	49.9	49.0	2.3	No	48.0	1.3	No
R0871	Residential	B / 66	46.9	50.1	49.2	2.3	No	48.1	1.2	No
R0872	Residential	B / 66	46.9	50.0	49.1	2.2	No	47.9	1.0	No
R0873	Residential	B / 66	47.1	50.3	49.4	2.3	No	48.4	1.3	No
R0874	Residential	B / 66	47.4	50.6	50.0	2.6	No	48.9	1.5	No
R0875	Residential	B / 66	47.5	50.7	50.0	2.5	No	48.9	1.4	No
R0876	Residential	B / 66	47.6	50.8	50.1	2.5	No	49.0	1.4	No
R0877	Residential	B / 66	47.4	50.5	49.7	2.3	No	48.5	1.1	No
R0878	Residential	B / 66	47.5	50.7	49.8	2.3	No	48.7	1.2	No
R0879	Residential	B / 66	47.3	50.5	49.6	2.3	No	48.2	0.9	No
R0880	Residential	B / 66	47.3	50.5	49.6	2.3	No	48.1	0.8	No
R0881	Residential	B / 66	47.7	50.9	50.0	2.3	No	48.7	1.0	No
R0882	Residential	B / 66	48.0	51.2	50.5	2.5	No	48.9	0.9	No
R0883	Residential	B / 66	48.3	51.5	51.4	3.1	No	49.5	1.2	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0884	Residential	B / 66	48.5	51.7	51.5	3.0	No	49.9	1.4	No
R0885	Residential	B / 66	48.4	51.6	51.8	3.4	No	49.6	1.2	No
R0886	Residential	B / 66	48.1	51.2	51.6	3.5	No	49.6	1.5	No
R0887	Residential	B / 66	47.1	50.3	50.3	3.2	No	49.4	2.3	No
R0888	Residential	B / 66	46.7	49.9	49.7	3.0	No	48.2	1.5	No
R0889	Residential	B / 66	46.3	49.5	49.5	3.2	No	48.1	1.8	No
R0890	Residential	B / 66	46.3	49.5	49.6	3.3	No	48.7	2.4	No
R0891	Residential	B / 66	54.7	57.5	56.6	1.9	No	56.6	1.9	No
R0892	Residential	B / 66	55.0	57.8	56.7	1.7	No	56.7	1.7	No
R0893	Residential	B / 66	54.8	57.6	56.9	2.1	No	57.0	2.2	No
R0894	Residential	B / 66	54.3	57.1	56.8	2.5	No	56.8	2.5	No
R0895	Residential	B / 66	55.8	58.6	57.7	1.9	No	57.8	2.0	No
R0896	Residential	B / 66	45.5	48.3	48.7	3.2	No	48.7	3.2	No
R0897	Residential	B / 66	46.0	48.8	50.0	4.0	No	49.9	3.9	No
R0898	Residential	B / 66	56.3	59.1	58.1	1.8	No	58.1	1.8	No
R0899	Residential	B / 66	48.2	51.0	52.2	4.0	No	52.1	3.9	No
R0900	Apartments	B / 66	48.2	50.8	52.2	4.0	No	51.9	3.7	No
R0900-1	Apartments	B / 66	48.5	51.2	52.2	3.7	No	52.0	3.5	No
R0900-2	Apartments	B / 66	50.1	52.8	53.3	3.2	No	53.1	3.0	No
R0900-3	Apartments	B / 66	51.8	54.6	54.6	2.8	No	54.5	2.7	No
R0901	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0901-1	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0901-2	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0901-3	Apartments	B / 66	44.6	46.7	45.6	1.0	No	45.6	1.0	No
R0902	Apartments	B / 66	47.0	49.5	49.3	2.3	No	48.9	1.9	No
R0902-1	Apartments	B / 66	46.9	49.5	48.6	1.7	No	48.4	1.5	No
R0902-2	Apartments	B / 66	48.2	50.8	49.9	1.7	No	49.8	1.6	No
R0902-3	Apartments	B / 66	49.9	52.6	52.0	2.1	No	51.9	2.0	No
R0903	Apartments	B / 66	46.7	49.2	48.6	1.9	No	48.2	1.5	No
R0903-1	Apartments	B / 66	46.6	49.1	47.5	0.9	No	47.3	0.7	No
R0903-2	Apartments	B / 66	47.6	50.1	48.6	1.0	No	48.5	0.9	No
R0903-3	Apartments	B / 66	49.1	51.7	50.6	1.5	No	50.6	1.5	No
R0904	Apartments	B / 66	45.9	48.7	50.8	4.9	No	50.6	4.7	No
R0904-1	Apartments	B / 66	46.7	49.6	51.7	5.0	No	51.5	4.8	No
R0904-2	Apartments	B / 66	49.0	51.9	52.9	3.9	No	52.7	3.7	No
R0904-3	Apartments	B / 66	51.2	54.1	54.5	3.3	No	54.3	3.1	No
R0905	Apartments	B / 66	45.0	47.8	50.1	5.1	No	49.9	4.9	No

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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0905-1	Apartments	B / 66	45.7	48.6	50.9	5.2	No	50.7	5.0	No
R0905-2	Apartments	B / 66	48.3	51.2	52.4	4.1	No	52.2	3.9	No
R0905-3	Apartments	B / 66	50.7	53.5	54.0	3.3	No	53.8	3.1	No
R0906	Apartments	B / 66	44.7	47.6	49.7	5.0	No	49.5	4.8	No
R0906-1	Apartments	B / 66	45.3	48.1	50.4	5.1	No	50.2	4.9	No
R0906-2	Apartments	B / 66	48.0	50.8	52.0	4.0	No	51.8	3.8	No
R0906-3	Apartments	B / 66	50.5	53.3	53.7	3.2	No	53.5	3.0	No
R0907	Apartments	B / 66	44.6	47.0	49.1	4.5	No	48.9	4.3	No
R0907-1	Apartments	B / 66	44.6	47.4	49.8	5.2	No	49.6	5.0	No
R0907-2	Apartments	B / 66	47.5	50.4	51.4	3.9	No	51.2	3.7	No
R0907-3	Apartments	B / 66	50.1	52.9	53.2	3.1	No	53.0	2.9	No
R0908	Apartments	B / 66	46.7	49.2	48.8	2.1	No	48.4	1.7	No
R0908-1	Apartments	B / 66	46.7	49.2	47.7	1.0	No	47.5	0.8	No
R0908-2	Apartments	B / 66	47.5	50.0	48.6	1.1	No	48.5	1.0	No
R0908-3	Apartments	B / 66	48.9	51.4	50.3	1.4	No	50.3	1.4	No
R0909	Apartments	B / 66	47.3	49.8	49.5	2.2	No	49.2	1.9	No
R0909-1	Apartments	B / 66	47.3	49.9	48.6	1.3	No	48.5	1.2	No
R0909-2	Apartments	B / 66	48.2	50.7	49.6	1.4	No	49.6	1.4	No
R0909-3	Apartments	B / 66	49.5	52.1	51.3	1.8	No	51.4	1.9	No
R0910	Apartments Courtyard	C / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0910-1	Apartments Courtyard	C / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0910-2	Apartments Courtyard	C / 66	44.6	45.4	44.6	0.0	No	44.6	0.0	No
R0910-3	Apartments Courtyard	C / 66	44.6	46.8	45.3	0.7	No	45.6	1.0	No
R0911	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0911-1	Apartments	B / 66	44.6	45.6	44.7	0.1	No	44.7	0.1	No
R0911-2	Apartments	B / 66	45.1	47.4	46.6	1.5	No	46.5	1.4	No
R0911-3	Apartments	B / 66	46.9	49.3	48.7	1.8	No	48.6	1.7	No
R0912	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0912-1	Apartments	B / 66	44.6	45.6	44.8	0.2	No	44.7	0.1	No
R0912-2	Apartments	B / 66	45.2	47.5	46.9	1.7	No	46.9	1.7	No
R0912-3	Apartments	B / 66	46.9	49.3	48.8	1.9	No	48.8	1.9	No
R0913	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0913-1	Apartments	B / 66	44.6	45.3	44.6	0.0	No	44.6	0.0	No
R0913-2	Apartments	B / 66	45.0	47.4	46.7	1.7	No	46.7	1.7	No
R0913-3	Apartments	B / 66	47.0	49.4	48.8	1.8	No	48.7	1.7	No
R0914	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0914-1	Apartments	B / 66	44.6	45.0	44.6	0.0	No	44.6	0.0	No
R0914-2	Apartments	B / 66	44.8	47.1	46.5	1.7	No	46.5	1.7	No
R0914-3	Apartments	B / 66	46.7	49.2	48.6	1.9	No	48.5	1.8	No
R0915	Apartments Courtyard	C / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0915-1	Apartments Courtyard	C / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0915-2	Apartments Courtyard	C / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0915-3	Apartments Courtyard	C / 66	44.6	45.2	44.8	0.2	No	44.6	0.0	No
R0916	Apartments	B / 66	47.9	50.4	50.0	2.1	No	49.6	1.7	No
R0916-1	Apartments	B / 66	48.3	50.8	49.3	1.0	No	49.0	0.7	No
R0916-2	Apartments	B / 66	49.1	51.6	50.3	1.2	No	50.1	1.0	No
R0916-3	Apartments	B / 66	50.3	52.8	51.7	1.4	No	51.4	1.1	No
R0917	Apartments	B / 66	48.5	51.0	50.1	1.6	No	49.8	1.3	No
R0917-1	Apartments	B / 66	49.1	51.5	49.5	0.4	No	49.4	0.3	No
R0917-2	Apartments	B / 66	49.8	52.3	50.5	0.7	No	50.6	0.8	No
R0917-3	Apartments	B / 66	51.0	53.4	51.7	0.7	No	51.9	0.9	No
R0918	Apartments	B / 66	48.5	51.0	50.0	1.5	No	49.7	1.2	No
R0918-1	Apartments	B / 66	49.1	51.6	49.5	0.4	No	49.5	0.4	No
R0918-2	Apartments	B / 66	50.0	52.4	50.7	0.7	No	50.9	0.9	No
R0918-3	Apartments	B / 66	51.2	53.6	51.9	0.7	No	52.1	0.9	No
R0919	Apartments	B / 66	49.1	51.5	50.4	1.3	No	50.1	1.0	No
R0919-1	Apartments	B / 66	49.8	52.2	50.1	0.3	No	50.2	0.4	No
R0919-2	Apartments	B / 66	50.8	53.2	51.4	0.6	No	51.6	0.8	No
R0919-3	Apartments	B / 66	51.9	54.3	52.6	0.7	No	52.8	0.9	No
R0920	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0920-1	Apartments	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R0920-2	Apartments	B / 66	44.6	46.3	45.0	0.4	No	45.0	0.4	No
R0920-3	Apartments	B / 66	46.7	48.9	47.6	0.9	No	47.7	1.0	No
R0921	Apartments	B / 66	52.0	54.5	53.3	1.3	No	53.2	1.2	No
R0921-1	Apartments	B / 66	53.6	56.1	54.4	0.8	No	54.4	0.8	No
R0921-2	Apartments	B / 66	54.8	57.3	55.8	1.0	No	55.8	1.0	No
R0921-3	Apartments	B / 66	55.7	58.2	56.7	1.0	No	56.7	1.0	No
R0922	Apartments	B / 66	44.7	46.9	46.0	1.3	No	45.9	1.2	No
R0922-1	Apartments	B / 66	46.4	48.6	47.4	1.0	No	47.4	1.0	No
R0922-2	Apartments	B / 66	47.8	49.9	49.1	1.3	No	49.0	1.2	No
R0922-3	Apartments	B / 66	49.8	52.0	50.9	1.1	No	50.9	1.1	No
R0923	Apartments	B / 66	44.6	46.8	45.9	1.3	No	45.8	1.2	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0923-1	Apartments	B / 66	46.3	48.5	47.3	1.0	No	47.3	1.0	No
R0923-2	Apartments	B / 66	47.6	49.7	48.9	1.3	No	48.9	1.3	No
R0923-3	Apartments	B / 66	49.6	51.8	50.7	1.1	No	50.7	1.1	No
R0924	Apartments	B / 66	44.6	46.4	45.4	0.8	No	45.3	0.7	No
R0924-1	Apartments	B / 66	46.0	48.2	47.0	1.0	No	47.0	1.0	No
R0924-2	Apartments	B / 66	46.9	49.0	48.1	1.2	No	48.1	1.2	No
R0924-3	Apartments	B / 66	48.6	50.8	49.8	1.2	No	49.8	1.2	No
R0925	Apartments	B / 66	44.6	46.5	45.5	0.9	No	45.4	0.8	No
R0925-1	Apartments	B / 66	46.0	48.2	47.0	1.0	No	47.0	1.0	No
R0925-2	Apartments	B / 66	47.1	49.2	48.4	1.3	No	48.4	1.3	No
R0925-3	Apartments	B / 66	48.8	51.0	50.0	1.2	No	50.1	1.3	No
R0926	Residential	B / 66	68.8	72.5	72.3	3.5	Yes	72.3	3.5	Yes
R0927	Residential	B / 66	58.1	61.3	63.3	5.2	No	63.3	5.2	No
R0928	Residential	B / 66	58.8	62.2	62.1	3.3	No	62.1	3.3	No
R0929	Residential	B / 66	56.4	59.6	60.0	3.6	No	59.9	3.5	No
R0930	Residential	B / 66	52.1	55.4	55.5	3.4	No	55.4	3.3	No
R0931	Residential	B / 66	56.0	59.0	59.3	3.3	No	59.2	3.2	No
R0932	Residential	B / 66	58.7	61.7	61.8	3.1	No	61.7	3.0	No
R0933	Residential	B / 66	56.5	59.6	59.6	3.1	No	59.6	3.1	No
R0934	Residential	B / 66	58.3	61.4	61.1	2.8	No	61.0	2.7	No
R0935	Residential	B / 66	56.3	59.4	58.8	2.5	No	58.8	2.5	No
R0936	Residential	B / 66	57.1	60.2	59.5	2.4	No	59.5	2.4	No
R0937	Residential	B / 66	57.4	60.5	59.5	2.1	No	59.6	2.2	No
R0938	Residential	B / 66	58.0	61.1	59.5	1.5	No	59.5	1.5	No
R0939	Residential	B / 66	57.7	60.7	59.0	1.3	No	58.9	1.2	No
R0940	Residential	B / 66	64.8	68.2	65.3	0.5	No	65.1	0.3	No
R0941	Residential	B / 66	65.1	67.9	64.8	-0.3	No	64.3	-0.8	No
R0942	Residential	B / 66	58.5	61.6	59.5	1.0	No	59.4	0.9	No
R0943	Residential	B / 66	55.9	59.0	57.3	1.4	No	57.2	1.3	No
R0944	Residential	B / 66	58.3	61.1	57.8	-0.5	No	57.4	-0.9	No
R0945	Residential	B / 66	57.8	60.1	58.2	0.4	No	58.2	0.4	No
R0946	Residential	B / 66	54.2	56.6	54.0	-0.2	No	54.1	-0.1	No
R0947	Residential	B / 66	57.2	59.5	58.2	1.0	No	58.4	1.2	No
R0948	Residential	B / 66	58.4	60.5	59.7	1.3	No	59.4	1.0	No
R0949	Residential	B / 66	54.5	56.4	56.5	2.0	No	56.3	1.8	No
R0950	Restaurant/Patio	E / 71	66.5	68.6	69.4	2.9	No	69.4	2.9	No
R0951	Residential	B / 66	45.3	48.1	48.2	2.9	No	48.2	2.9	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0952	Residential	B / 66	45.8	48.7	48.5	2.7	No	48.5	2.7	No
R0953	Residential	B / 66	44.6	47.3	46.6	2.0	No	46.6	2.0	No
R0954	Residential	B / 66	49.3	52.2	52.3	3.0	No	52.3	3.0	No
R0955	Residential	B / 66	50.1	52.9	53.0	2.9	No	53.1	3.0	No
R0956	Residential	B / 66	49.9	52.7	52.0	2.1	No	52.0	2.1	No
R0957	Residential	B / 66	49.5	52.3	51.5	2.0	No	51.4	1.9	No
R0958-1	Residential	B / 66	57.1	62.4	NA	NA	NA	62.3	5.2	No
R0959-1	Residential	B / 66	58.0	63.3	NA	NA	NA	61.1	3.1	No
R0960-1	Residential	B / 66	57.9	63.2	NA	NA	NA	59.3	1.4	No
R0961-1	Residential	B / 66	57.9	63.3	NA	NA	NA	58.5	0.6	No
R0962-1	Residential	B / 66	57.9	63.3	NA	NA	NA	57.6	-0.3	No
R0963-1	Residential	B / 66	44.6	44.6	NA	NA	NA	49.8	5.2	No
R0964-1	Residential	B / 66	44.6	44.6	NA	NA	NA	46.1	1.5	No
R0965-1	Residential	B / 66	44.6	44.6	NA	NA	NA	45.3	0.7	No
R0966-1	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0967-1	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0968-1	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0969	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0970	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0971	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0972	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0973	Residential	B / 66	44.6	44.6	NA	NA	NA	44.6	0.0	No
R0974	Residential	B / 66	44.6	44.6	NA	NA	NA	48.8	4.2	No
R0975	Residential	B / 66	44.6	44.6	NA	NA	NA	50.4	5.8	No
R0976	Residential	B / 66	44.6	44.6	NA	NA	NA	49.6	5.0	No
R0977	Residential	B / 66	44.6	47.6	NA	NA	NA	56.2	11.6	No
R0978	Residential	B / 66	44.6	44.7	NA	NA	NA	55.8	11.2	No
R0979	Residential	B / 66	44.6	44.6	NA	NA	NA	51.6	7.0	No
R0980	Residential	B / 66	44.6	44.6	NA	NA	NA	54.3	9.7	No
R0981	Residential	B / 66	44.6	45.2	NA	NA	NA	55.7	11.1	No
R0982-1	Residential	B / 66	44.6	44.6	NA	NA	NA	59.2	14.6	No
R0983-1	Residential	B / 66	44.6	44.6	NA	NA	NA	58.0	13.4	No
R0984-1	Residential	B / 66	44.6	44.6	NA	NA	NA	57.2	12.6	No
R0985-1	Residential	B / 66	44.6	44.6	NA	NA	NA	56.6	12.0	No
R0986-1	Residential	B / 66	44.6	44.6	NA	NA	NA	56.0	11.4	No
R0987	Residential	B / 66	46.5	49.6	NA	NA	NA	55.9	9.4	No
R0988	Residential	B / 66	44.6	44.7	NA	NA	NA	53.6	9.0	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R0989	Residential	B / 66	44.6	44.6	NA	NA	NA	55.7	11.1	No
R0990	Residential	B / 66	44.6	45.3	NA	NA	NA	59.4	14.8	No
R0991	Residential	B / 66	44.6	45.4	NA	NA	NA	62.5	17.9	Yes
R0992	Residential	B / 66	50.0	52.8	52.6	2.6	No	52.6	2.6	No
R0992-1	Residential	B / 66	53.3	56.1	56.0	2.7	No	56.0	2.7	No
R0993	Residential	B / 66	49.0	51.8	51.5	2.5	No	51.4	2.4	No
R0993-1	Residential	B / 66	52.0	54.8	54.9	2.9	No	54.9	2.9	No
R0994	Residential	B / 66	48.5	51.3	50.8	2.3	No	50.8	2.3	No
R0994-1	Residential	B / 66	51.5	54.3	54.4	2.9	No	54.4	2.9	No
R0995	Residential	B / 66	47.1	49.9	49.3	2.2	No	49.3	2.2	No
R0995-1	Residential	B / 66	50.2	53.0	53.2	3.0	No	53.2	3.0	No
R0996	Residential	B / 66	49.1	51.9	51.6	2.5	No	51.6	2.5	No
R0996-1	Residential	B / 66	52.4	55.2	55.2	2.8	No	55.2	2.8	No
R0997	Residential	B / 66	49.5	52.3	52.0	2.5	No	52.0	2.5	No
R0997-1	Residential	B / 66	52.8	55.6	55.5	2.7	No	55.5	2.7	No
R0998	Residential	B / 66	49.7	52.5	52.3	2.6	No	52.3	2.6	No
R0998-1	Residential	B / 66	53.1	55.8	55.8	2.7	No	55.8	2.7	No
R0999	Residential	B / 66	49.9	52.7	52.5	2.6	No	52.5	2.6	No
R0999-1	Residential	B / 66	53.2	56.0	55.9	2.7	No	55.9	2.7	No
R1000	Residential	B / 66	50.2	53.0	52.8	2.6	No	52.8	2.6	No
R1000-1	Residential	B / 66	53.4	56.3	56.1	2.7	No	56.1	2.7	No
R1001	Residential	B / 66	55.4	58.2	56.4	1.0	No	56.4	1.0	No
R1001-1	Residential	B / 66	57.4	60.2	58.4	1.0	No	58.4	1.0	No
R1002	Residential	B / 66	52.4	55.2	54.6	2.2	No	54.6	2.2	No
R1002-1	Residential	B / 66	55.0	57.9	56.7	1.7	No	56.7	1.7	No
R1003	Residential	B / 66	51.2	54.0	53.7	2.5	No	53.8	2.6	No
R1003-1	Residential	B / 66	54.0	56.8	56.0	2.0	No	56.0	2.0	No
R1004	Residential	B / 66	50.4	53.2	53.2	2.8	No	53.2	2.8	No
R1004-1	Residential	B / 66	53.4	56.3	55.7	2.3	No	55.7	2.3	No
R1005	Residential	B / 66	49.8	52.6	52.7	2.9	No	52.7	2.9	No
R1005-1	Residential	B / 66	53.0	55.8	55.3	2.3	No	55.3	2.3	No
R1006	Residential	B / 66	50.9	53.7	53.2	2.3	No	53.3	2.4	No
R1006-1	Residential	B / 66	54.0	56.8	56.3	2.3	No	56.3	2.3	No
R1007	Residential	B / 66	49.9	52.7	52.2	2.3	No	52.2	2.3	No
R1007-1	Residential	B / 66	52.9	55.7	55.3	2.4	No	55.3	2.4	No
R1008	Residential	B / 66	49.5	52.3	51.6	2.1	No	51.6	2.1	No
R1008-1	Residential	B / 66	52.4	55.2	54.8	2.4	No	54.8	2.4	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R1009	Residential	B / 66	48.9	51.7	51.4	2.5	No	51.3	2.4	No
R1009-1	Residential	B / 66	51.8	54.6	54.5	2.7	No	54.5	2.7	No
R1010	Residential	B / 66	48.5	51.3	51.0	2.5	No	51.0	2.5	No
R1010-1	Residential	B / 66	51.4	54.2	54.2	2.8	No	54.2	2.8	No
R1011	Residential	B / 66	48.2	50.9	50.8	2.6	No	50.8	2.6	No
R1011-1	Residential	B / 66	51.1	53.9	53.9	2.8	No	53.9	2.8	No
R1012	Residential	B / 66	47.8	50.6	50.5	2.7	No	50.5	2.7	No
R1012-1	Residential	B / 66	51.0	53.7	53.8	2.8	No	53.8	2.8	No
R1013	Residential	B / 66	47.4	50.2	50.1	2.7	No	50.0	2.6	No
R1013-1	Residential	B / 66	50.5	53.3	53.2	2.7	No	53.2	2.7	No
R1014	Residential	B / 66	47.3	50.1	49.7	2.4	No	49.7	2.4	No
R1014-1	Residential	B / 66	50.2	53.0	52.8	2.6	No	52.8	2.6	No
R1015	Residential	B / 66	46.8	49.6	49.4	2.6	No	49.4	2.6	No
R1015-1	Residential	B / 66	49.7	52.5	52.5	2.8	No	52.5	2.8	No
R1016	Residential	B / 66	46.3	49.1	49.0	2.7	No	49.0	2.7	No
R1016-1	Residential	B / 66	49.2	52.0	52.1	2.9	No	52.0	2.8	No
R1017	Residential	B / 66	45.9	48.6	48.6	2.7	No	48.4	2.5	No
R1017-1	Residential	B / 66	48.7	51.5	51.6	2.9	No	51.6	2.9	No
R1018	Residential	B / 66	45.3	48.0	48.0	2.7	No	47.9	2.6	No
R1018-1	Residential	B / 66	47.8	50.6	50.9	3.1	No	50.8	3.0	No
R1019	Residential	B / 66	44.6	47.3	46.8	2.2	No	46.7	2.1	No
R1019-1	Residential	B / 66	46.9	49.6	50.0	3.1	No	49.9	3.0	No
R1020	Residential	B / 66	44.6	47.2	46.5	1.9	No	46.4	1.8	No
R1020-1	Residential	B / 66	46.5	49.2	49.6	3.1	No	49.5	3.0	No
R1021	Residential	B / 66	44.6	47.2	46.4	1.8	No	46.3	1.7	No
R1021-1	Residential	B / 66	46.4	49.1	49.4	3.0	No	49.3	2.9	No
R1022	Residential	B / 66	44.6	47.0	46.2	1.6	No	46.0	1.4	No
R1022-1	Residential	B / 66	46.1	48.8	49.0	2.9	No	49.0	2.9	No
R1023	Residential	B / 66	44.6	47.2	46.2	1.6	No	46.1	1.5	No
R1023-1	Residential	B / 66	46.1	48.7	48.8	2.7	No	48.8	2.7	No
R1024	Residential	B / 66	50.1	52.9	52.5	2.4	No	52.5	2.4	No
R1024-1	Residential	B / 66	53.1	55.9	54.9	1.8	No	54.9	1.8	No
R1025	Residential	B / 66	49.7	52.5	52.1	2.4	No	52.0	2.3	No
R1025-1	Residential	B / 66	52.6	55.4	54.3	1.7	No	54.3	1.7	No
R1026	Residential	B / 66	49.1	51.9	51.6	2.5	No	51.6	2.5	No
R1026-1	Residential	B / 66	52.2	55.0	53.9	1.7	No	53.9	1.7	No
R1027	Residential	B / 66	48.7	51.5	51.1	2.4	No	51.0	2.3	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R1027-1	Residential	B / 66	51.7	54.6	53.4	1.7	No	53.4	1.7	No
R1028	Residential	B / 66	48.2	51.0	50.6	2.4	No	50.6	2.4	No
R1028-1	Residential	B / 66	51.3	54.1	53.0	1.7	No	53.0	1.7	No
R1029	Residential	B / 66	47.6	50.4	50.2	2.6	No	50.2	2.6	No
R1029-1	Residential	B / 66	50.8	53.6	52.7	1.9	No	52.6	1.8	No
R1030	Residential	B / 66	46.6	49.4	49.4	2.8	No	49.3	2.7	No
R1030-1	Residential	B / 66	49.7	52.5	51.9	2.2	No	51.9	2.2	No
R1031	Residential	B / 66	46.4	49.1	49.1	2.7	No	49.0	2.6	No
R1031-1	Residential	B / 66	49.3	52.1	51.6	2.3	No	51.5	2.2	No
R1032	Residential	B / 66	46.1	48.9	48.8	2.7	No	48.7	2.6	No
R1032-1	Residential	B / 66	49.0	51.8	51.4	2.4	No	51.3	2.3	No
R1033	Residential	B / 66	45.8	48.6	48.4	2.6	No	48.3	2.5	No
R1033-1	Residential	B / 66	48.8	51.6	51.2	2.4	No	51.1	2.3	No
R1034	Residential	B / 66	45.6	48.3	48.3	2.7	No	48.1	2.5	No
R1034-1	Residential	B / 66	48.4	51.2	51.0	2.6	No	50.9	2.5	No
R1035	Residential	B / 66	45.6	48.2	48.1	2.5	No	47.9	2.3	No
R1035-1	Residential	B / 66	48.1	50.9	50.8	2.7	No	50.7	2.6	No
R1036	Residential	B / 66	44.6	46.7	45.5	0.9	No	45.3	0.7	No
R1037	Residential	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R1038	Residential	B / 66	44.6	46.6	45.9	1.3	No	45.7	1.1	No
R1039	Residential	B / 66	44.6	45.4	45.8	1.2	No	44.7	0.1	No
R1040	Residential	B / 66	45.7	48.4	48.0	2.3	No	48.0	2.3	No
R1041	Residential	B / 66	47.5	50.3	49.5	2.0	No	49.5	2.0	No
R1042	Residential	B / 66	46.0	48.8	47.5	1.5	No	47.6	1.6	No
R1043	Residential	B / 66	44.9	47.7	46.8	1.9	No	46.8	1.9	No
R1044	Residential	B / 66	44.6	45.3	44.6	0.0	No	44.6	0.0	No
R1045	Residential	B / 66	44.6	46.2	46.7	2.1	No	44.9	0.3	No
R1046	Residential	B / 66	57.0	60.2	60.3	3.3	No	60.3	3.3	No
R1047	Restaurant/Patio	E / 71	58.5	60.6	61.2	2.7	No	61.2	2.7	No
R1048	Bank	F / --	70.5	73.5	74.0	3.5	No	74.0	3.5	No
R1049	Car Wash	F / --	69.5	73.3	70.6	1.1	No	70.4	0.9	No
R1050	Office	E / 71	69.1	71.2	70.4	1.3	No	70.4	1.3	No
R1051	Office	E / 71	59.8	61.9	62.3	2.5	No	62.3	2.5	No
R1052	Commercial	F / --	56.9	59.0	59.1	2.2	No	59.1	2.2	No
R1053	Ace Hardware/Commercial	F / --	63.3	65.4	65.0	1.7	No	64.9	1.6	No
R1054	Restaurant/Retail	E / 71	57.4	60.7	60.9	3.5	No	58.5	1.1	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
					Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?	Proposed Action (2040)	Proposed Action Change From Existing (dBA)	Proposed Action Causes Impact?
			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R1055	Residential	B / 66	52.2	55.3	59.4	7.2	No	58.9	6.7	No
R1056	Residential	B / 66	49.3	52.3	54.7	5.4	No	54.2	4.9	No
R1057	Residential	B / 66	49.0	52.3	53.8	4.8	No	56.5	7.5	No
R1058	Residential	B / 66	49.3	52.5	54.1	4.8	No	56.9	7.6	No
R1059	Residential	B / 66	49.1	52.4	54.4	5.3	No	57.3	8.2	No
R1060	Residential	B / 66	49.4	52.7	54.7	5.3	No	57.6	8.2	No
R1061	Residential	B / 66	49.8	53.1	55.2	5.4	No	58.0	8.2	No
R1062	Residential	B / 66	51.0	54.3	56.2	5.2	No	59.1	8.1	No
R1063	Residential	B / 66	51.5	54.9	56.7	5.2	No	59.6	8.1	No
R1064	Residential	B / 66	52.2	55.5	57.2	5.0	No	60.1	7.9	No
R1065	Residential	B / 66	46.5	49.5	55.0	8.5	No	54.6	8.1	No
R1066	Residential	B / 66	44.6	44.6	48.3	3.7	No	47.7	3.1	No
R1067	Residential	B / 66	44.6	44.9	49.0	4.4	No	48.5	3.9	No
R1068	Residential	B / 66	44.6	44.6	48.5	3.9	No	48.0	3.4	No
R1069	Residential	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R1070	Residential	B / 66	44.6	44.9	49.1	4.5	No	48.6	4.0	No
R1071	Residential	B / 66	44.6	44.6	46.7	2.1	No	46.1	1.5	No
R1072	Residential	B / 66	44.6	44.6	45.7	1.1	No	45.1	0.5	No
R1073	Residential	B / 66	44.6	44.6	45.2	0.6	No	44.6	0.0	No
R1074	Residential	B / 66	44.6	44.6	45.8	1.2	No	45.3	0.7	No
R1075	Residential	B / 66	44.6	44.6	46.4	1.8	No	45.7	1.1	No
R1076	Residential	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R1077	Residential	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R1078	Residential	B / 66	44.6	44.6	44.6	0.0	No	44.6	0.0	No
R1079	Residential	B / 66	47.8	50.9	54.0	6.2	No	53.4	5.6	No
R1080	Residential	B / 66	47.4	50.5	53.2	5.8	No	52.6	5.2	No
R1081	Residential	B / 66	44.6	44.6	46.5	1.9	No	46.0	1.4	No
R1082	Residential	B / 66	45.1	48.2	50.7	5.6	No	50.1	5.0	No
R1083	Residential	B / 66	45.9	49.0	51.6	5.7	No	51.1	5.2	No
R1084	Residential	B / 66	46.0	49.0	51.4	5.4	No	50.8	4.8	No
R1085	Residential	B / 66	44.6	45.4	48.1	3.5	No	47.6	3.0	No
R1086	Residential	B / 66	44.6	44.6	47.1	2.5	No	46.6	2.0	No
R1087	Residential	B / 66	51.6	54.7	57.9	6.3	No	57.5	5.9	No
R1088	Residential	B / 66	51.8	54.9	57.3	5.5	No	56.9	5.1	No
R1089	Commercial	F / --	54.3	57.3	58.5	4.2	No	58.1	3.8	No
R1090	Commercial	F / --	54.2	57.2	58.4	4.2	No	58.0	3.8	No
R1091	Commercial	F / --	54.1	57.2	58.4	4.3	No	58.0	3.9	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R1092	Commercial	F / --	54.0	57.0	58.2	4.2	No	57.8	3.8	No
R1093	Commercial	F / --	53.9	56.9	58.1	4.2	No	57.7	3.8	No
R1094	Commercial	F / --	53.7	56.8	57.9	4.2	No	57.5	3.8	No
R1095	Commercial	F / --	53.5	56.6	57.7	4.2	No	57.3	3.8	No
R1096	Commercial	F / --	53.4	56.4	57.6	4.2	No	57.2	3.8	No
R1097	Commercial	F / --	53.2	56.2	57.4	4.2	No	57.0	3.8	No
R1098	Commercial	F / --	53.1	56.1	57.3	4.2	No	56.9	3.8	No
R1099	Residential	B / 66	49.5	52.6	53.1	3.6	No	52.6	3.1	No
R1100	Residential	B / 66	50.2	53.3	53.8	3.6	No	53.4	3.2	No
R1101	Residential	B / 66	51.6	54.7	55.4	3.8	No	55.0	3.4	No
R1102	Residential	B / 66	53.1	56.2	57.0	3.9	No	56.6	3.5	No
R1103	Residential	B / 66	55.7	58.8	59.8	4.1	No	59.4	3.7	No
R1104	Residential	B / 66	57.1	60.2	61.3	4.2	No	60.9	3.8	No
R1105	Residential	B / 66	57.1	60.1	61.4	4.3	No	61.0	3.9	No
R1106	Residential	B / 66	58.0	61.1	62.5	4.5	No	62.2	4.2	No
R1107	Residential	B / 66	54.9	58.0	60.1	5.2	No	59.8	4.9	No
R1108	Residential	B / 66	53.4	56.5	58.5	5.1	No	58.1	4.7	No
R1109	Residential	B / 66	52.4	55.4	57.1	4.7	No	56.7	4.3	No
R1110	Residential	B / 66	51.5	54.6	55.9	4.4	No	55.6	4.1	No
R1111	Residential	B / 66	50.8	53.8	54.7	3.9	No	54.4	3.6	No
R1112	Residential	B / 66	50.2	53.3	53.8	3.6	No	53.4	3.2	No
R1113	Residential	B / 66	49.6	52.7	52.8	3.2	No	52.5	2.9	No
R1114	Commercial	F / --	48.5	51.4	53.0	4.5	No	53.2	4.7	No
R1115	Commercial	F / --	47.9	50.4	53.0	5.1	No	53.1	5.2	No
R1116	Residential	B / 66	50.8	54.0	55.0	4.2	No	54.2	3.4	No
R1117	Residential	B / 66	49.0	52.2	52.4	3.4	No	51.9	2.9	No
R1118	Residential	B / 66	48.5	51.6	51.9	3.4	No	51.4	2.9	No
R1119	Residential	B / 66	46.1	49.3	49.4	3.3	No	48.3	2.2	No
R1120	Residential	B / 66	46.1	49.3	49.5	3.4	No	48.7	2.6	No
R1121	Residential	B / 66	48.0	51.1	51.4	3.4	No	55.5	7.5	No
R1122	Residential	B / 66	47.6	50.8	51.2	3.6	No	54.9	7.3	No
R1123	Residential	B / 66	47.2	50.4	50.7	3.5	No	53.9	6.7	No
R1124	Residential	B / 66	46.8	49.9	50.9	4.1	No	53.8	7.0	No
R1125	Residential	B / 66	46.5	49.7	50.7	4.2	No	53.4	6.9	No
R1126	Residential	B / 66	46.4	49.6	50.7	4.3	No	53.2	6.8	No
R1127	Residential	B / 66	46.3	49.5	50.6	4.3	No	52.9	6.6	No
R1128	Residential	B / 66	46.2	49.4	50.5	4.3	No	52.6	6.4	No

Receiver ID	Receiver Description	Activity Category / CDOT NAC (dBA)	Existing (2019)	No Action (2040)	Alt 1			Alt 7A		
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			L_{eq} (dBA)	L_{eq} (dBA)	L_{eq} (dBA)		(Yes or No)	L_{eq} (dBA)		(Yes or No)
R1129	Residential	B / 66	46.4	49.5	50.4	4.0	No	52.3	5.9	No
R1130	Residential	B / 66	44.6	46.5	45.7	1.1	No	50.2	5.6	No
R1131	Residential	B / 66	44.6	45.9	45.2	0.6	No	49.3	4.7	No
R1132	Residential	B / 66	44.6	45.3	44.6	0.0	No	48.5	3.9	No
R1133	Residential	B / 66	44.6	44.9	44.6	0.0	No	48.0	3.4	No
R1134	Residential	B / 66	44.6	44.7	44.6	0.0	No	47.7	3.1	No
R1135	Residential	B / 66	44.6	44.7	44.6	0.0	No	47.5	2.9	No
R1136	Residential	B / 66	44.6	44.6	44.6	0.0	No	47.3	2.7	No
R1137	Residential	B / 66	59.1	62.3	60.2	1.1	No	61.0	1.9	No
R1138	Commercial	F / --	54.3	57.3	58.1	3.8	No	57.6	3.3	No
R1139	Commercial	F / --	56.3	59.6	60.5	4.2	No	57.1	0.8	No
R1140	Walmart/Outdoor Benches	E / 71	62.0	64.1	62.5	0.5	No	62.5	0.5	No
R1141	Residential	B / 66	51.0	54.0	54.0	3.0	No	53.6	2.6	No
R1142	Residential	B / 66	51.5	54.6	54.3	2.8	No	53.9	2.4	No
R1143	Residential	B / 66	52.0	55.0	54.4	2.4	No	54.0	2.0	No

HIGHWAY 41 CORRIDOR IMPROVEMENTS

Appendix D – Field Data Collection Sheets

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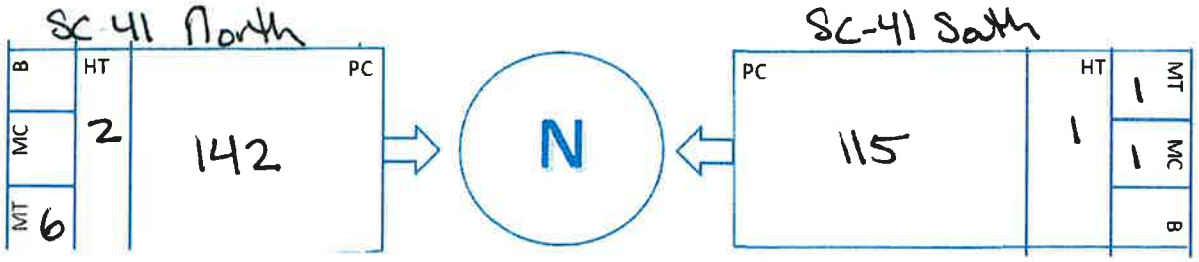
Tally Sheet

Date: 9/19/17 Start Time: 2:25 Finish Time: 2:40

Location: Weather: Road Conditions: flooding

Observer: Sciarro

Noise Conditions: 2080 Kings Gate Ln
610436, 3640698



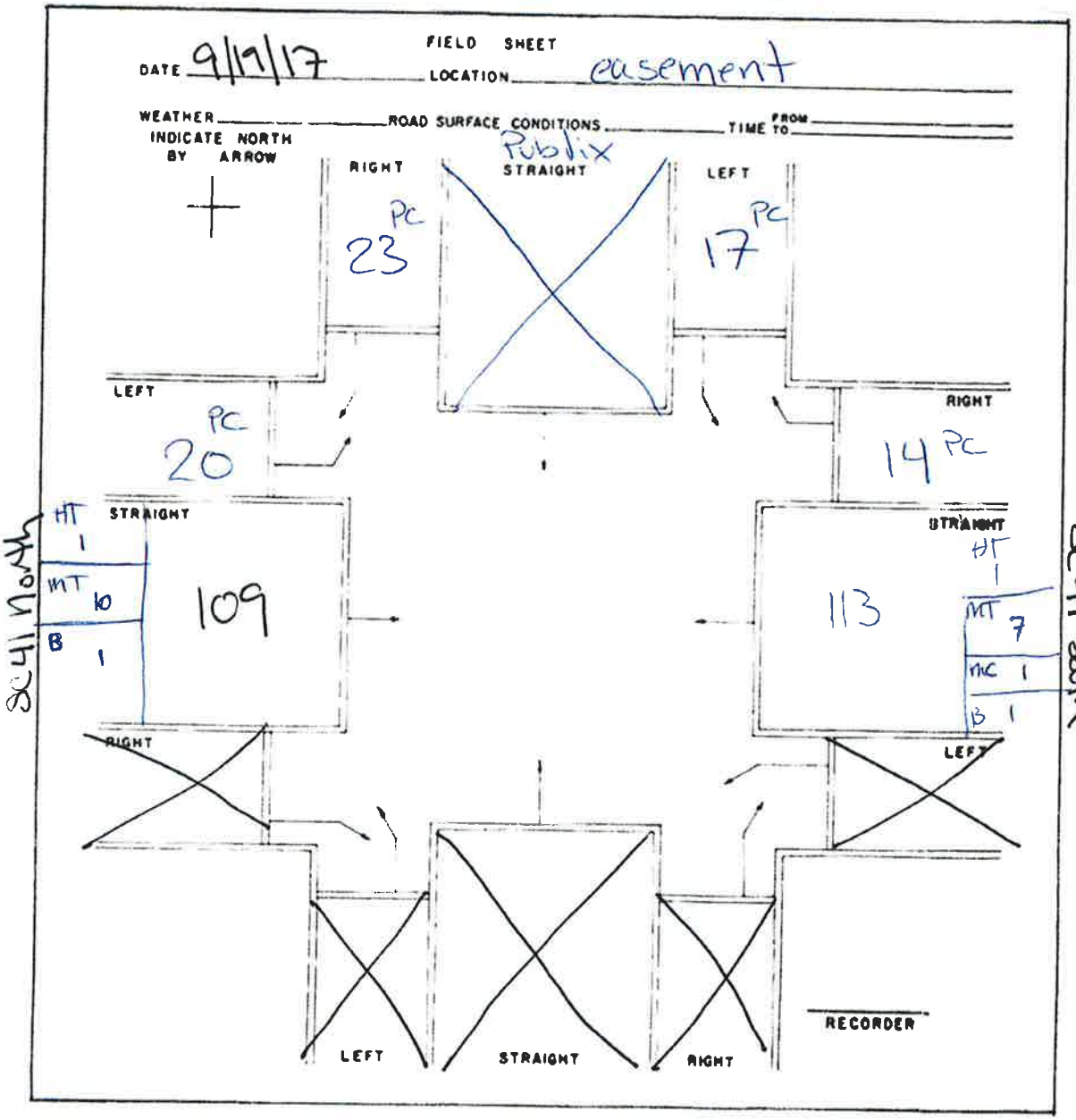
Tally Sheet

Date: 9/19/17 Start Time: 2:52 Finish Time: 3:08

Location: easement Weather: 86 Road Conditions: flow

Observer: Sciarro

Noise Conditions:



Motor Vehicle Volume Field Sheet

Tally Sheet

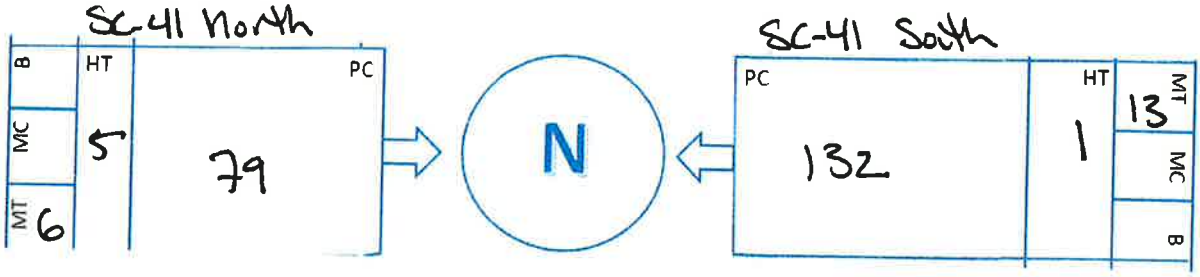
Date: 9/20/17 Start Time: 9:39 Finish Time: 9:54

Location: Harpers Ferry Weather: 79°F sunny Road Conditions: Slow

Observer: Sciarra

Noise Conditions: Construction + landscaping noise

609619, 3841507



Tally Sheet

Date: 9/20/17 Start Time: 10:37 Finish Time: 10:52

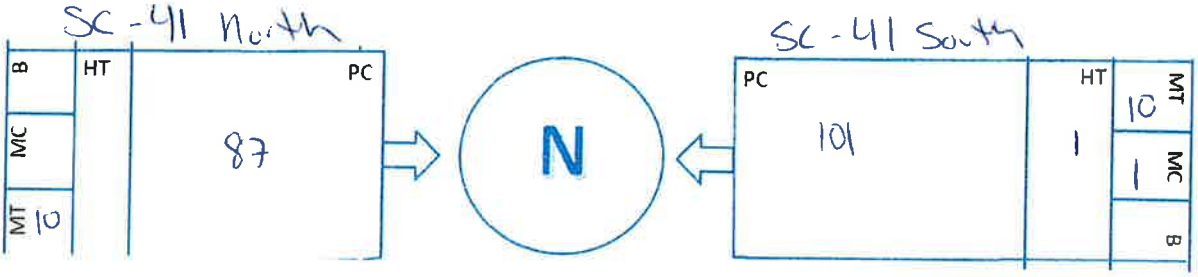
Location: SC-41 N Weather: 81° sunny Road Conditions: freeflow

Observer: Sciarro

Noise Conditions: had to restart b/c a heavy truck idled directly in front of the meter. construction area ditch maintenance

Zone H

610197 3643895



Tally Sheet

Date: 9/20/17 Start Time: 11:15 - 11:30 Finish Time:

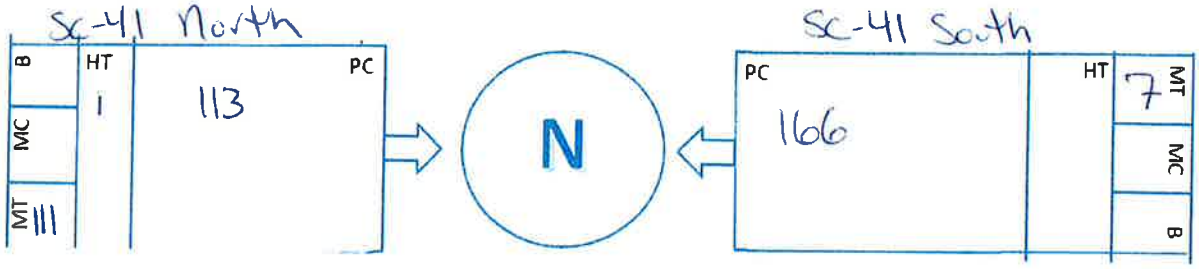
Location: Phillip Manor Weather: 81° sunny Road Conditions: free flow

Observer: Sciarro

Noise Conditions:

610903. 3639692

Zone E



Tally Sheet

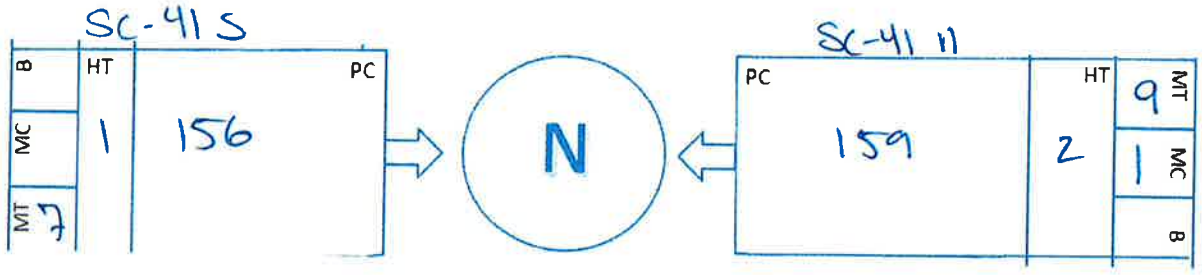
Date: 9/20/17 Start Time: 11:46 Finish Time: 12:01

Location: Smalls Weather: 81° Road Conditions: flowing

Observer: Sciarro

Noise Conditions:

611129, 3638992



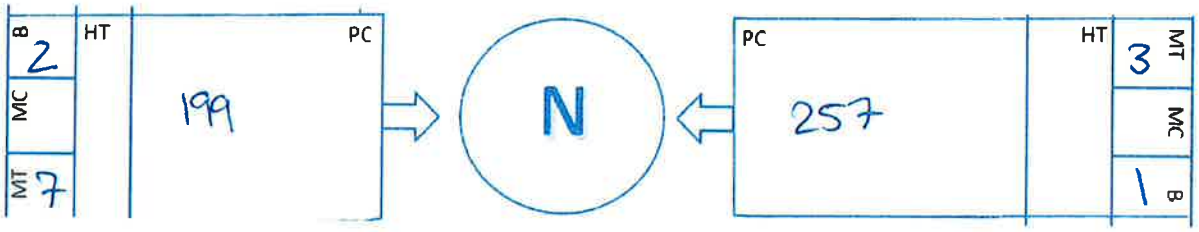
Tally Sheet

Date: 9/20/17 Start Time: 2:53 Finish Time: 3:08

Location: Lakecrest Weather: 81° sunny Road Conditions: free flow

Observer: Sciarro

Noise Conditions: 612277, 3636891



Tally Sheet

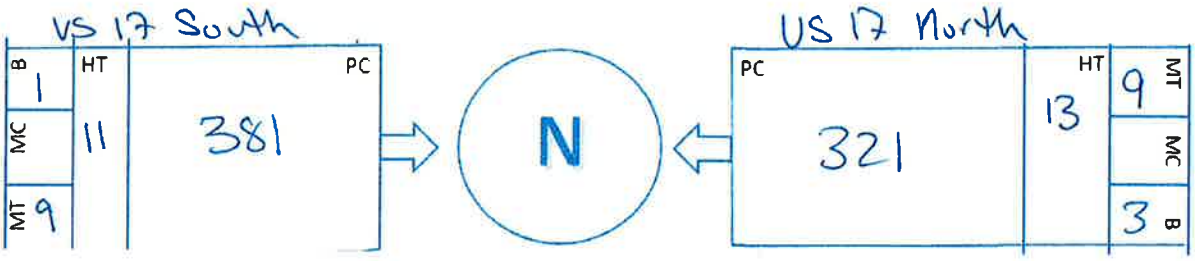
Date: 9/21/17 Start Time: 9:40 Finish Time: 9:55

Location: Caroline Therapy Weather: 79° Sunny Road Conditions: free flow

Observer: Sciarro

Noise Conditions:

video used for count



Tally Sheet

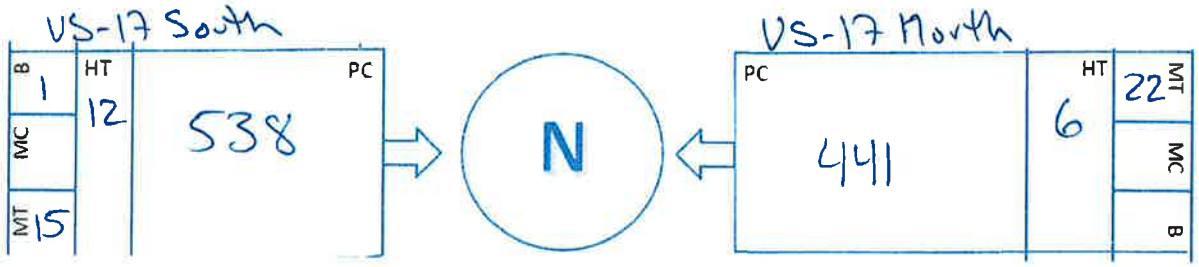
Date: 9/21/17 Start Time: 10:50 Finish Time: 11:05

Location: McConnell Weather: 79° sunny Road Conditions: free flow

Observer: Sciarro

Noise Conditions:

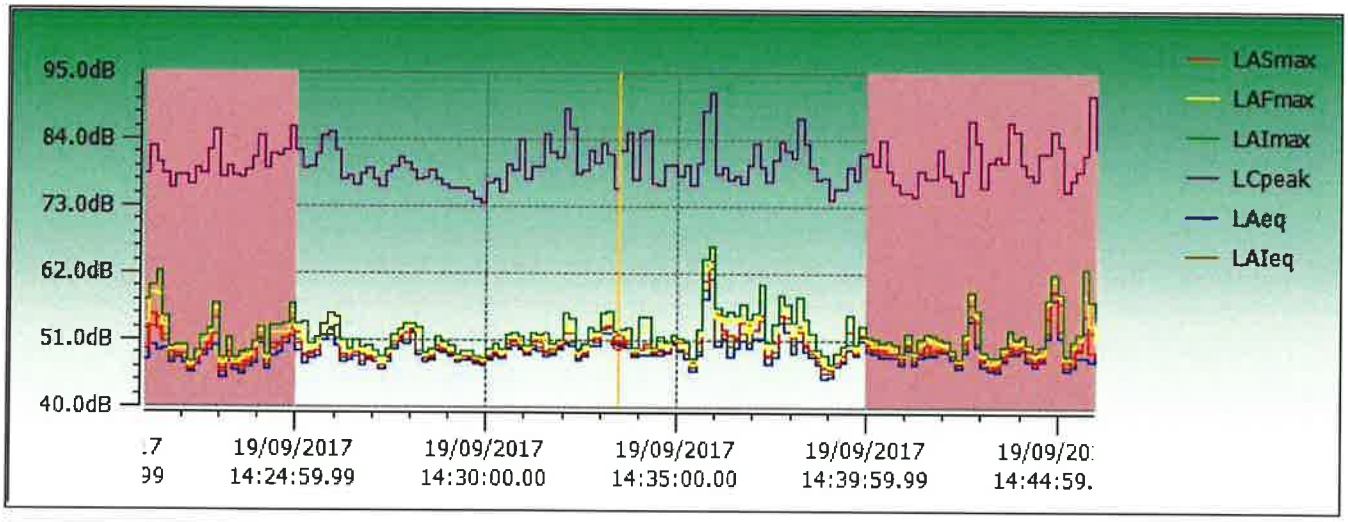
used video for count

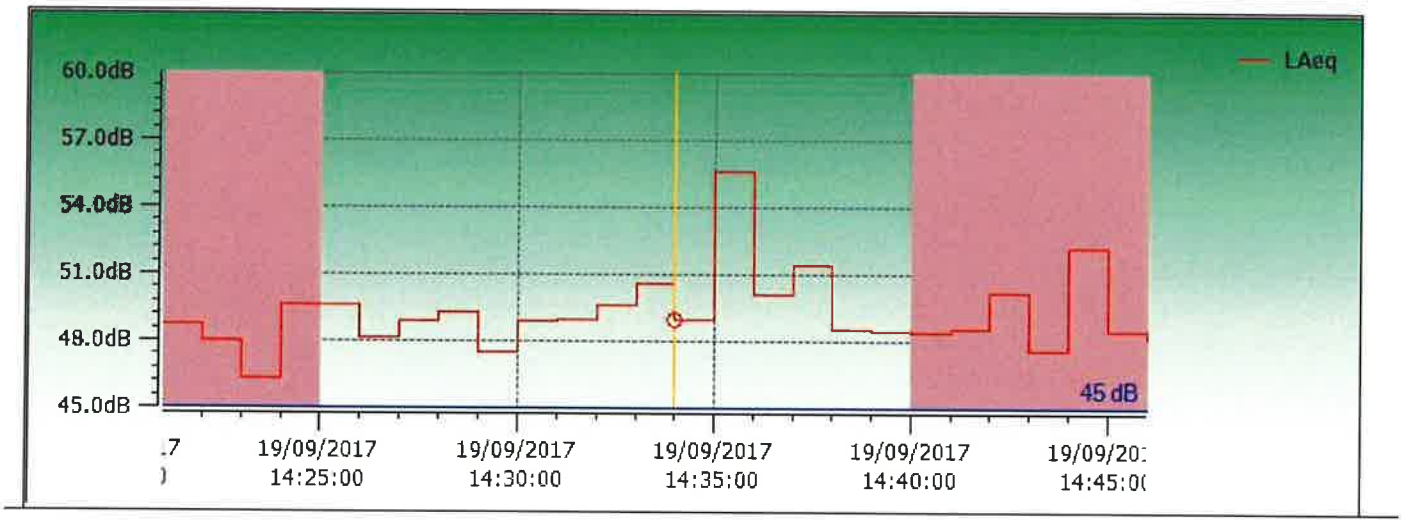


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:24:58 HH:MM:SS	Start Date & Time	9/19/2017 2:21:03 PM
LAeq	49.8 dB	End Date & Time	9/19/2017 2:46:01 PM
LAeq Inclusion Zone	50.2 dB		

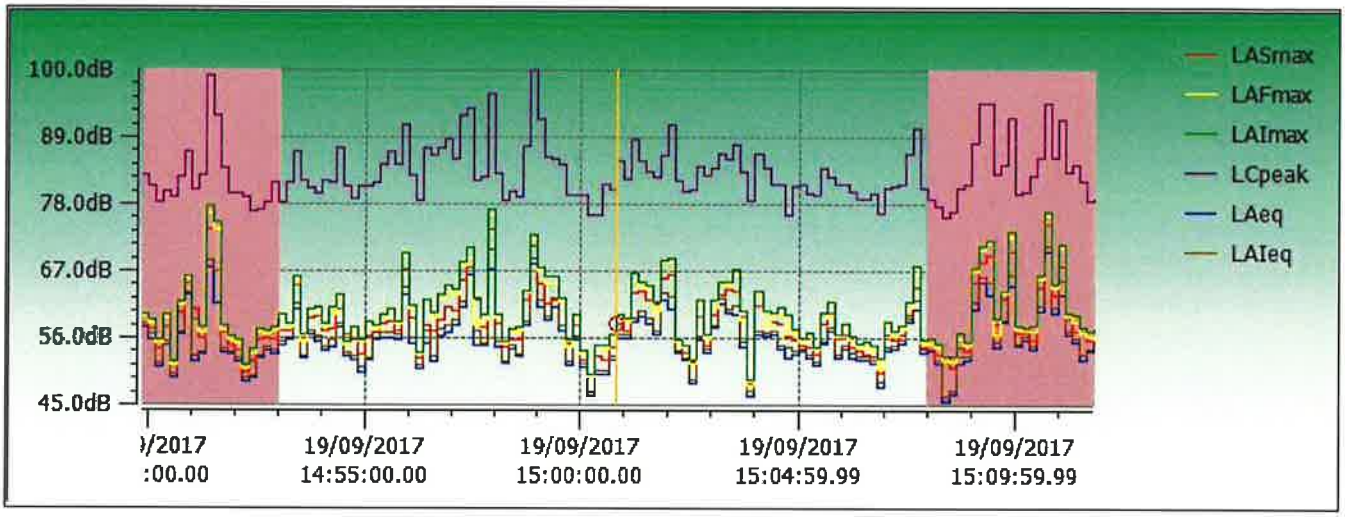


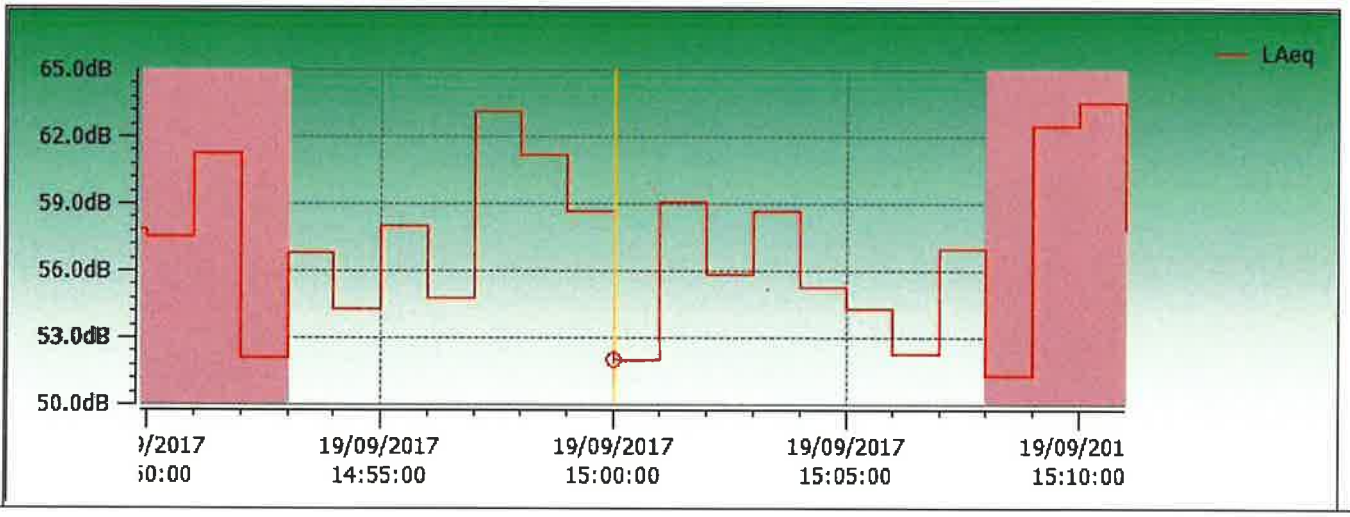


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:22:01 HH:MM:SS	Start Date & Time	9/19/2017 2:49:53 PM
LAeq	58.6 dB	End Date & Time	9/19/2017 3:11:54 PM
LAeq Inclusion Zone	57.9 dB		

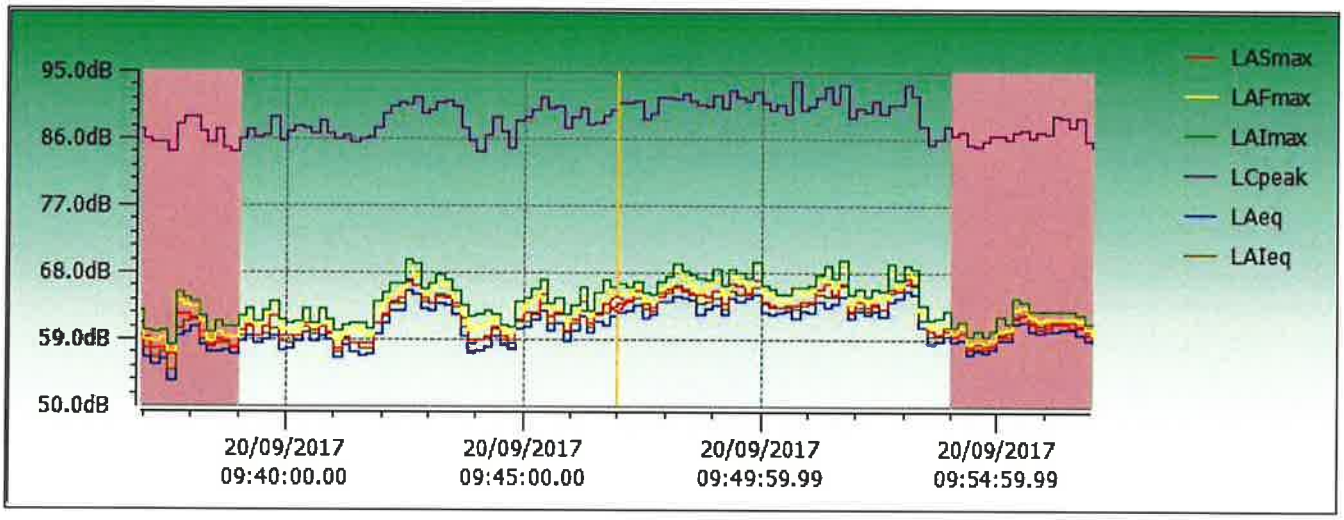


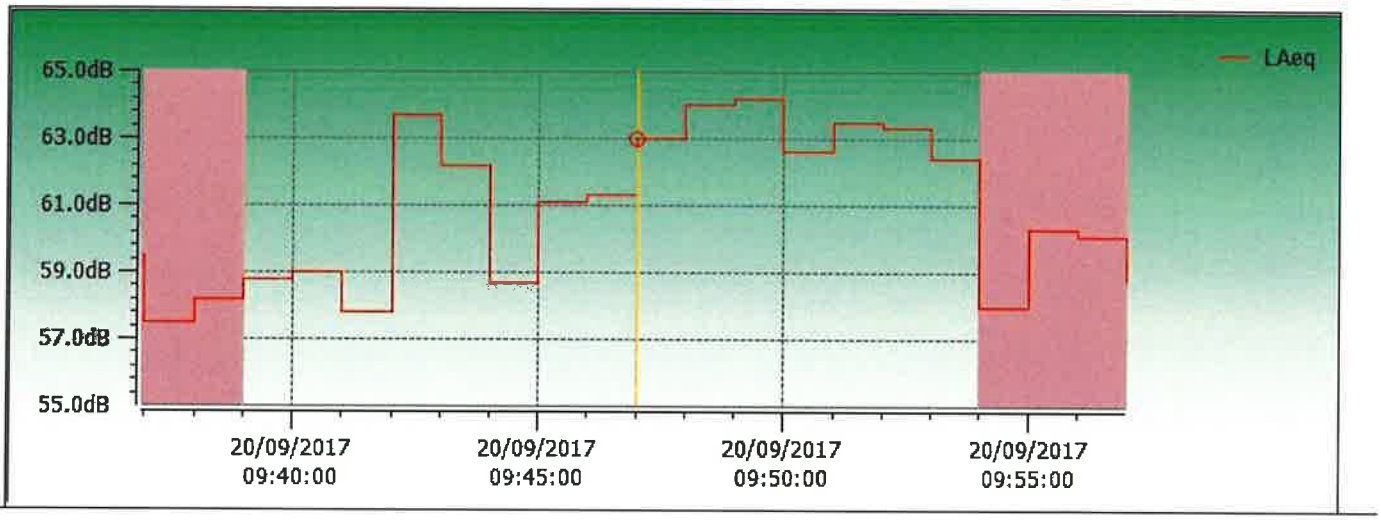


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:20:03 HH:MM:SS	Start Date & Time	9/20/2017 9:36:57 AM
LAeq	61.5 dB	End Date & Time	9/20/2017 9:57:00 AM
LAeq Inclusion Zone	62.3 dB		

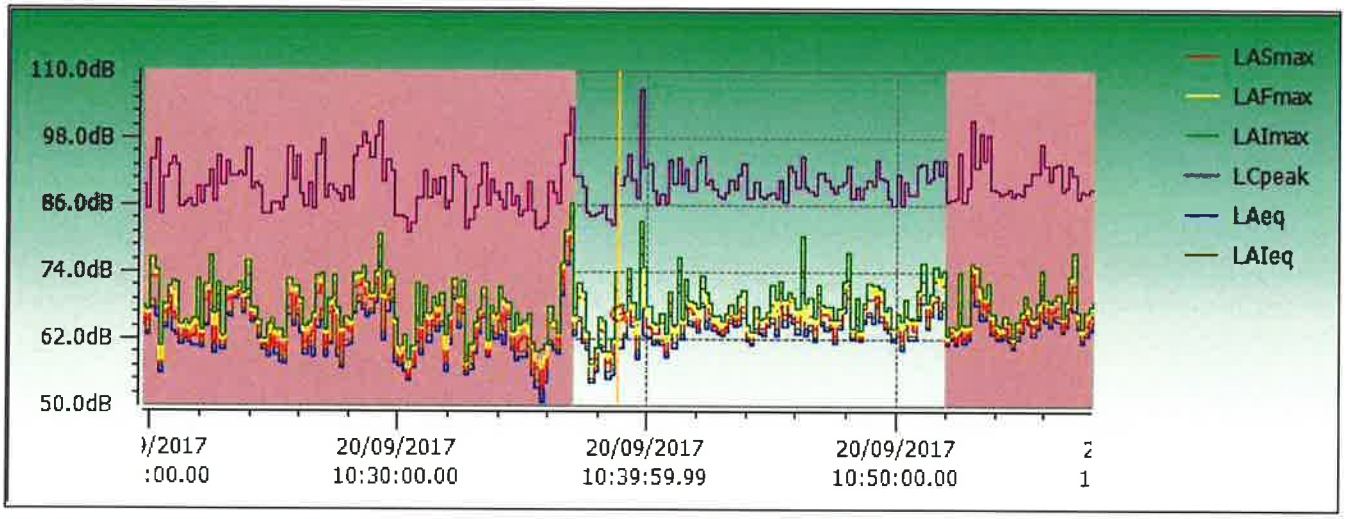


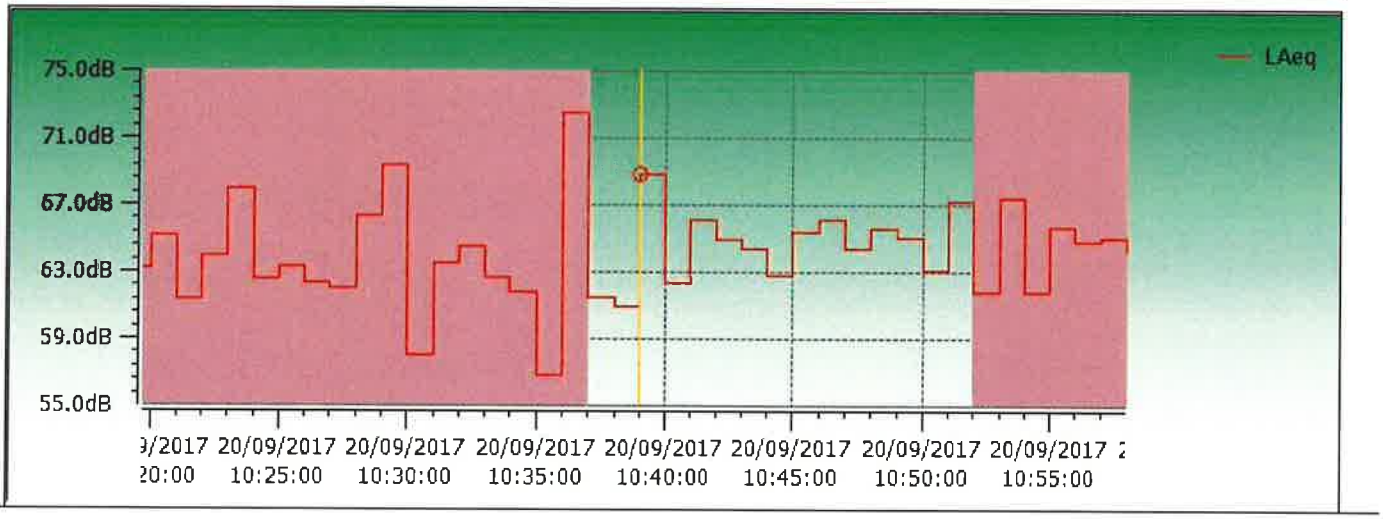


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:38:22 HH:MM:SS	Start Date & Time	9/20/2017 10:19:45 AM
LAeq	65.3 dB	End Date & Time	9/20/2017 10:58:07 AM
LAeq Inclusion Zone	65.2 dB		

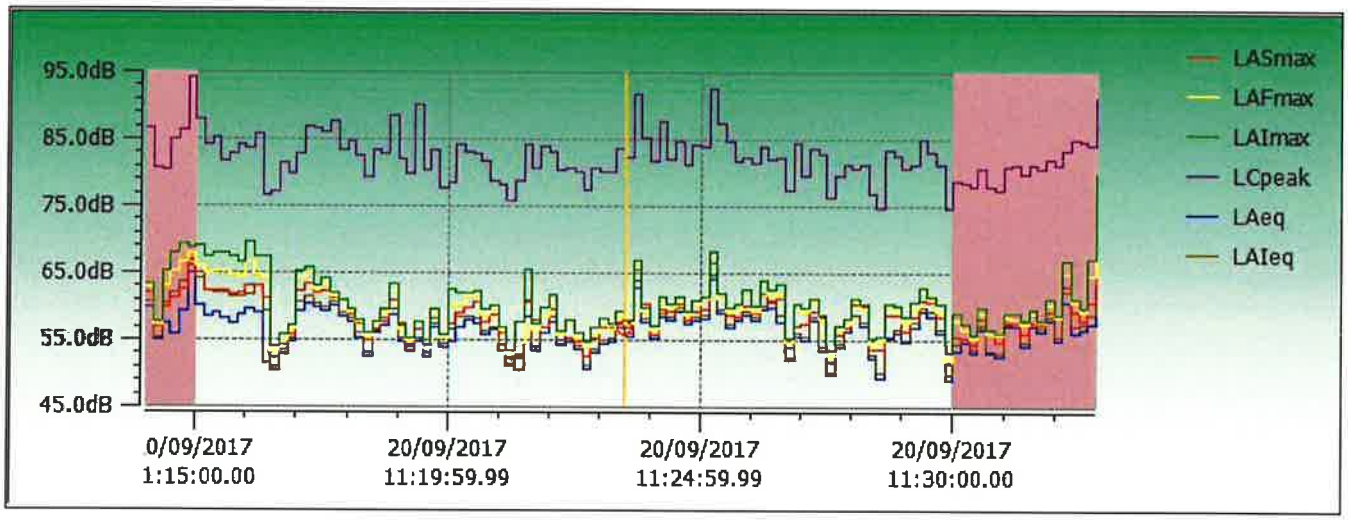


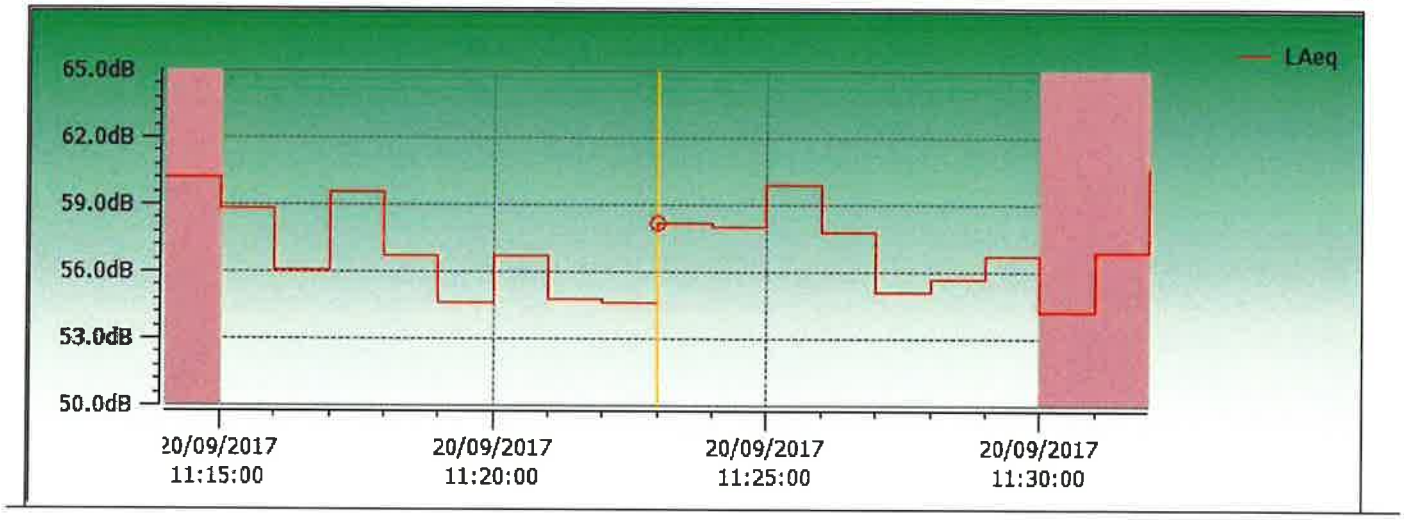


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:18:50 HH:MM:SS	Start Date & Time	9/20/2017 11:14:01 AM
LAeq	57.5 dB	End Date & Time	9/20/2017 11:32:51 AM
LAeq Inclusion Zone	57.1 dB		

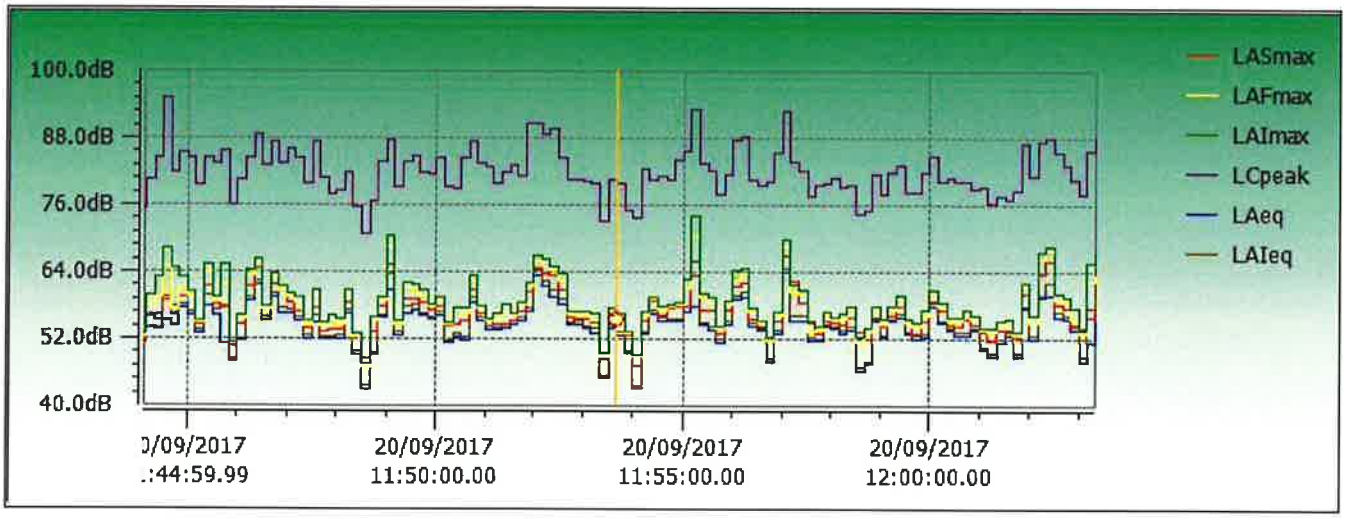


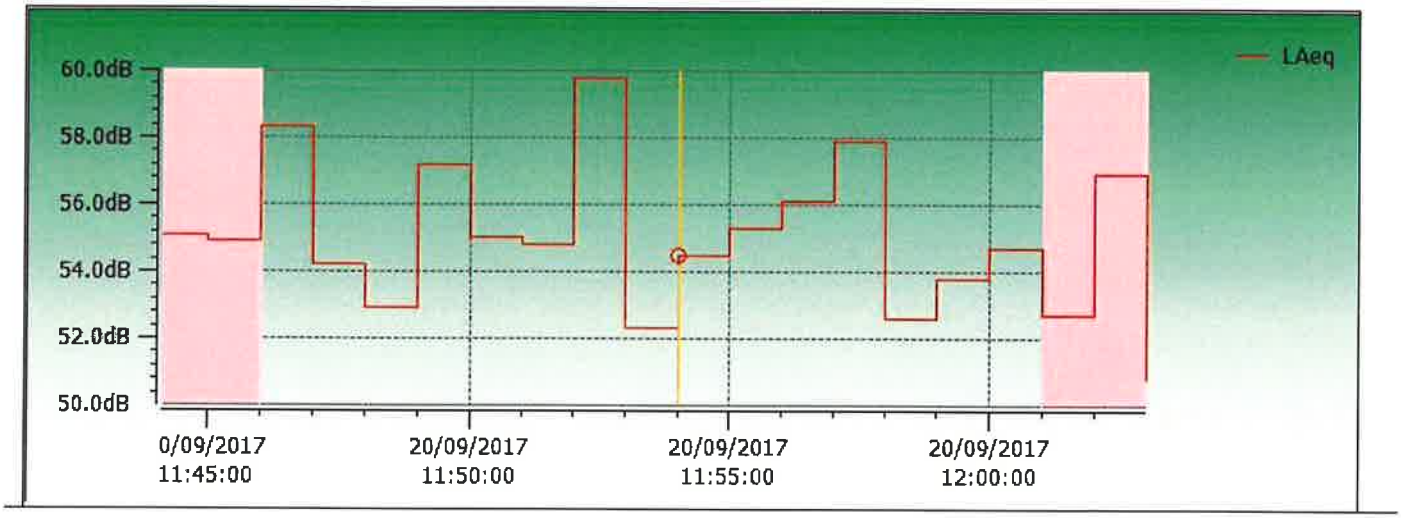


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:19:14 HH:MM:SS	Start Date & Time	9/20/2017 11:44:08 AM
LAeq	55.7 dB	End Date & Time	9/20/2017 12:03:22 PM
LAeq Inclusion Zone	55.6 dB		

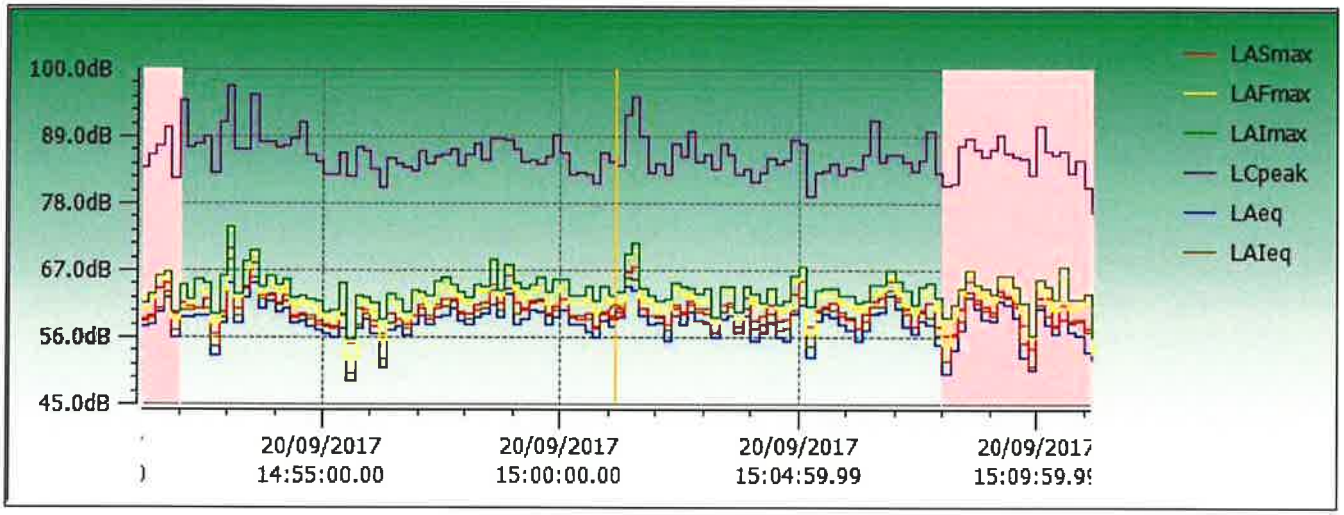


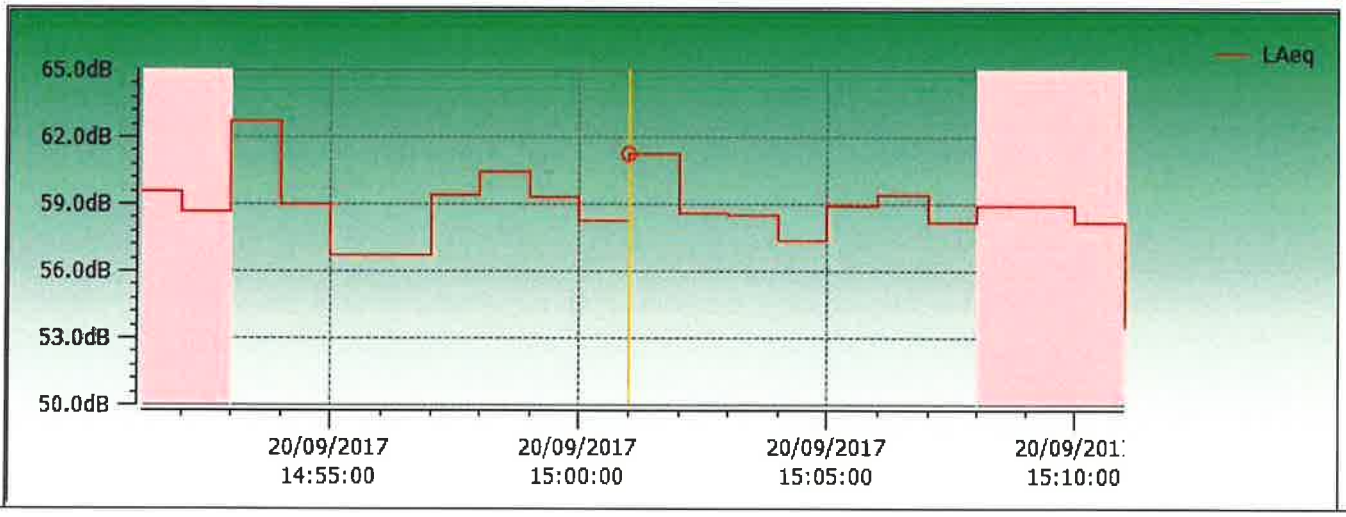


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:19:57 HH:MM:SS	Start Date & Time	9/20/2017 2:51:13 PM
LAeq	59.2 dB	End Date & Time	9/20/2017 3:11:10 PM
LAeq Inclusion Zone	58.9 dB		

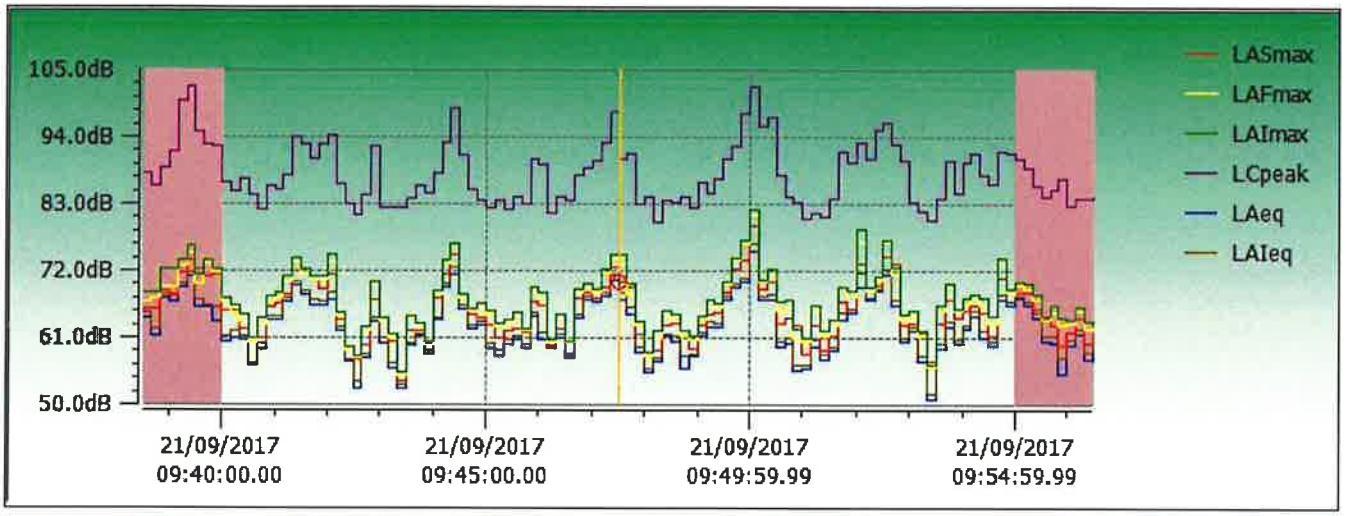


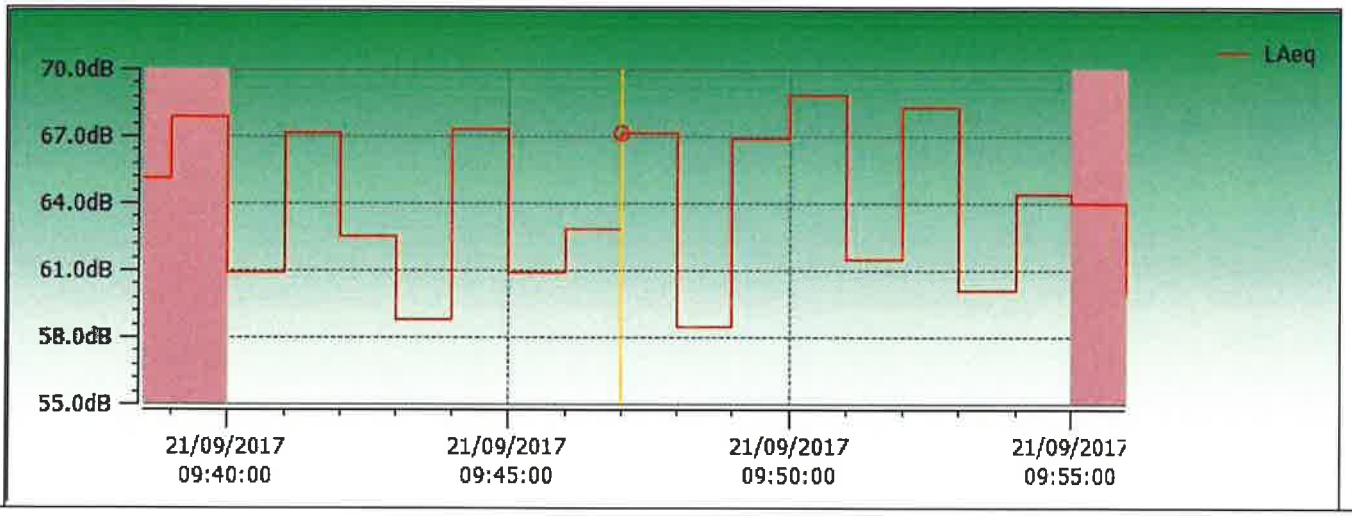


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:17:59 HH:MM:SS	Start Date & Time	9/21/2017 9:38:31 AM
LAeq	65.1 dB	End Date & Time	9/21/2017 9:56:30 AM
LAeq Inclusion Zone	65.3 dB		

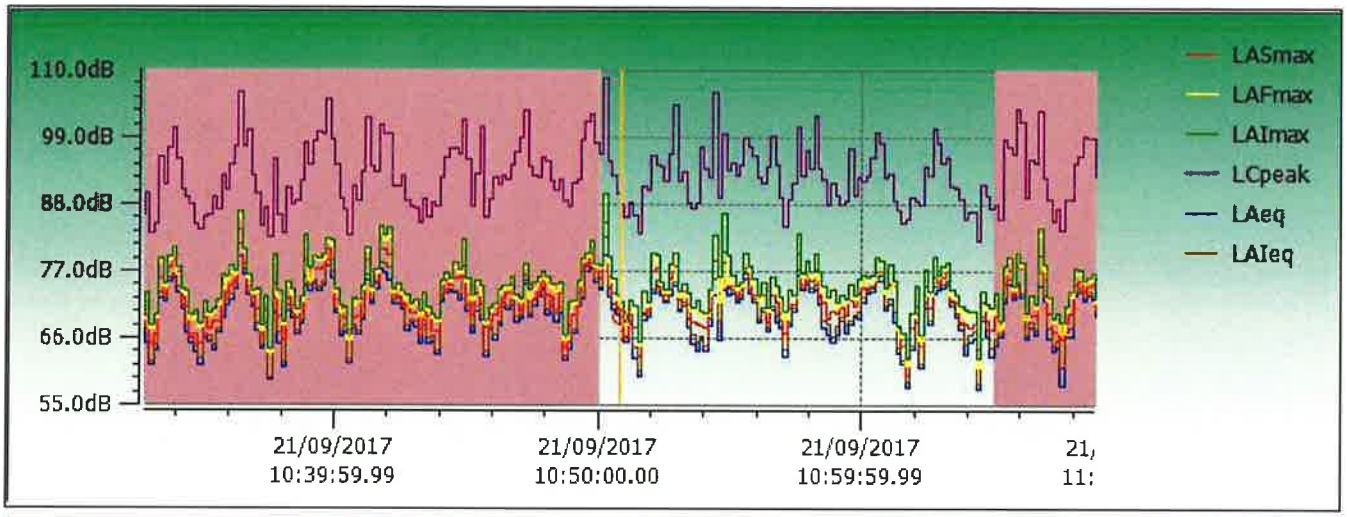


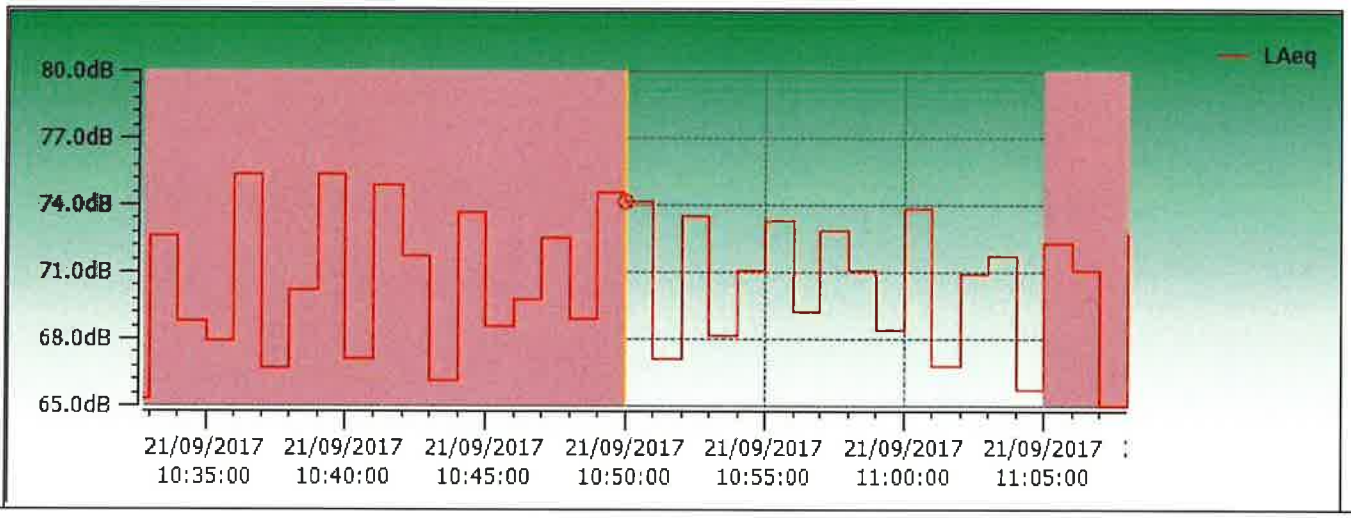


SC 41 Traffic Noise Measurements

Air Hub Project No: CHS-17-062

Instrument Model	**CEL-633A**		
Duration	00:36:06 HH:MM:SS	Start Date & Time	9/21/2017 10:32:49 AM
LAeq	71.6 dB	End Date & Time	9/21/2017 11:08:55 AM
LAeq Inclusion Zone	71.0 dB		





INSTRUMENT CALIBRATION REPORT

Advanced Labs, Inc.

Pine Environmental Services, Inc

Instrument ID 24152
Description Casella CEL-120/2 Acoustic Calibrator
Calibrated 5/3/2017

Manufacturer Casella
Model Number CEL-120/2
Serial Number 2839253
Location New Jersey
Temp 77

Classification
Status pass
Frequency Yearly EOM
Department Lab
Humidity 30

Calibration Specifications

Group # 1
Group Name Acoustic Tests Performed
Test Performed: Yes **As Found Result: Pass** **As Left Result: Pass**

Test Instruments Used During the Calibration

Test Instrument ID	Description	Manufacturer	Serial Number	(As Of Cal Entry Date) Last Cal Date	Next Cal Date
B&K 4226	Brüel & Kjær 4226	Brüel & Kjær	2590968	4/24/2017	4/24/2018
B&K 4228	Brüel & Kjær 4228	Brüel & Kjær	2667476	4/5/2017	4/5/2018
FLUKE 114	Fluke 114 NIST Traceable Multimeter	Fluke	15310288	5/6/2016	5/6/2017
SOUNDPRO DL-1-1/3	3M SoundPro DL-1-1/3	Quest Technologies	BLL070002	4/17/2017	4/17/2018

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kevin Cole

Advanced Labs, Inc. hereby certifies that this instrument is calibrated and functions to meet the manufacture's specifications using NIST traceable standards, or is derived from accepted values of physical constants.

INSTRUMENT CALIBRATION REPORT

Advanced Labs, Inc.

Pine Environmental Services, Inc

Instrument ID R220141
Description CEL-63X Sound Level Meter
Calibrated 12/29/2016

Manufacturer Casella
Model Number CEL-63X
Serial Number 2145345
Location New Jersey
Temp 70

Classification
Status pass
Frequency Yearly EOM
Department Lab
Humidity 25

Calibration Specifications

Group # 1
Group Name Acoustic Tests Performed
Test Performed: Yes **As Found Result: Fail** **As Left Result: Pass**

Test Instruments Used During the Calibration

Test Instrument ID	Description	Manufacturer	Serial Number	(As Of Cal Entry Date) Last Cal Date	Next Cal Date
B&K 4226	Brüel & Kjær 4226	Brüel & Kjær	2590968	3/15/2016	3/15/2017
B&K 4228	Brüel & Kjær 4228	Brüel & Kjær	2667476	3/15/2016	3/15/2017
FLUKE 114	Fluke 114 NIST Traceable Multimeter	Fluke	15310288	5/6/2016	5/6/2017

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kevin Cole

Advanced Labs, Inc. hereby certifies that this instrument is calibrated and functions to meet the manufacture's specifications using NIST traceable standards, or is derived from accepted values of physical constants.

M-J Hamlin Road

Date: 04/23/2019

Photographer: Terri Sciarro

M-J Hamlin Road

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	6:35
Location:	M-J Hamlin Road
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612010.00 m E 3639947.00 m N
Time Range:	15 minutes
Equipment ID:	LxT - 011
Calibration:	pass

Comments: residential area, EMS could be heard in distance during reading

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.011	Computer's File Name	SLM_0004864_CHAUNCYs_011.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 18:35:10	Duration	0:17:18.4
End Time	2019-04-23 18:52:29	Run Time	0:17:18.4
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	64.4 dB		
LAE	94.6 dB	SEA	--- dB
EA	319.3 µPa²h		
LA_{peak}	94.4 dB	2019-04-23 18:48:26	
LAF_{max}	80.1 dB	2019-04-23 18:48:26	
LAF_{min}	46.3 dB	2019-04-23 18:42:16	
LA_{eq}	64.4 dB		
LC_{eq}	69.1 dB	LC_{eq} - LA_{eq}	4.7 dB
LAI_{eq}	66.3 dB	LAI_{eq} - LA_{eq}	1.9 dB

Exceedances

	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
64.4 dB	64.4 dB	0.0 dB

LDEN	LDay	LEve	LNight
64.4 dB	64.4 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	64.4 dB		69.1 dB		--- dB	
$LF_{(max)}$	80.1 dB	2019-04-23 18:48:26	--- dB		--- dB	
$LF_{(min)}$	46.3 dB	2019-04-23 18:42:16	--- dB		--- dB	
$L_{Peak(max)}$	94.4 dB	2019-04-23 18:48:26	--- dB		--- dB	

Overloads

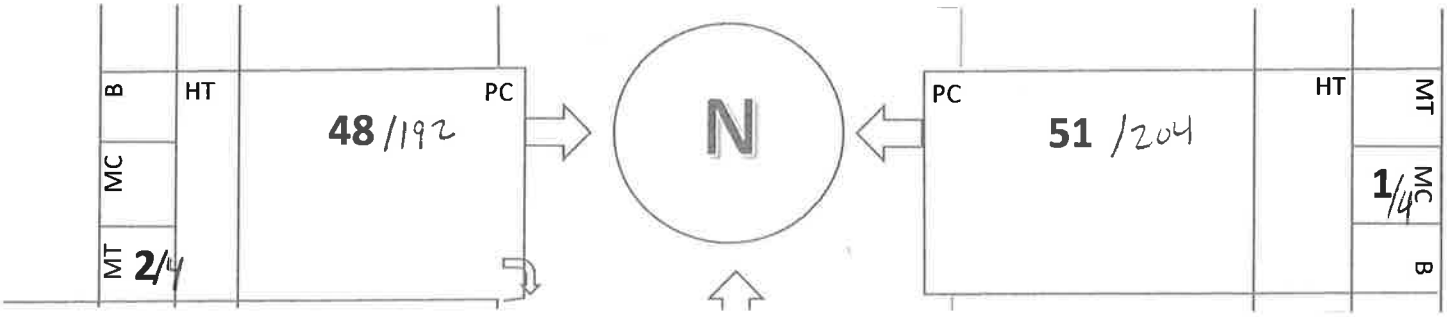
Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

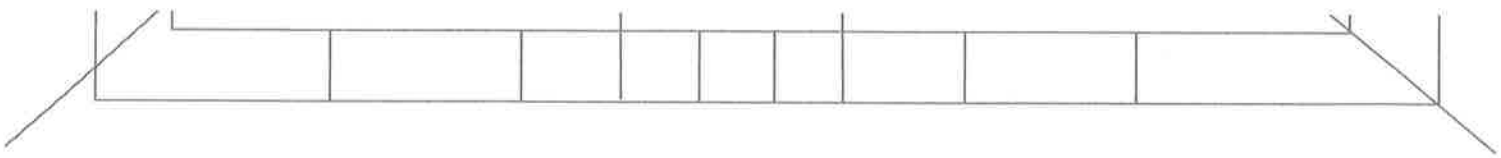
Statistics

LAF 5.0	71.3 dB
LAF 10.0	69.1 dB
LAF 33.3	60.3 dB
LAF 50.0	55.5 dB
LAF 66.6	53.1 dB
LAF 90.0	49.8 dB

Intersection Tally Sheet

Date: 4/23/2019	Start Time: 6:35	Finish Time: 6:50
Location: M-J Hamlin	Weather: clear	Road: light traffic
Observer: T. Sciarro		
Noise Conditions: Residential area near US-17		





M-K Porchers Bluff at Church

Date: 04/23/2019

Photographer: Terri Sciarro

M-K Porchers Bluff at Church

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

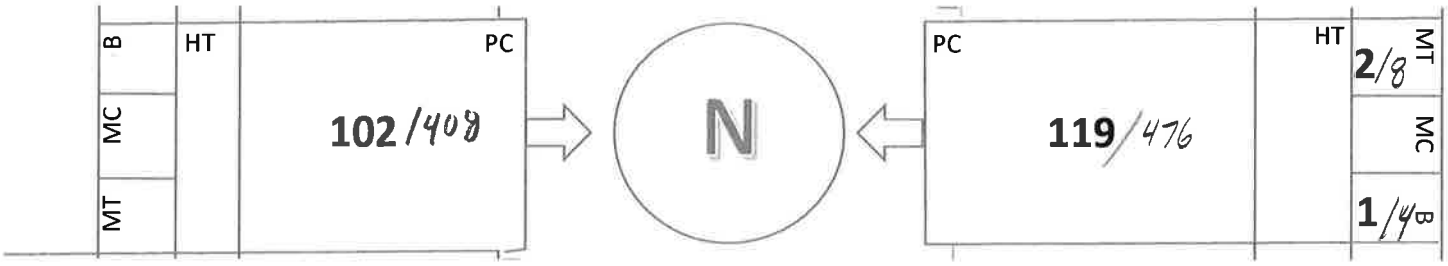
Date:	4/23/2019
Start Time:	5:25
Location:	M-K Porchers Bluff at Church
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	613652 m E 3636299 m N
Time Range:	15 minutes
Equipment ID:	LxT - 008
Calibration:	pass

Comments: medium free flowing traffic

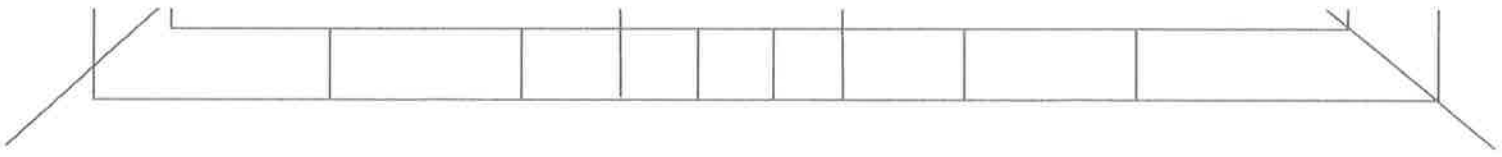
Intersection Tally Sheet

Date: 4/23/2019	Start Time: 5:27	Finish Time: 5:42
Location: M-K Porchers	Weather: clear	Road: light traffic
Observer: T. Sciarro		
Noise Conditions: Near condemned properties in residential and commercial development		

Oakland Plantation



Closed church



Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.008	Computer's File Name	SLM_0004864_CHAUNCYs_008.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 17:25:02	Duration	0:15:26.7
End Time	2019-04-23 17:40:29	Run Time	0:15:26.7
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	54.5 dB		
LAE	84.1 dB	SEA	--- dB
EA	28.8 µPa²h		
LA_{peak}	80.5 dB	2019-04-23 17:33:38	
LAF_{max}	66.2 dB	2019-04-23 17:33:38	
LAF_{min}	41.4 dB	2019-04-23 17:30:11	
LA_{eq}	54.5 dB		
LC_{eq}	65.4 dB	$LC_{eq} - LA_{eq}$	10.9 dB
LAI_{eq}	55.1 dB	$LAI_{eq} - LA_{eq}$	0.7 dB

Exceedances

	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
54.5 dB	54.5 dB	0.0 dB

LDEN	LDay	LEve	LNight
54.5 dB	54.5 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	54.5 dB		65.4 dB		--- dB	
$LF_{(max)}$	66.2 dB	2019-04-23 17:33:38	--- dB		--- dB	
$LF_{(min)}$	41.4 dB	2019-04-23 17:30:11	--- dB		--- dB	
$L_{Peak(max)}$	80.5 dB	2019-04-23 17:33:38	--- dB		--- dB	

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	58.2 dB
LAF 10.0	57.2 dB
LAF 33.3	55.0 dB
LAF 50.0	53.6 dB
LAF 66.6	52.0 dB
LAF 90.0	48.0 dB

M-L Winnowing Way

Date: 04/23/2019

Photographer: Terri Sciarro

M-L Winnowing Way

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

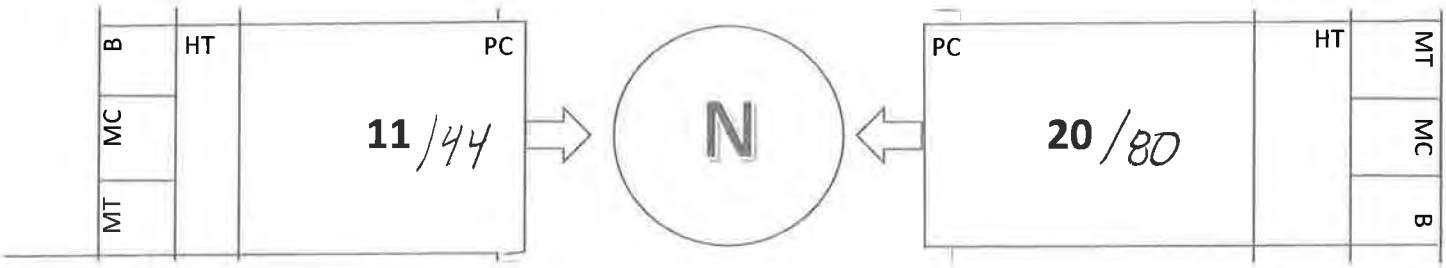
Date:	4/23/2019
Start Time:	5:02
Location:	M-L Winnowing Way
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612664 m E 3636748 m N
Time Range:	15 minutes
Equipment ID:	LxT - 007
Calibration:	pass

Comments: residential area, US-17 audible

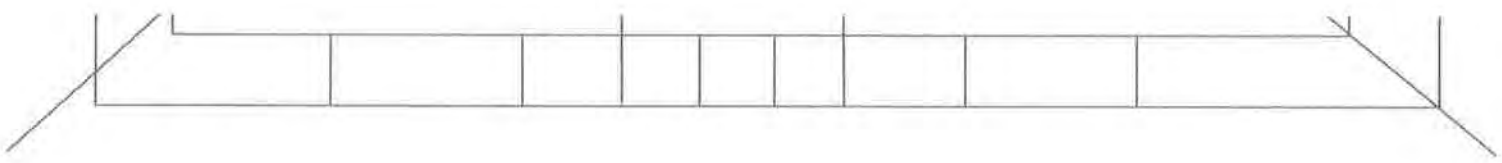
Intersection Tally Sheet

Date: 4/23/2019	Start Time: 5:02	Finish Time: 5:17
Location: M-L Winnowing Way	Weather: clear	Road: light traffic
Observer: T. Sciarro		
Noise Conditions: Near undeveloped properties and residential development		

The Sage at 1240 Apartments



undeveloped



Measurement Report

Report Summary

Meter's File Name	CHAUNCYs_007	Computer's File Name	SLM_0004864_CHAUNCYs_007.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 17:02:40	Duration	0:16:00.3
End Time	2019-04-23 17:18:41	Run Time	0:16:00.3
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	54.6 dB		
LAE	84.4 dB	SEA	--- dB
EA	30.4 µPa²h		
LA_{peak}	91.9 dB	2019-04-23 17:18:31	
LAF_{max}	72.7 dB	2019-04-23 17:13:12	
LAF_{min}	47.1 dB	2019-04-23 17:04:43	
LA_{eq}	54.6 dB		
LC_{eq}	66.6 dB	LC_{eq} - LA_{eq}	12.0 dB
LAI_{eq}	57.1 dB	LAI_{eq} - LA_{eq}	2.5 dB

Exceedances

	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
54.6 dB	54.6 dB	0.0 dB

LDEN	LDay	LEve	LNight
54.6 dB	54.6 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	54.6 dB		66.6 dB		--- dB	
$LF_{(max)}$	72.7 dB	2019-04-23 17:13:12	--- dB		--- dB	
$LF_{(min)}$	47.1 dB	2019-04-23 17:04:43	--- dB		--- dB	
$L_{Peak(max)}$	91.9 dB	2019-04-23 17:18:31	--- dB		--- dB	

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	59.7 dB
LAF 10.0	56.7 dB
LAF 33.3	52.0 dB
LAF 50.0	51.1 dB
LAF 66.6	50.3 dB
LAF 90.0	49.1 dB

M-M Homes Southern End of Bessemer

Date: 04/23/2019

Photographer: Terri Sciarro

M-M Homes Southern End of Bessemer

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	1:56
Location:	M-M New Homes Southern End of Bessemer
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612099.00 m E 3638534.00 m N
Time Range:	15 minutes
Equipment ID:	LxT - 005
Calibration:	pass

Comments: wooded, near significant construction

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.005	Computer's File Name	SLM_0004864_CHAUNCYs_005.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 13:56:46	Duration	0:23:01.4
End Time	2019-04-23 14:19:48	Run Time	0:23:01.4
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	49.1 dB		
LAE	80.5 dB	SEA	--- dB
EA	12.5 µPa²h		
LA_{peak}	90.9 dB	2019-04-23 13:57:43	
LAF_{max}	70.5 dB	2019-04-23 14:19:39	
LAF_{min}	42.2 dB	2019-04-23 14:18:58	
LA_{eq}	49.1 dB		
LC_{eq}	58.1 dB	LC_{eq} - LA_{eq}	9.0 dB
LAI_{eq}	54.1 dB	LAI_{eq} - LA_{eq}	5.0 dB

Exceedances

	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
49.1 dB	49.1 dB	0.0 dB

LDEN	LDay	LEve	LNight
49.1 dB	49.1 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.1 dB		58.1 dB		--- dB	
$LF_{(max)}$	70.5 dB	2019-04-23 14:19:39	--- dB		--- dB	
$LF_{(min)}$	42.2 dB	2019-04-23 14:18:58	--- dB		--- dB	
$L_{Peak(max)}$	90.9 dB	2019-04-23 13:57:43	--- dB		--- dB	

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	52.4 dB
LAF 10.0	49.8 dB
LAF 33.3	46.4 dB
LAF 50.0	45.7 dB
LAF 66.6	45.1 dB
LAF 90.0	44.3 dB

M-N Park West Baseline

Date: 04/23/2019

Photographer: Terri Sciarro

M-N Park West Baseline

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	12:20
Location:	M-N Park West Baseline
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612188.5 m E 3639630.15 m N
Time Range:	30 minutes
Equipment ID:	LxT - 003
Calibration:	pass

Comments: wooded

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.003	Computer's File Name	SLM_0004864_CHAUNCYs_003.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 12:20:21	Duration	0:38:16.6
End Time	2019-04-23 12:58:38	Run Time	0:38:16.6
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	45.1 dB		
LAE	78.7 dB	SEA	--- dB
EA	8.3 µPa²h		
LA_{peak}	89.8 dB	2019-04-23 12:20:36	
LAF_{max}	65.0 dB	2019-04-23 12:53:12	
LAF_{min}	36.2 dB	2019-04-23 12:33:08	
LA_{eq}	45.1 dB		
LC_{eq}	59.9 dB	LC_{eq} - LA_{eq}	14.8 dB
LAI_{eq}	49.4 dB	LAI_{eq} - LA_{eq}	4.3 dB

Exceedances	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	45.1 dB	45.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	45.1 dB	45.1 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	45.1 dB		59.9 dB		--- dB	
$LF_{(max)}$	65.0 dB	2019-04-23 12:53:12	--- dB		--- dB	
$LF_{(min)}$	36.2 dB	2019-04-23 12:33:08	--- dB		--- dB	
$L_{Peak(max)}$	89.8 dB	2019-04-23 12:20:36	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	48.8 dB
LAF 10.0	45.7 dB
LAF 33.3	43.5 dB
LAF 50.0	42.5 dB
LAF 66.6	41.3 dB
LAF 90.0	39.7 dB

M-O Townhomes

Date: 04/23/2019

Photographer: Terri Sciarro

M-O Townhomes

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	11:00
Location:	M-O Townhomes
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612010.00 m E 3639947.00 m N
Time Range:	30 minutes
Equipment ID:	LxT - 002
Calibration:	pass

Comments: wooded, several dogs, Parkwest Blvd shielded by townhomes, neighbor asking a lot of questions

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.002		Computer's File Name	SLM_0004864_CHAUNCYs_002.00.ldbin	
Meter	LxT SE	0004864			
Firmware	2.302				
User	Terri Sciarro			Location	
Description	HDR				
Note	04/23/2019				
Start Time	2019-04-23 11:00:55	Duration	0:31:31.2		
End Time	2019-04-23 11:32:27	Run Time	0:31:26.8	Pause Time	0:00:04.4

Results

Overall Metrics

LA_{eq}	44.8 dB		
LAE	77.5 dB	SEA	--- dB
EA	6.3 µPa²h		
LA_{peak}	88.4 dB	2019-04-23 11:32:15	
LAF_{max}	75.6 dB	2019-04-23 11:32:22	
LAF_{min}	34.9 dB	2019-04-23 11:23:35	
LA_{eq}	44.8 dB		
LC_{eq}	57.2 dB	LC_{eq} - LA_{eq}	12.4 dB
LAI_{eq}	49.7 dB	LAI_{eq} - LA_{eq}	4.9 dB

Exceedances	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	44.8 dB	44.8 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	44.8 dB	44.8 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	44.8 dB		57.2 dB		--- dB	
$LF_{(max)}$	75.6 dB	2019-04-23 11:32:22	--- dB		--- dB	
$LF_{(min)}$	34.9 dB	2019-04-23 11:23:35	--- dB		--- dB	
$L_{Peak(max)}$	88.4 dB	2019-04-23 11:32:15	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	47.5 dB
LAF 10.0	45.2 dB
LAF 33.3	41.5 dB
LAF 50.0	40.4 dB
LAF 66.6	39.4 dB
LAF 90.0	37.8 dB

M-P County Park

Date: 04/23/2019

Photographer: Terri Sciarro

M-P County Park

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	2:55
Location:	M-P County Park
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	611903.5 m E 3637974.2 m N
Time Range:	30 minutes
Equipment ID:	LxT - 006
Calibration:	pass

Comments: wooded, SC-41 was audible but not visible

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.006	Computer's File Name	SLM_0004864_CHAUNCYs_006.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 14:55:12	Duration	0:33:11.1
End Time	2019-04-23 15:28:23	Run Time	0:33:11.1
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	51.1 dB		
LAE	84.1 dB	SEA	--- dB
EA	28.4 µPa²h		
LA_{peak}	86.9 dB	2019-04-23 15:28:20	
LAF_{max}	72.6 dB	2019-04-23 14:57:10	
LAF_{min}	41.8 dB	2019-04-23 15:02:55	
LA_{eq}	51.1 dB		
LC_{eq}	65.0 dB	LC_{eq} - LA_{eq}	13.9 dB
LAI_{eq}	52.8 dB	LAI_{eq} - LA_{eq}	1.7 dB

Exceedances	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	51.1 dB	51.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	51.1 dB	51.1 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	51.1 dB		65.0 dB		--- dB	
$LF_{(max)}$	72.6 dB	2019-04-23 14:57:10	--- dB		--- dB	
$LF_{(min)}$	41.8 dB	2019-04-23 15:02:55	--- dB		--- dB	
$L_{Peak(max)}$	86.9 dB	2019-04-23 15:28:20	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	53.9 dB
LAF 10.0	51.9 dB
LAF 33.3	49.9 dB
LAF 50.0	49.1 dB
LAF 66.6	48.4 dB
LAF 90.0	47.0 dB

M-Q Homes at Kirby Lane

Date: 04/23/2019

Photographer: Terri Sciarro

M-Q Homes at Kirby Lane

Date: 04/23/2019

Photographer: Terri Sciarro

Field Notes

Date:	4/23/2019
Start Time:	1:10
Location:	M-Q Homes at Kirby Lane
Weather:	clear 71º
Road Conditions:	free flowing
Observer:	Terri Sciarro Air Hub, LLC
Noise Conditions:	quiet
Coordinates:	612218.00 m E 3639116.00 m N
Time Range:	30 minutes
Equipment ID:	LxT - 004
Calibration:	pass

Comments: wooded, Parkwest Blvd shielded by homes

Measurement Report

Report Summary

Meter's File Name	CHAUNCYs.004	Computer's File Name	SLM_0004864_CHAUNCYs_004.00.ldbin
Meter	LxT SE 0004864		
Firmware	2.302		
User	Terri Sciarro	Location	
Description	HDR		
Note	04/23/2019		
Start Time	2019-04-23 13:10:03	Duration	0:34:19.6
End Time	2019-04-23 13:44:22	Run Time	0:34:19.6
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	44.6 dB		
LAE	77.7 dB	SEA	--- dB
EA	6.5 µPa²h		
LA_{peak}	91.5 dB	2019-04-23 13:44:20	
LAF_{max}	69.1 dB	2019-04-23 13:44:19	
LAF_{min}	36.8 dB	2019-04-23 13:24:26	
LA_{eq}	44.6 dB		
LC_{eq}	57.9 dB	LC_{eq} - LA_{eq}	13.4 dB
LAI_{eq}	48.2 dB	LAI_{eq} - LA_{eq}	3.6 dB

Exceedances

	Count	Duration
LAF > 85.0 dB	0	0:00:00.0
LAF > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
44.6 dB	44.6 dB	0.0 dB

LDEN	LDay	LEve	LNight
44.6 dB	44.6 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	44.6 dB		57.9 dB		--- dB	
$LF_{(max)}$	69.1 dB	2019-04-23 13:44:19	--- dB		--- dB	
$LF_{(min)}$	36.8 dB	2019-04-23 13:24:26	--- dB		--- dB	
$L_{Peak(max)}$	91.5 dB	2019-04-23 13:44:20	--- dB		--- dB	

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAF 5.0	47.5 dB
LAF 10.0	46.1 dB
LAF 33.3	43.6 dB
LAF 50.0	42.6 dB
LAF 66.6	41.5 dB
LAF 90.0	39.5 dB

R

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 53.3

Project Name: **SC 41** Sonny mid-to-high 70's	Site #: 1 2576 Larch Ln	Date: 5/2/2018
Traffic Counts	Direction of Travel:	~~Westbound~~ Northbound
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 II 52/208	
Medium Trucks:	II 2/8	
Heavy Trucks:		
Buses:		
Motorcycles:		

HDR

Field Personnel: Wayne Hall, Miles Spenrath

Start 9:19
Finish: 9:34

R

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 1	Date:
Traffic Counts	Direction of Travel:	~~Eastbound~~ Southbound
Autos:	86/344	
Medium Trucks:	1/4	
Heavy Trucks:		
Buses:		
Motorcycles:		

birds, hawk, squirrels, geese, ducks, noise associated with SC 41 and adjacent development

HDR

Field Personnel: Wayne Hall, Miles Spenrath

start: 9:42
Finish: 9:57

5

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 57.0

Project Name: **SC 41**	Site #: 2 3101 Kilby Ln	Date: 5/2/2018
Traffic Counts	Direction of Travel:	~~Eastbound~~ Northbound
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 || 37/148	
Medium Trucks:		
Heavy Trucks:	1 1/4	
Buses:		
Motorcycles:	1 1/4	

HDR

Field Personnel: Wayne Hall, Miles Spenrath

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 2	Date:
Traffic Counts	Direction of Travel:	~~Westbound~~ Southbound
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 80/320	
Medium Trucks:	1 1/4	
Heavy Trucks:		
Buses:		
Motorcycles:		

roofing noises, nail guns, hammers, lots of home construction, yelling crows, circular saws,

HDR

Field Personnel: Wayne Hall, Miles Spenrath

T

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 60.4

Project Name: **SC 41**	Site #: 3 1646 Bridwell Ln	Date: 5/2/2018
Traffic Counts	Direction of Travel:	~~Eastbound~~ Northbound
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 |||| 44/176	
Medium Trucks:	1 1/4	
Heavy Trucks:	1 1/4	
Buses:		
Motorcycles:		

HDR

Field Personnel: Wayne Hall, Miles Spenrath

1646 Bridwell Ln

Start: 16:05
Finish 16:20

T

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 3	Date:
Traffic Counts	Direction of Travel:	~~Westbound~~ ~~Southbound~~
Autos:	74/296	
Medium Trucks:	2/8	
Heavy Trucks:	1/4	
Buses:		
Motorcycles:	1/4	

water fountain ≥ 100', crows, gator

HDR

Field Personnel: Wayne Hall, Miles Spenrath

U

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 54.3

Project Name: SC 41	**Site #: 4** 2451 Draymohr Ct	**Date:** 5/2/2018
Traffic Counts	**Direction of Travel:**	~~Eastbound~~ Northbound

Autos:	卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 IIII 64/256
Medium Trucks:	I 1/4
Heavy Trucks:	
Buses:	
Motorcycles:	

HDR

Field Personnel: Wayne Hall, Miles Spenrath

Start: 10:27
Finish: 10:42

U

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 4	Date:
Traffic Counts	Direction of Travel:	~~Westbound~~ Southbound

Autos:	卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 卌 IIII 64/256
Medium Trucks:	
Heavy Trucks:	II 2/8
Buses:	
Motorcycles:	

birds, crows, hitch trailers, hawk, air conditioner (10:39)

HDR

Field Personnel: Wayne Hall, Miles Spenrath

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 51.0

Project Name: **SC 41**	Site #: 5 3029 Park W Blvd	Date: 5/2/2018
Traffic Counts	Direction of Travel:	~~Eastbound~~ ~~Northbound~~
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 | 61/244	
Medium Trucks:	| 1/4	
Heavy Trucks:		
Buses:		
Motorcycles:		

HDR

Field Personnel: Wayne Hall, Miles Spenrath

Start: 10:48:52
Finish: 11:07

V

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 5	Date: May 4, 2018
Traffic Counts	Direction of Travel: ~~Westbound~~ Southbound	
Autos:	77/308	
Medium Trucks:	1 1/4	
Heavy Trucks:		
Buses:		
Motorcycles:		

dogs barking, birds, people talking,

HDR

Field Personnel: Wayne Hall, Miles Spenrath

W

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Leq 54.1

Project Name: **SC 41**	Site #: 6 3015 Dunes W Blvd, #103	Date: 5/2/2018
Traffic Counts	Direction of Travel: ~~Eastbound~~ Northbound	
Autos:	57/228	
Medium Trucks:	1/4	
Heavy Trucks:	1/4	
Buses:		
Motorcycles:		

HDR

Field Personnel: Wayne Hall, Miles Spenrath

1 2570 Larch Ln
2 3101 Kilby Ln

Start: 11:18
Finish: 11:28

W

TRAFFIC NOISE FIELD MEASUREMENT WORKSHEET

Project Name: **SC 41**	Site #: 6	Date:
Traffic Counts	Direction of Travel:	~~Westbound~~ Southbound
Autos:	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 || 47/188	
Medium Trucks:		
Heavy Trucks:		
Buses:		
Motorcycles:		

The Commons 11

HDR

Field Personnel: Wayne Hall, Miles Spenrath

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HIGHWAY 41 CORRIDOR IMPROVEMENTS

Appendix E – SCDOT Feasibility and Reasonableness Worksheets

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SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 7a

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers: 3

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 3

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 1

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 33

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☐ No
NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation.

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 260 feet in width by 14 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 9

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers: 14

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 10

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 3

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 30

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 700 feet in width by 15 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 10a/b/c

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 700 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 11a/b

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 615 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 13a/13b

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 640 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 14a-f

Feasibility

Number of Impacted Receivers: 5

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 1,000 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 15a-e

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 800 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 16a-m

Feasibility

Number of Impacted Receivers: 11

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 2,415 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 17a-l

Feasibility

Number of Impacted Receivers: 9

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 2,260 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 18a/18b

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 360 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 19a/19b

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 575 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 20

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers: 4

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 4

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 4

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 100

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure: 35

Estimated construction cost for noise abatement measure: 630,000

Estimated cost per Benefited Receiver: 157,500

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☒ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 1,200 feet in width by 15 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 21

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers: 1

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 1

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 0

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 0

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 212 feet in width by 25 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 22a-d

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 424 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 23a-e

Feasibility

Number of Impacted Receivers: 6

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 515 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 24a-d

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 740 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 25a-d

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 397 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 26a-d

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 500 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 1 - Barrier 28a-d

Feasibility

Number of Impacted Receivers: 4

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 710 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 1

Feasibility

Number of Impacted Receivers: 11

Number of Benefited Receivers: 22

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 22

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 18

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 82

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure: 35

Estimated construction cost for noise abatement measure: 563,325

Estimated cost per Benefited Receiver: 25,606

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? ☒ Yes ☐ No

NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation.

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 925 feet in width by 17.4 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible and reasonable. If Alternative 7a is selected, a final decision on the barrier will be made after conclusion of the public involvement portion of the project.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 2

Feasibility

Number of Impacted Receivers: 5

Number of Benefited Receivers: 7

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 7

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 6

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 86

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure: 35

Estimated construction cost for noise abatement measure: 1,218,000

Estimated cost per Benefited Receiver: 174,000

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☒ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 1,740 feet in width by 20 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 3

Feasibility

Number of Impacted Receivers: 19

Number of Benefited Receivers: 20

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers	20	Number of Benefited Receivers that achieve at least an 8 dBA reduction	20

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable. 100

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure	35	Estimated construction cost for noise abatement measure	591,192
Estimated cost per Benefited Receiver	29,560		

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? ☒ Yes ☐ No
NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation.

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)			
Number of Benefited Receivers in **support** of noise abatement measure		Percentage of Benefited Receivers in **support** of noise abatement measure	
Number of Benefited Receivers **opposed** to noise abatement measure		Percentage of Benefited Receivers **opposed** to noise abatement measure	
Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure		Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure	

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 1,173 feet in width by 14.4 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible and reasonable. If Alternative 7a is selected, a final decision on the barrier will be made after conclusion of the public involvement portion of the project.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 4

Feasibility

Number of Impacted Receivers: 35

Number of Benefited Receivers: 32

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 83

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers	28	Number of Benefited Receivers that achieve at least an 8 dBA reduction	24

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable. 86

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure	35	Estimated construction cost for noise abatement measure	2,709,000
Estimated cost per Benefited Receiver	84,656		

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☒ No
NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation.

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)			
Number of Benefited Receivers in **support** of noise abatement measure		Percentage of Benefited Receivers in **support** of noise abatement measure	
Number of Benefited Receivers **opposed** to noise abatement measure		Percentage of Benefited Receivers **opposed** to noise abatement measure	
Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure		Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure	

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 3,870 feet in width by 20 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 5

Feasibility

Number of Impacted Receivers: 8

Number of Benefited Receivers: 10

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 10

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 6

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 60

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☐ No
NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation.

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 1,314 feet in width by 25 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 6

Feasibility

Number of Impacted Receivers: 22

Number of Benefited Receivers: 20

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 91

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers	20	Number of Benefited Receivers that achieve at least an 8 dBA reduction	16

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable. 80

Does the proposed noise abatement measure meet the noise reduction design goal? ☒ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure	35	Estimated construction cost for noise abatement measure	1,042,125
Estimated cost per Benefited Receiver	52,106		

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☒ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)			
Number of Benefited Receivers in **support** of noise abatement measure		Percentage of Benefited Receivers in **support** of noise abatement measure	
Number of Benefited Receivers **opposed** to noise abatement measure		Percentage of Benefited Receivers **opposed** to noise abatement measure	
Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure		Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure	

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 1,985 feet in width by 15 feet in height.

Based on the above results of the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 7a/7b

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers: 2

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 1

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 1

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 50

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 260 feet in width by 14 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 10a/b/c

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 700 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 11a/b

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 615 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 21

Feasibility

Number of Impacted Receivers: 1

Number of Benefited Receivers: 1

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 100

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☒ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☐ Yes	☒ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☐ Yes	☒ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 1

Number of Benefited Receivers that achieve at least an 8 dBA reduction: 0

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.: 0

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☒ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure:

Estimated construction cost for noise abatement measure:

Estimated cost per Benefited Receiver:

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall is 212 feet in width by 25 feet in height.

Based on the above results from the detailed analysis, this abatement feature is feasible but not reasonable.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 22a-d

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 424 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 23a-e

Feasibility

Number of Impacted Receivers: 6

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 515 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 24a-d

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 740 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 25a-d

Feasibility

Number of Impacted Receivers: 2

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 397 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 26a-d

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 500 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

SCDOT Feasibility and Reasonableness Worksheet

Date: June 29, 2020

Project Name SC Hwy 41 Corridor Improvements

Highway Traffic Noise Abatement Measure Alt 7a - Barrier 28a-d

Feasibility

Number of Impacted Receivers: 4

Number of Benefited Receivers:

Percentage of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure:

Is the proposed noise abatement measure acoustically feasible?
NOTE:SCDOT Policy indicates that 75% of the impacted receivers must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☐ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☒ No
Safety	☒ Yes	☐ No
Drainage	☐ Yes	☒ No
Utilities	☐ Yes	☒ No
Maintenance	☐ Yes	☒ No
Access	☒ Yes	☐ No
Exposed Height of Wall	☐ Yes	☒ No

If "Yes" was marked for any of the questions above, please explain below.

Breaks in the barrier to preserve driveway access would obstruct sightlines and cause safety issues, therefore the barrier would not be feasible.

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers

Number of Benefited Receivers that achieve at least an 8 dBA reduction

Percentage of Benefited Receivers in the first two building rows that would achieve at least a 8 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT Policy indicates that 80% of the benefited receivers in the first two building rows must achieve at least a 8 dBA reduction for it to be reasonable.

Does the proposed noise abatement measure meet the noise reduction design goal? ☐ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated cost per square foot for noise abatement measure

Estimated construction cost for noise abatement measure

Estimated cost per Benefited Receiver

Based on the SCDOT policy of $30,000 per Benefited Receiver, would the abatement measure be reasonable? NOTE: SCDOT Policy states that the preliminary noise analysis is based on $35.00 per square foot and a more project-specific construction cost should be applied at a cost per square foot basis during the detailed noise abatement evaluation. ☐ Yes ☐ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above)

Number of Benefited Receivers in **support** of noise abatement measure

Percentage of Benefited Receivers in **support** of noise abatement measure

Number of Benefited Receivers **opposed** to noise abatement measure

Percentage of Benefited Receivers **opposed** to noise abatement measure

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Barrier wall system is 710 feet in width, height was not investigated due to engineering feasibility issues.

Based on the above results from the detailed analysis, this abatement feature is not feasible.

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