OMB No. 2506-0177
(exp. 7/31/2028)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those "Partners" (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

Noise (EA Level Reviews) – PARTNER

HUD Exchange Noise Abatement and Control Page

1. **What activities does your project involve? Check all that apply:**

☐ New construction for residential use

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.
→ *Continue to Question 2.*

☐ Rehabilitation of an existing residential property

NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, HUD strongly encourages mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.
→ *Continue to Question 2.*

☒ None of the above

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).**
Indicate the findings of the Preliminary Screening below:

☐ There are no noise generators found within the threshold distances above.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing the location of the project relative to any noise generators.*

☐ Noise generators were found within the threshold distances.

→ *Continue to Question 3.*

3. **Complete the Noise Assessment Guidelines to quantify the noise exposure. Indicate the findings of the Noise Assessment below:**

☐ Acceptable (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Indicate noise level here: Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in 24 CFR 51.105(a))

Indicate noise level here: Click here to enter text.

<u>If project is rehabilitation:</u>

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

<u>If project is new construction:</u>

Is the project in a largely undeveloped area[1]?

☐ No

☐ Yes → ***The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i).***

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Unacceptable: (Above 75 decibels)

Indicate noise level here: Click here to enter text.

<u>If project is rehabilitation:</u>

HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels. Consider converting this property to a non-residential use compatible with high noise levels.

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis, and any other relevant information.*

<u>If project is new construction:</u>

The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i). *Work with HUD or the RE to either complete an EIS or obtain a waiver signed by the appropriate authority.*

→ *Continue to Question 4.*

4. **HUD strongly encourages mitigation be used to eliminate adverse noise impacts. Work with the RE/HUD on the development of the mitigation measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

☐ Mitigation as follows will be implemented:

Click here to enter text.

→ *Provide drawings, specifications, and other materials as needed to describe the project's noise mitigation measures.*

[1] A largely undeveloped area means the area within 2 miles of the project site is less than 50 percent developed with urban uses and does not have water and sewer capacity to serve the project.

Continue to the Worksheet Summary.

☐ No mitigation is necessary.

Explain why mitigation will not be made here:

Click here to enter text.

→ *Continue to the Worksheet Summary.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

Include all documentation supporting your findings in your submission to HUD.

Project consisted in the construction of a highway road extension. See Figure - Noise attached.

Due to the project is for linear transportation, Federal Highway Administration (FHWA) environmental requirements and standards were followed. To this effect in September 2021 an updated Noise Study was done. The following table shows the results of the TNM 2.5 model highlighting the points at which the maximum levels of the Project are exceeded and the expected levels with attenuation measures.

TNM 2.5 Noise Levels				
Receptor	Existing Noise Level [dB(A)]	TNM 2.5 Future Noise Level [dB(A)]	FHWA Noise Abatement Criteria [dB(A)]	Expected Noise Level with Attenuation Measure [dB(A)]
1 Amor Street	55.4	67.3	67	57.6
2 Villa Rica	60.4	63.9	67	Not Required
3 Ciudad Interamericana	55.0	74.7	67	65.7
4 Cerro Gordo Street 21	55.0	63.7	67	Not Required
5 Cortijo Street 21	55.2	64.9	67	59.7
6 Cortijo Street 6	55.0	62.2	67	Not Required
7 Cerro Gordo Street 8	57.8	70.4	67	61.7

Existing noise levels were estimated in different strategic points that can be affected by the proposed project. The PRHTA recommended maximum levels limits are exceeded at receivers' numbers 1, 3, and 7. When traffic noise impacts are identified, noise abatement is considered and evaluated for feasibility and reasonableness. The Noise Report determined and analyzed alternative noise abatement measures to abate identified impacts by giving weight to the benefits and costs of abatement and the overall social, economic, and environmental effects by using feasible and reasonable noise abatement measures for decision-making. The report shows the approximate location of segments with noise attenuation walls recommended as a measure of noise attenuation. This is recommended for the areas covered by receivers 1 (Villa Rica), 3 (Ciudad Interamericana), 6 (El Cortijo Oeste) and 7 (Cerro Gordo).

FHWA abatement for highway traffic noise (24 CFR 772) establishes that for residential land use, a noise impact is triggered when the future traffic noise level is predicted to exceed 67 dBA.

According to the reports the project with noise barriers as mitigation measure in some segments complies standards with no significant impact on residential areas. Copy of said Study is included as Appendix H of the approved State EIS and herein.

Nonetheless, a Technical Memorandum with updated Traffic Flow, shown in the following table, was performed on August 11, 2026, to confirm if its increase changes the September 2021 Noise Study conclusion and recommendations.

Table 3 – PR-5 Estimated Traffic Flow
(Updated Traffic Data)

AADT North to South	Peak Flow [vph] Year 2046	Autos 95%	Medium Trucks 2%	Heavy Trucks 2%	Motorcycles 1%
22,280	1,782	1,693	36	36	17
AADT South to North	**Peak Flow [vph] Year 2046**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Motorcycles**
22,281	1,782	1,693	36	36	17

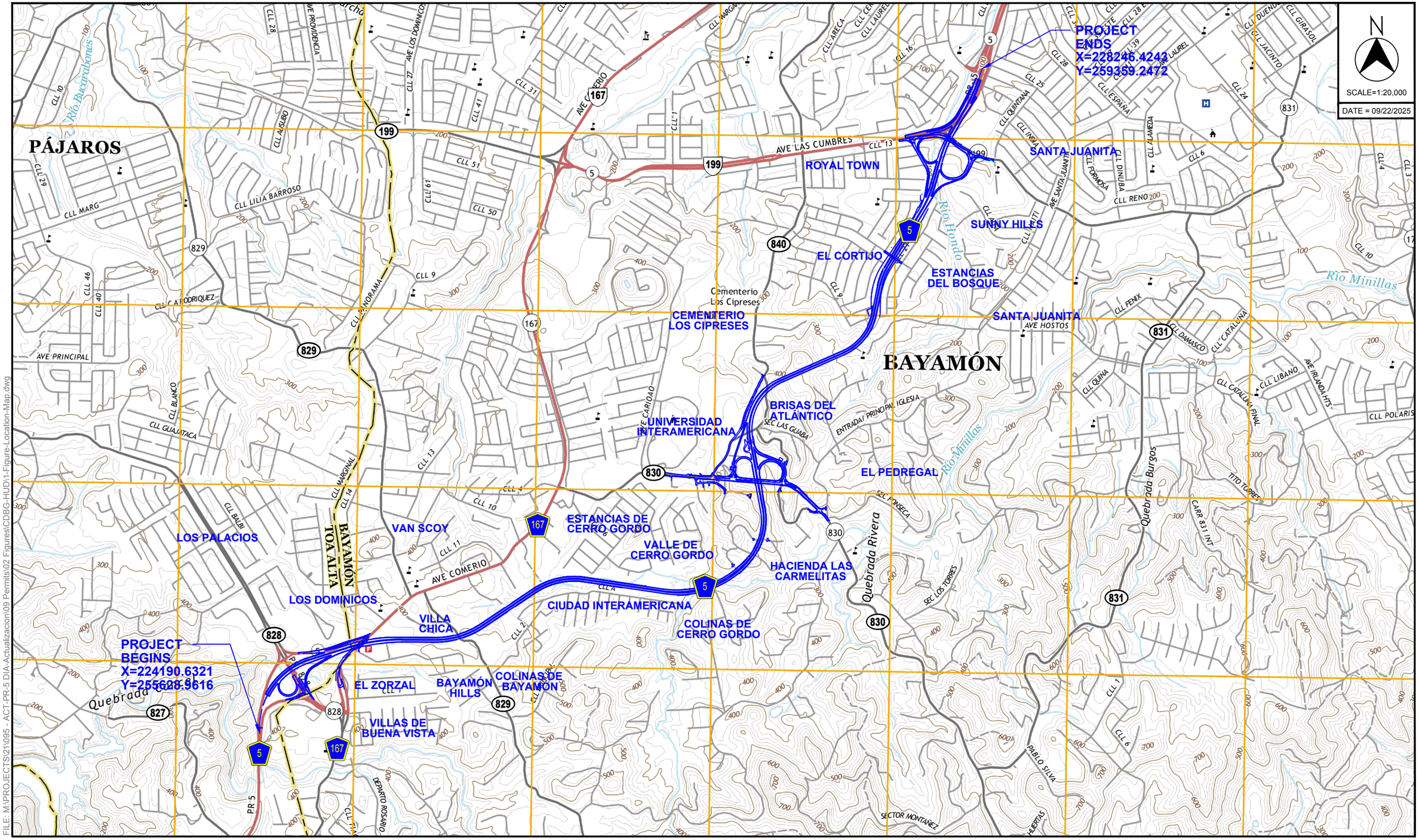
As shown in Table 5 of the August 2026 Technical Memorandum, shown below, the noise levels difference between the FHWA-TNM 2.5 modeling results from the September 2021 study and those with the July 2026 updated AADT varies from 0.2 to 0.6 db(A). This difference is barely perceptible by the human ear.

Table 5 – Future Noise Levels Difference			
Receiver	Noise Level [dB(A)]		Difference
	September 2021	July 2026	
Amor Street	66.8	66.3	0.5
Villa Rica	66.0	65.8	0.2
Ciudad Interamericana	68.9	68.4	0.5
Cerro Gordo Street 21	62.0	61.6	0.4
Cortijo Street 21	69.5	68.9	0.6
Cortijo Street 6	44.7	44.1	0.6
Cerro Gordo Street 8	67.5	67.2	0.3

Because sound is measured on a logarithmic decibel scale, traffic noise does not increase in direct proportion to traffic volume. Consequently, even relatively large increases in traffic volumes generally produce comparatively small increases in measured sound levels. Consistent with these acoustical principles, the projected increase in traffic volume resulted in an estimated increase of not more than 0.6 dBA, which is generally considered a minor increase in environmental traffic noise and does not represent a substantial change in the overall noise environment. Thus, the updated traffic forecasts do not materially change the conclusions of the September 2021 Noise Study.

Copy of said Technical Memorandum is included herein.

Based on above the Project is in compliance with this section.



SOURCE: U.S.G.S TOPOGRAPHIC MAPS 2018

PR-5 EXTENSION
FROM PR-167 TO PR-199
BAYAMÓN - TOA ALTA, PUERTO RICO

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PR-5 EXTENSION

FIGURE LOCATION MAP

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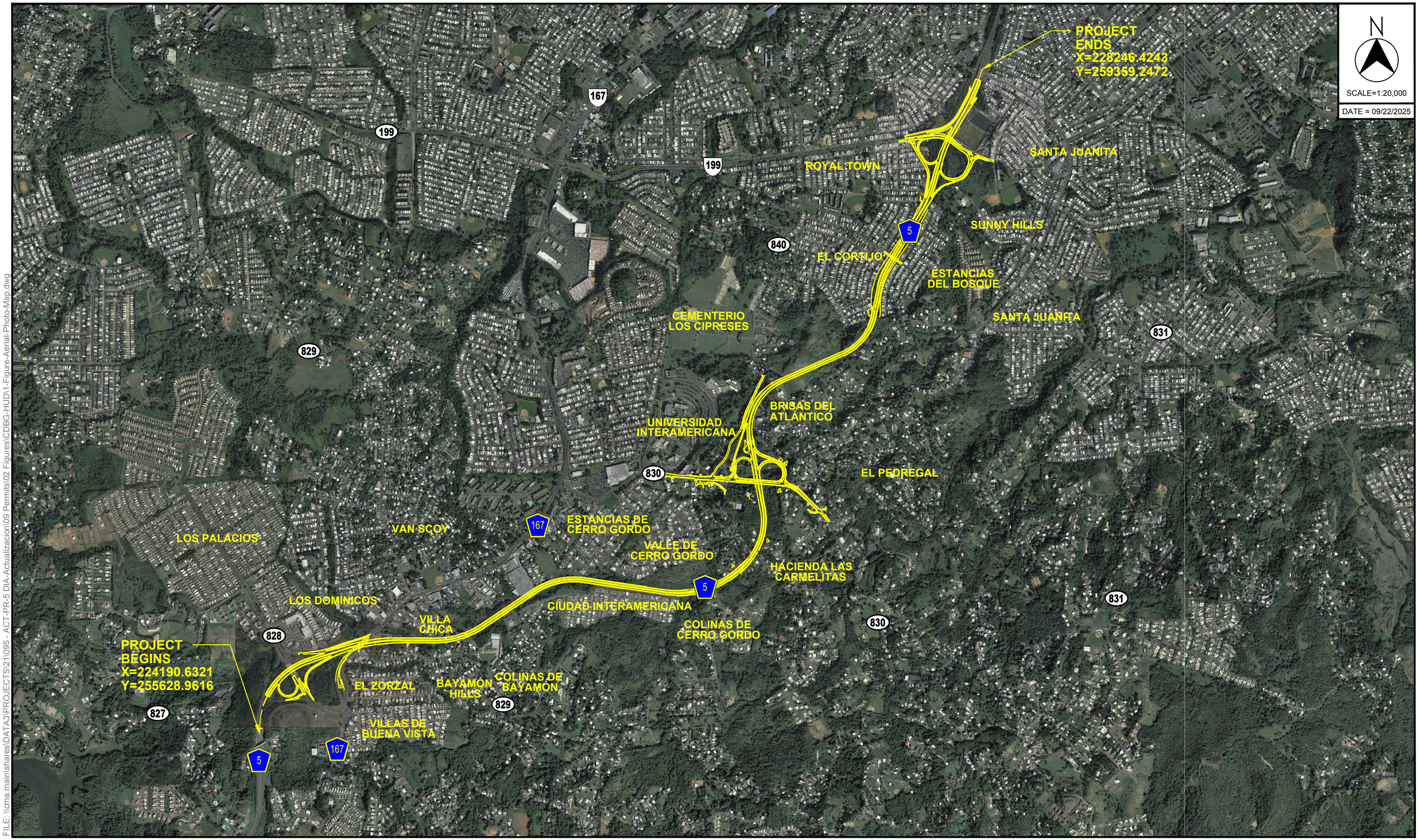

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SOURCE: AERIAL PHOTO GOOGLE MAPS 2010

PR-5 EXTENSION
FROM PR-167 TO PR-199
BAYAMÓN - TOA ALTA, PUERTO RICO
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PR-5 EXTENSION

FIGURE AERIAL PHOTO MAP

CMA ARCHITECTS & ENGINEERS LLC

August 11, 2026

Technical Memorandum

To: Eng. Luis Rodríguez Rosa
Puerto Rico Highway and Transportation Authority Senior Executive Assistant, Preconstruction Office & Environmental and Certifying Officer for HUD funded projects

From: Pedro A. Janer, PE
Member
Environmental Sciences and Engineering Department

Subject: Noise Levels Study
PR-5 Extension
Bayamón, Puerto Rico
CMA 21095

The Puerto Rico Highways and Transportation Authority (PRHTA) has retained the services of CMA Architects & Engineers LLC (CMA) to carry out a noise levels study for the State Road PR-5 Extension in the Municipality of Bayamón. The area under study starts at the intersection of the current PR-5 up to the intersection with PR-167. The noise study report dated September 15, 2021, was prepared using traffic data from a Traffic Study prepared by SDG for year 2046. The traffic data used for the Federal Highway Administration Traffic Noise Model Version 2.5, noise modeling program (FHWA TNM 2.5) is included in **Table 1**. **Table 2** shows the estimated noise levels for this study.

Table 1 – PR-5 Estimated Traffic Flow

AADT North to South	Peak Flow [vph] Year 2046	Autos	Medium Trucks	Heavy Trucks	Motorcycles
21,829	2,183	2,074	44	44	21
AADT South to North	**Peak Flow [vph] Year 2046**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Motorcycles**
17,811	1,758	1,670	35	35	18

Table 2 – TNM 2.5 Future Noise Levels					
Receiver Number	**Current Noise Level [dB(A)]**	**TNM 2.5 Future Noise Level 2046 [dB(A)]**	**Difference [dB(A)]**	**Noise Abatement Criteria [dB(A)]**	**Difference [dB(A)]**
Amor Street	55.4	66.8	11.4	67	-0.2
Villa Rica	60.4	66.0	6.0	67	-1.0
Ciudad Interamericana	55.0	68.9	13.9	67	1.9
Cerro Gordo Street 21	55.0	62.0	7.0	67	-5.0
Cortijo Street 21	55.2	69.5	14.3	67	2.5
Cortijo Street 6	55.0	44.7	-14.3	67	-22.3
Cerro Gordo Street 8	57.8	67.5	9.7	67	0.5

On July 2026 DC Engineer, PRHTA consultant for the PR-5 Extension project, provided updated estimate of the Average Annual Daily Traffic (AADT) which shows 44,561 vehicles per day (VPD) for 2046. Based on this updated data, CMA estimated with the FHWA-TNM 2.5 noise modeling program the expected noise levels for the project design year, 2046. To use the provided AADT, the value was divided into 50% in each PR-5 direction. The FHWA-TNM 2.5 computerized model requires vehicles per hour during the peak hour. As in the September 2021 study, for this case, we used same 8% of the AADT as the peak-hour flow in each direction. **Table 3** shows the updated traffic flow data, while **Table 4** shows the results from the FHWA-TNM 2.5 noise model from the FHWA-TNM 2.5 model summary results herein attached.

Table 3 – PR-5 Estimated Traffic Flow (Updated Traffic Data)					
AADT North to South	**Peak Flow [vph] Year 2046**	**Autos 95%**	**Medium Trucks 2%**	**Heavy Trucks 2%**	**Motorcycles 1%**
22,280	1,782	1,693	36	36	17
AADT South to North	**Peak Flow [vph] Year 2046**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Motorcycles**
22,281	1,782	1,693	36	36	17

Table 4 – TNM 2.5 Future Noise Levels (Using PRHTA Traffic Data)

Receiver Number	Current Noise Level	TNM 2.5 Future Noise Level 2046 [dB(A)]	Difference [dB(A)]	Noise Abatement Criteria [dB(A)]	Difference [dB(A)]
Amor Street	66.8	66.3	-0.5	67	-0.5
Villa Rica	60.4	65.8	5.4	67	-1.2
Ciudad Interamericana	55.0	68.4	13.4	67	1.4
Cerro Gordo Street 21	55.0	61.6	6.6	67	-5.4
Cortijo Street 21	55.2	68.9	13.7	67	
Cortijo Street 6	55.0	44.1	-10.9	67	
Cerro Gordo Street 8	57.8	67.2	9.4	67	

Table 5 shows difference between the estimated future noise levels based on traffic flow used in the September 2021 study and the July 2026 update used herein.

Table 5 – Future Noise Levels Difference

Receiver	Noise Level [dB(A)]		Difference
	September 2021	July 2026	
Amor Street	66.8	66.3	0.5
Villa Rica	66.0	65.8	0.2
Ciudad Interamericana	68.9	68.4	0.5
Cerro Gordo Street 21	62.0	61.6	0.4
Cortijo Street 21	69.5	68.9	0.6
Cortijo Street 6	44.7	44.1	0.6
Cerro Gordo Street 8	67.5	67.2	0.3

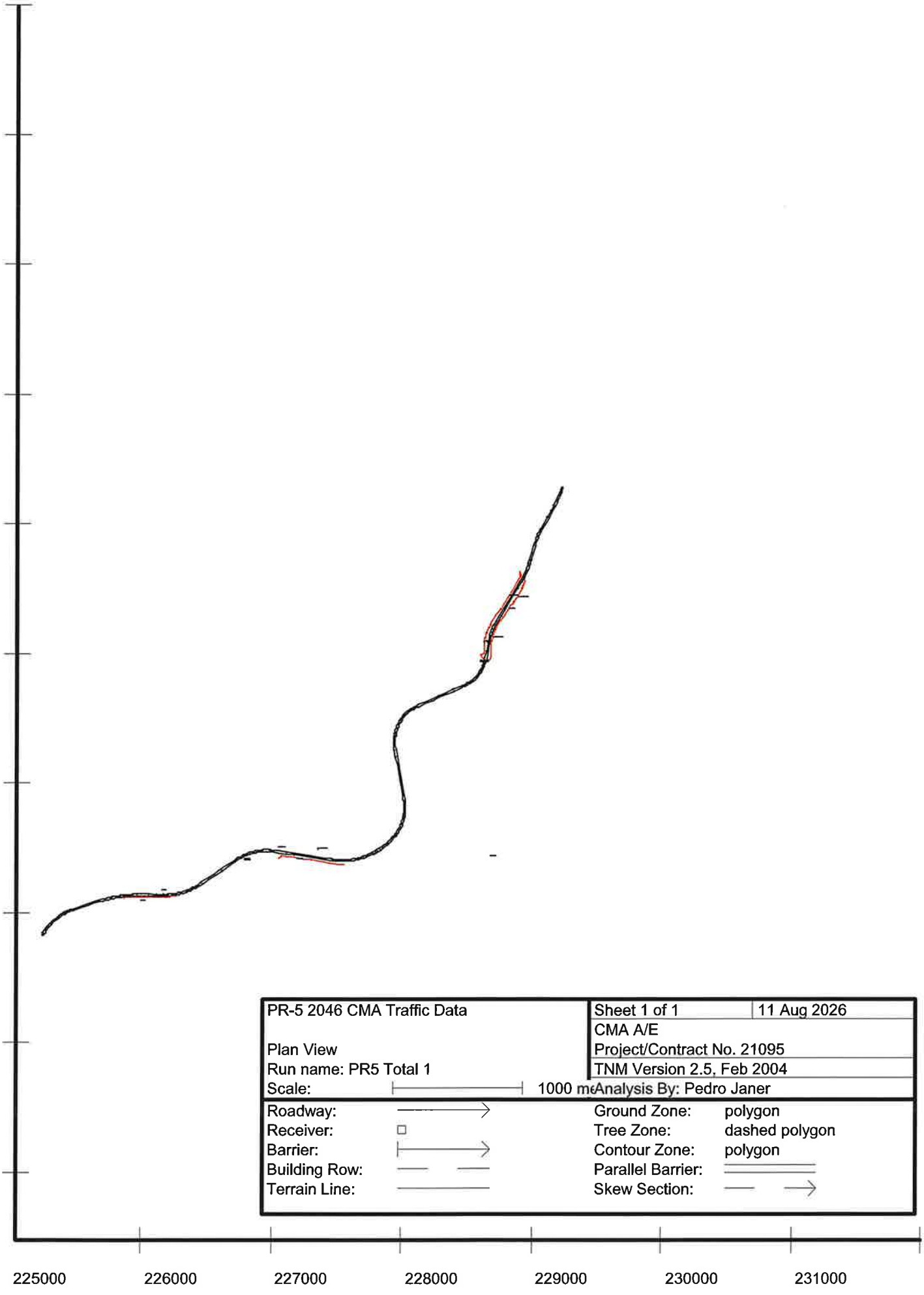
Conclusion

As shown in **Table 5**, the noise levels difference between the FHWA-TNM 2.5 modeling results from the September 2021 study and those with the July 2026 updated AADT varies from 0.2 to 0.6 db(A). This difference is barely perceptible by the human ear.

Because sound is measured on a logarithmic decibel scale, traffic noise does not increase in direct proportion to traffic volume. Consequently, even relatively large increases in traffic volumes generally produce comparatively small increases in measured sound levels.

Consistent with these acoustical principles, the projected increase in traffic volume results in an estimated increase of not more than 0.6 dBA, which is generally considered a minor increase in environmental traffic noise and does not represent a substantial change in the overall noise environment. Thus, the updated traffic forecasts do not materially change the conclusions of the September 2021 Noise Study.

End of Memorandum


PR-5 2046 CMA Traffic Data
Plan View
Run name: PR5 Total 1
Scale:
1000 me
Sheet 1 of 1
11 Aug 2026
CMA A/E
Project/Contract No. 21095
TNM Version 2.5, Feb 2004
Analysis By: Pedro Janer
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
225000
226000
227000
228000
229000
230000
231000

CMA A/E
Pedro Janer

11 August 2026
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 21095
RUN: PR-5 2046 CMA Traffic Data
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Amor St.	1	18	55.4	66.8	67	11.4	10	Sub'l Inc	61.5	5.3	7	-1.7
Villa Rica	2	13	60.4	66.0	67	5.6	10	----	66.0	0.0	7	-7.0
Interamericana	3	29	55.0	68.9	67	13.9	10	Both	55.3	13.6	7	6.6
Cerro Gordo Diamante St.	4	30	55.0	62.0	67	7.0	10	----	62.0	0.0	7	-7.0
Cortijo 6 st.	5	30	55.2	44.7	67	-10.5	10	----	44.7	0.0	7	-7.0
Cortijo 21 st.	6	30	55.0	69.5	67	14.5	10	Both	57.7	11.8	7	4.8
Sector Acevedo	7	15	57.8	66.3	67	8.5	10	----	66.3	0.0	7	-7.0
Cerro Gordo 8 st.	8	21	57.8	67.5	67	9.7	10	Snd Lvl	67.5	0.0	7	-7.0
El Cortijo Street 21 North	9	16	55.0	66.2	67	11.2	10	Sub'l Inc	57.3	8.9	7	1.9
El Cortijo Street 17	10	19	55.0	75.2	67	20.2	10	Both	65.2	10.0	7	3.0
El Cortijo Street 21 South	11	21	55.0	73.7	67	18.7	10	Both	63.1	10.6	7	3.6
El Cortijo Street 14	12	21	55.0	67.6	67	12.6	10	Both	57.5	10.1	7	3.1
El Cortijo Street 9-B	13	17	55.0	67.2	67	12.2	10	Both	66.9	0.3	7	-6.7

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	280	0.0	5.4	13.6
All Impacted	192	0.0	7.8	13.6
All that meet NR Goal	136	8.9	10.8	13.6

CMA A/E
Pedro Janer

11 August 2026
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 21095
RUN: PR-5 2046 ACT Traffic Data
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Amor St.	1	18	55.4	66.3	67	10.9	10	Sub'l Inc	61.0	5.3	7	-1.7
Villa Rica	2	13	60.4	65.8	67	5.4	10	----	65.8	0.0	7	-7.0
Interamericana	3	29	55.0	68.4	67	13.4	10	Both	54.7	13.7	7	6.7
Cerro Gordo Diamante St.	4	30	55.0	61.6	67	6.6	10	----	61.6	0.0	7	-7.0
Cortijo 6 st.	5	30	55.2	44.1	67	-11.1	10	----	44.1	0.0	7	-7.0
Cortijo 21 st.	6	30	55.0	68.9	67	13.9	10	Both	57.2	11.7	7	4.7
Sector Acevedo	7	15	57.8	65.5	67	7.7	10	----	65.5	0.0	7	-7.0
Cerro Gordo 8 st.	8	21	57.8	67.2	67	9.4	10	Snd Lvl	67.2	0.0	7	-7.0
El Cortijo Street 21 North	9	16	55.0	65.7	67	10.7	10	Sub'l Inc	56.7	9.0	7	2.0
El Cortijo Street 17	10	19	55.0	74.9	67	19.9	10	Both	64.8	10.1	7	3.1
El Cortijo Street 21 South	11	21	55.0	73.1	67	18.1	10	Both	62.6	10.5	7	3.5
El Cortijo Street 14	12	21	55.0	67.2	67	12.2	10	Both	57.1	10.1	7	3.1
El Cortijo Street 9-B	13	17	55.0	67.0	67	12.0	10	Both	66.7	0.3	7	-6.7

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	280	0.0	5.4	13.7
All Impacted	192	0.0	7.9	13.7
All that meet NR Goal	136	9.0	10.8	13.7

Noise Levels Study

Extension of State Road PR-5
Bayamón, Puerto Rico

Prepared for:

Puerto Rico Highways and Transportation Authority

September 15, 2021
CMA 21095

CMA ARCHITECTS & ENGINEERS LLC

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1.0 INTRODUCTION

The Puerto Rico Highways and Transportation Authority (PRHTA) proposes the extension of State Road PR-5 between the existing PR-5 and PR-199 intersection and PR-167. Figure Number 2 shows an aerial photo depicting the project area.

PRHTA has retained the services of CMA Architects & Engineers LLC to carry out a Noise Levels Study at the project area. For this purpose, CMA technical personnel obtained the current noise levels on September 14, 2021. Using the obtained field data, the results of the Traffic Study prepared by Steer, and information provided by The Highway Capacity Manual or HCM (Transportation Research Board, 2010), the future noise impacts of the proposed project were estimated. Condition with projected future volumes (year 2046 for the existing configuration and for the alternatives considered.

This noise study includes the segment from PR-5 intersection with PR-199 to PR-167 intersection with PR-5 in the municipality of Bayamón. The segment has a length of approximately 5.40 kilometers. Figure Number 1 shows an aerial photo depicting the project area.

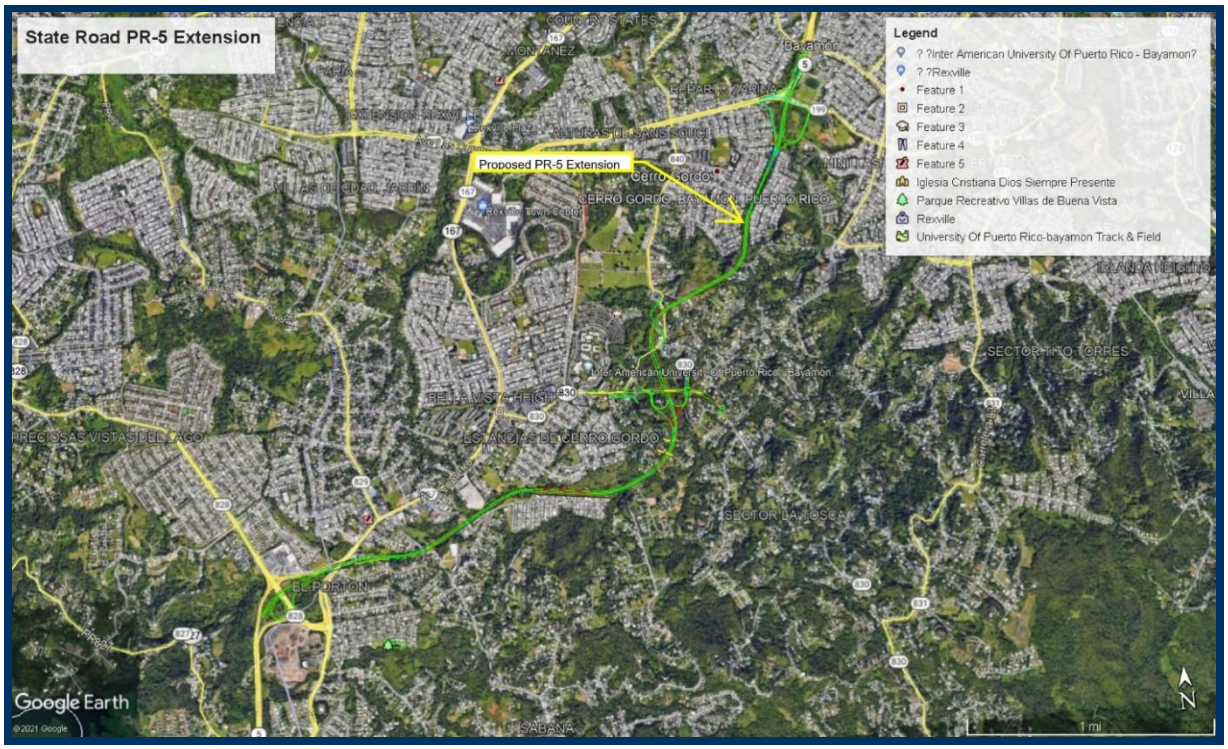


Figure Number 1 – Aerial Photo

2.0 REGULATORY BACKGROUND

On May 5, 2011, the Puerto Rico State Department approved the Noise Pollution Control Regulation, as amended, and prepared by the Environmental Quality Board (EQB) in order to establish the regulations for the control, reduction and elimination of the noxious noise to the public health and public welfare, according with the Public Policy Environmental Act.

Rule 27 of this Regulation establishes noise emission limits in different zones. Table Number 1 presents the limits.

Table Number 1 - Noise Level Limits [dB(A)]

Emitting Source	Zone I (Residential)		Zone II (Commercial)		Zone III (Industrial)		Zone IV (Quiet)	
	Day Period	Night Period	Day Period	Night Period	Day Period	Night Period	Day Period	Night Period
Zone I	60	50	65	55	70	60	55	50
Zone II	65	50	70	60	75	65	55	50
Zone III	65	50	70	65	75	75	55	50
Zone IV	65	50	70	65	75	75	55	50

The area under study includes residential and commercial areas classified as Zone I, and Zone II.

Rule 31 of the after mentioned regulation establishes criteria to identify conditions that would need traffic noise mitigation. To evaluate the traffic noise, it is required to obtain the one hour equivalent noise level that corresponds to the time of the day when the traffic noise is higher. The following table shows this criterion.

Table Number 2 – Rule 31 Noise Measurement Criteria		
Category	**L_{eq} 1hr (1HL)**	**Description of Activity Category**
A	57_E	Places that requires exceptional tranquility and environment preservation.
B	67_E	Residences, hotels, parks, churches, schools, libraries, hospitals
C	72_E	Developments not included at categories A and B.
D	No established limits	Undeveloped lands
E	52_I	Residences, hotels, public buildings, churches, schools, libraries, hospitals, auditoriums, commercial buildings

The Federal Highway Administration approved Noise Abatement Criteria for different types of activities on July 13, 2011. The following table shows this criterion.

Table Number 3 - Noise Abatement Criteria Hourly A-Weighted Sound Level in Decibels		
Activity	**$L_{eq}(h)^1$**	**Description of Activity Category**
A	57_E	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67_E	Residential
C	67_E	Active sports areas, amphitheaters, auditoriums, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4 (f) sites, schools, television studios, trails, and trail crossings.
D	52_I	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.

Table Number 3 - Noise Abatement Criteria Hourly A-Weighted Sound Level in Decibels		
Activity	**$L_{eq}(h)^1$**	**Description of Activity Category**
E	72_E	Hotels, motels, offices, restaurants/bars/and other developed lands, properties and activities not included in A & D

Notes:

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

$_E$ External areas of the receptors included in this study fall in Category B, C & E.

3.0 METHODOLOGY

To carry out the study, a field visit was conducted to measure current noise levels. The obtained results were used to determine the impact of the proposed project alternatives on the receivers. Seven (7) receivers were chosen physically along the proposed project corridor for the simulation of the program TNM 2.5. The data used for these seven (7) representative receivers were obtained of the nearest similar characteristic sampling point.

These seven receivers are representative of the residential areas located in the project. All receivers are located near to the proposed PR-5 corridor at no more than 500 feet (152 meters) measured from the proposed project. **Appendix A** shows the proposed route and the selected receivers. **Appendix B** shows a copy of the Noise Study Field Data Sheet and **Appendix C** the TNM 2.5 Print Out.

The following procedure was followed to conduct the noise level measurements in the field:

1. The sound level meter calibration was verified prior to taking measurements in each of the receivers. The sound level meter is calibrated annually by the manufacturer to maintain the efficiency of the measurements. **Appendix D** shows a copy of the of the annual calibration certificate.
2. The location of the receiver was determined and the distance from the equipment to the emission source was measured.
3. The sound level meter was attached to a 4 feet high tripod.
4. Noise levels were obtained in each receiver by measuring the noise for a period of 30 minutes. At the end of each period, the L_{eq} level of the sound level meter was recorded.
5. The following equipment was used to perform this procedure:
    - Global Positioning System (GPS) Garmin GPS 62stc.

- Brüel & Kjær 2238 Mediator Sound Level Meter
- Brüel & Kjær model 4231 Calibrator
- 4 feet high aluminum tripod

3.1 Receivers

The following receivers were used to determine the current noise levels.

- Receiver Number 1- Residential Area located adjacent to the Fire House.



- Receiver Number 2 – Villa Rica



- Receiver Number 3 – Ciudad Interamericana



- Receiver Number 4 – Cerro Gordo Diamante Street



- Receiver Number 5 – El Cortijo Street 21



- Receiver Number 6 – El Cortijo Street 16



Receiver Number 7 – Cerro Gordo Street 8



4.0 RESULTS DISCUSSION

To carry out the study, a field visit was conducted on September 14, 2021, to obtain existing noise levels during typical works day. The obtained results were used to determine the impact of the proposed project on the selected receivers. All receivers are located adjacent the proposed roadway at no more than 500 feet (152 meters) measured from centerline of the proposed project. **Appendix A** shows Layout Plans for the proposed project showing the receivers location.

The following table shows the existing noise levels. These levels will be used as the environmental background noise.

Table Number 4 – Current Noise Levels

Receiver	Noise Levels L_{eq}[dB(A)]
1	55.4
2	60.4
3	55.0
4	55.0
5	55.2
6	55.0
7	57.8

Using the previously described methodology at Section 3.0, future noise levels in the receivers were obtained. To use TNM, vehicular flow data obtained from the field visits and the traffic study prepared by Steer. The following table shows the peak hour traffic volumes for current and design years. The mathematical model was developed using a maximum velocity of 55 mph for each type of vehicle modelled.

Table Number 5 – PR-5 Estimated Traffic Flow					
AADT North to South	**Peak Flow [vph] Year 2046**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Motorcycles**
21,829	2,183	2,074	44	44	21
AADT South to North	**Peak Flow [vph] Year 2046**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Motorcycles**
17,811	1,758	1,670	35	35	18

According to the data obtained from the Noise Field Study Data and Traffic Study the existing peak hour's traffic volume[1] for design year 2046 is a traffic flow is 2,183 vehicles per hour in north to south directions and 1,758 on south to north direction. To estimate the different type of vehicles volume, we used a 95 % of the peak flow for the regular automobiles flow, 2% of the peak flow to be the medium trucks flow, 2% for heavy trucks and 1% for motorcycles.

4.1 TNM Model Results

As described earlier in this report, the project under evaluation has three (3) possible alternatives. The following table shows the TNM model results highlighting the points were the PRHTA maximum noise levels are exceeded.

Table Number 6 – TNM 2.5 Future Noise Levels					
Receiver Number	**Current Noise Level**	**TNM 2.5 Future Noise Level 2046 [dB(A)]**	**Difference [dB(A)]**	**Noise Abatement Criteria [dB(A)]**	**Difference [dB(A)]**
Amor Street	55.4	67.3	11.9	67	0.3
Villa Rica	60.4	63.9	3.5	67	-3.1
Ciudad Interamericana	55.0	74.7	19.7	67	7.7
Cerro Gordo Diamante	55.0	63.7	9.9	67	-4.3

[1] Peak volume was estimated to be 10% of the AADT.

Table Number 6 – TNM 2.5 Future Noise Levels					
Receiver Number	**Current Noise Level**	**TNM 2.5 Future Noise Level 2046 [dB(A)]**	**Difference [dB(A)]**	**Noise Abatement Criteria [dB(A)]**	**Difference [dB(A)]**
Cortijo Street 21	55.2	64.9	8.5	67	-2.1
Cortijo Street 16	55.0	62.2	7.2	67	-4.8
Cerro Gordo Street 8	57.8	70.4	12.6	67	3.4

4.2 Impacted Receivers and Noise Abatement Measures

Section VI.C of the PRHTA Noise Policy indicates that a traffic noise impact occurs when the predicted existing or future highway traffic noise levels in a receptor approach or exceed the NAC or when predicted existing or future highway traffic noise levels are substantially exceeded the existing traffic noise level, even though the predicted levels may not exceed the NAC. This definition reflects the FHWA position that traffic noise impacts can occur under either of two separate conditions:

- Future noise levels approach or exceed the NAC; or,
- Future noise levels result in a substantial increase over the existing noise environment (substantial increase).

4.2.1 Receiver Number 1 – Amor Street

The existing noise level at this receiver is 55.4 dB(A), which do not exceed the PRHTA Noise Abatement Criteria (NAC) of 67 dB(A) for Activity B. The projected future noise level at this receiver was estimated to be 67.3 dB(A), 0.3 dB(A) above the NAC but 11.9 dBA over the current level. This is a substantial increase. We recommend the installation of a noise attenuation wall 4.2 meters (14 ft) high, a length of 413 meters and an area of 1,753 square meters. This noise attenuation wall will reduce the traffic noise to 57.6 dBA or 2.7 dBA above the noise reduction goal of 7 dBA.

Based in a cost of $400.00 per square meter, the noise attenuation wall cost would be $701,200.00 or $38,956.00 per benefited receiver (18 benefited receivers). As per PRHTA criteria, abatement costing $42,244.00 or less per benefited receiver as deemed reasonable.

4.2.2 Receiver Number 2 – Villa Rica

The existing noise level at this receiver is 60.4 dB(A), which do not exceed the PRHTA Noise Abatement Criteria (NAC) of 67 dB(A) for Activity B. The projected future noise level at this receiver was estimated to be 63.9 dB(A), 3.1 dB(A) below the NAC. No noise attenuation wall is recommended for this area.

4.2.3 Receiver Number 3 – Ciudad Interamericana

The existing noise level at this receiver is 55.0 dB(A), which do not exceed the PRHTA Noise Abatement Criteria (NAC) of 67 dB(A) for Activity B. The projected future noise level at this receiver was estimated to be 74.7 dB(A), 7.7 dB(A) above the NAC but 19.7 dBA over the current level. This is a substantial increase. We recommend the installation of a noise attenuation wall 5.45 meters (18 ft) high, a length of 581 meters and an area of 3,165 square meters. This noise attenuation wall will reduce the traffic noise to 65.7 dBA or 2.0 dBA above the noise reduction goal of 7 dBA.

Based in a cost of $400.00 per square meter, the noise attenuation wall cost would be $1,265,944.00 or $43,653.00 per benefited receiver (29 benefited receivers). As per PRHTA criteria, abatement costing $42,244.00 or less per benefited receiver as deemed reasonable. But, when the predicted levels are above 70 dBA an additional $2,000.00 per receiver can be added. Then, the cost per benefited receiver is reasonable.

4.2.4 Receiver Number 4 – Cerro Gordo Diamante Street

The existing noise level at this receiver is 554 dB(A), which do not exceed the PRHTA Noise Abatement Criteria (NAC) of 67 dB(A) for Activity B. The projected future noise level at this receiver was estimated to be 64.9 dB(A), 2.1 dB(A) below the NAC. No noise attenuation wall is recommended for this area.

4.2.5 Receiver Number 5 – El Cortijo West (Streets 14 and 17)

Four different receivers were modeled along the proposed corridor to evaluate the area. This receiver includes the area covered by Streets 14 and 17 at El Cortijo. The projected future noise levels at these receivers were estimated from 64.7 to 66 dB(A). These levels are below the NAC but are a substantial increase above the existing levels. We recommend the installation of a noise attenuation wall 3.65 meters (12 ft) high, a length of 800 meters and an area of 3,359 square meters. This wall will reduce the traffic noise to 59.7 dBA or -0.3 dBA above the noise reduction goal of 7 dBA.

Based in a cost of $400.00 per square meter, the noise attenuation wall cost would be $1,343,891 or $19,763.00 per benefited receiver (68 benefited receivers). As per PRHTA criteria, abatement costing $42,244.00 or less per benefited receiver as deemed reasonable.

4.2.6 Receiver Number 6 – El Cortijo East (Streets 21 and 16)

Three different receivers were modeled along the proposed corridor to evaluate the area. This receiver includes the area covered by Streets 21 and 16 at El Cortijo. The projected future noise levels at these receivers were estimated from 56.1 to 60.5 dB(A). These levels are below the NAC. No noise attenuation wall is recommended for this area.

4.2.7 Receiver Number 7 – Cerro Gordo Street 8

The existing noise level at this receiver is 57.8 dB(A), which do not exceed the PRHTA Noise Abatement Criteria (NAC) of 67 dB(A) for Activity B. The projected future noise level at this receiver was estimated to be 70.4 dB(A), 3.4 dB(A) above the NAC and 12.6 dBA over the current level. This is a substantial increase. We recommend the installation of a noise attenuation wall 3.33 meters (11 ft) high, a length of 475 meters and an area of 1,580 square meters. This noise attenuation wall will reduce the traffic noise to 61.7 dBA or 1.7 dBA above the noise reduction goal of 7 dBA.

Based in a cost of $400.00 per square meter, the noise attenuation wall cost would be $631,931 or $30,091.00 per benefited receiver (21 benefited receivers). As per PRHTA criteria, abatement costing $42,244.00 or less per benefited receiver as deemed reasonable. But when the predicted levels are above 70 dBA an additional $2,000.00 per receiver can be added. Then, the cost per benefited receiver is reasonable.

5.0 CONCLUSIONS AND RECOMMENDATIONS

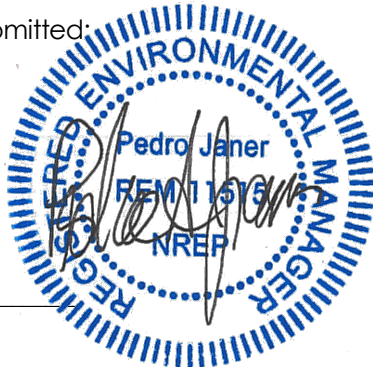
Existing noise levels were estimated in different strategic points that can be affected by the proposed project. The PRHTA recommended maximum levels limits are exceeded at receivers' number 1, 3, and 7.

When traffic noise impacts are identified, noise abatement were considered and evaluated for feasibility and reasonableness. This report determined and analyzed alternative noise abatement measures to abate identified impacts by giving weight to the benefits and costs of abatement and the overall social, economic, and environmental effects by using feasible and reasonable noise abatement measures for decision-making. **Appendix A** shows the approximate location of the proposed noise attenuation wall.

Noise attenuation walls are recommended for the areas covered by receivers 1 (Villa Rica), 3 (Ciudad Interamericana), 6 (El Cortijo West) and 7 (Cerro Gordo). These barriers have an approximate cost of $3,942,986.

This report was carried out based on the conceptual drawings prepared by CMA and dated September 1, 2021, field visit and the Traffic Study prepared by Steer September 2021. Any changes on the above referenced documents could be affect the obtained results and a new study would need to be prepared.

Respectfully submitted;



Pedro A. Janer
TNM User 65316
CMA Architects & Engineers LLC

6.0 GLOSSARY

AADT	Average Annual Daily Traffic
dB(A)	The total sound pressure of all the sounds in decibels as measured in a sound meter with a 20 micro-Pascal reference pressure using the sound meter measuring scale A and the unit is expressed as dB(A).
Decibel (dB)	A measuring unit to quantify the sound intensity, equal to 20 times the base 10 logarithm of the sound pressure ratio, measured at the reference pressure, which is 20 micro-Pascal.
L_{10}	Scale A sound level that is exceeded by 10% of time during a consideration period.
Equivalent Sound Level (L_{eq})	Equivalent continuous sound level. In other words the constant level, dB(A), that can produce the same sound energy as a variant sound specified in a specified time.
Diurnal Period	Period between 7:01 AM y 10:00 PM
Nocturnal Period	Period between 10:01 PM y 7:00 AM
Noise	Undesired sounds that affect humans in a psychological or physical manner or exceed the limitations established in the Regulation.
NRC	Noise Reduction Coefficient
vph	Vehicles per hour

7.0 REFERENCES

1. Bruel & Kjær, Measuring Sound, Revised September 1984.
2. Bruel & Kjær, Precision Integrating Sound Level Meter – Type 2236, Owner's Manual, Denmark.
3. CMA Architects & Engineers LLC, PR-5 Extension Drawings No. PP-01 to PP-9, August 2021.
4. Environmental Quality Board, Regulation for the Control of Noise Pollution, Version Amended, May 5, 2011.
5. Federal Highways Administration, Highway Traffic Noise Analysis and Abatement; Policy and Guidance, June 1995.
6. Federal Highways Administration, Procedures for Abatement of Highway Traffic Noise and Construction Noise, 23 CFR Part 772.
7. Federal highways Administration, Highway Noise in the United States; Problem and Response, August 1997.
8. McGraw Hill, Inc., Standard Handbook of Environmental Engineering, First Edition, 1990.
9. Puerto Rico Highways & Transportation Authority, Noise Policy in the Development and Operation of Transportation Project, 2011.
10. Steer, PR-5 Traffic Forecast, September 2021

APPENDIXES

APPENDIX A

PROPOSED ROUTE AND RECEIVERS LOCATION

FED. AID HWAY PROJECT No.	A.C. PROJECT CODE No.	HIGHWAY	MUNICIPALITIES	ISLAND	FISCAL YEAR	SHEET No.	TOTAL SHEETS
C	--	PR-5	BAYAMON	P.R.	2021	004	--
RW							

PROJECT BEGINS
STA. 3+20.00(PR167)
MATCH TO EXISTING

LINE PR167 BEGINS
STA. 0+90.00(PR167)

TO NARANJITO

TO LOS PALACIOS DEVELOPMENT

EXISTING BRIDGE OVER PR-5

PC-STA.6+44.72

PC-STA.1+19.33

PT-STA.6+87.72

PC-STA.8+47.72

BP-STA.0+90.00

PR-5

PR-167

LINE PR167

3.0 SHOULDER
7.30 TRAVEL LANES
7.30 RAMP
4.90 RAMP
1.20 SHOULDER
1.80 SHOULDER
12.75 TRAVEL LANES
6.00 MEDIAN
14.60 TRAVEL LANES

BR-01
BRIDGE OVER
PR-167

TO BAYAMON

EL PORTON WARD

BAYAMON
FIRE HOUSE STATION

AMOR STREET

EL ZORZAL

STREET No.3

MATCH LINE STA 10+00.00(PR167)
(SEE DWG. PP/2)

256000N 224100E 256100N 224200E 224300E 256200N 224400E 224500E 256300N 224600E 224700E 224800E 255900N 255800N 255700N 255600N

WORK	BY	DATE
DESIGN		
DRAWING		
TRACED		
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FINAL CHECK		
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BAYAMON PUERTO RICO

PR-5 EXTENSION
FROM PR-167 TO PR-199

DATE	REVISIONS

SCALE:

LAYOUT PLAN

PP 01

DATE: September 22, 2021 3:14 PM USER: Dario A. Rodriguez FILE: C:\DM WORKSPACE\21095\CHECKOUT\PP-01.DWG

FED. AID HWAY PROJECT No.	A.C. PROJECT CODE No.	HIGHWAY	MUNICIPALITIES	ISLAND	FISCAL YEAR	SHEET No.	TOTAL SHEETS
C	--	PR-5	BAYAMON	P.R.	2021	005	--
RW							

MATCH LINE STA 10+00.00(PR167) (SEE DWG. PP/1)

MATCH LINE STA 18+00.00(PR5) (SEE DWG. PP/3)

PR-167

TO BAYAMON

MC' DONALD

PR-829

STREET No.1

EL OCHO WARD

TO NARANJITO

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

PT-STA 12+21.19

PC-STA 13+05.73

PT-STA 15+75.00

LINE PR5

3.0 SHOULDER

7.30 TRAVEL LANES

6.00 MEDIAN

7.30 TRAVEL LANES

3.0 SHOULDER

Villa Rica

Amor St.

BR-02
BRIDGE OVER
PR-829

PAZ STREET

AMOR STREET

TEMPLANZA STREET

EL ZORZAL

STREET No.3

BAYAMÓN HILLS

COLINAS DE BAYAMÓN

224800E 224900E 225000E 225100E 225200E 225300E 225400E 225500E 225600E

256300N 256200N 256100N 256000N 255900N

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PP 02

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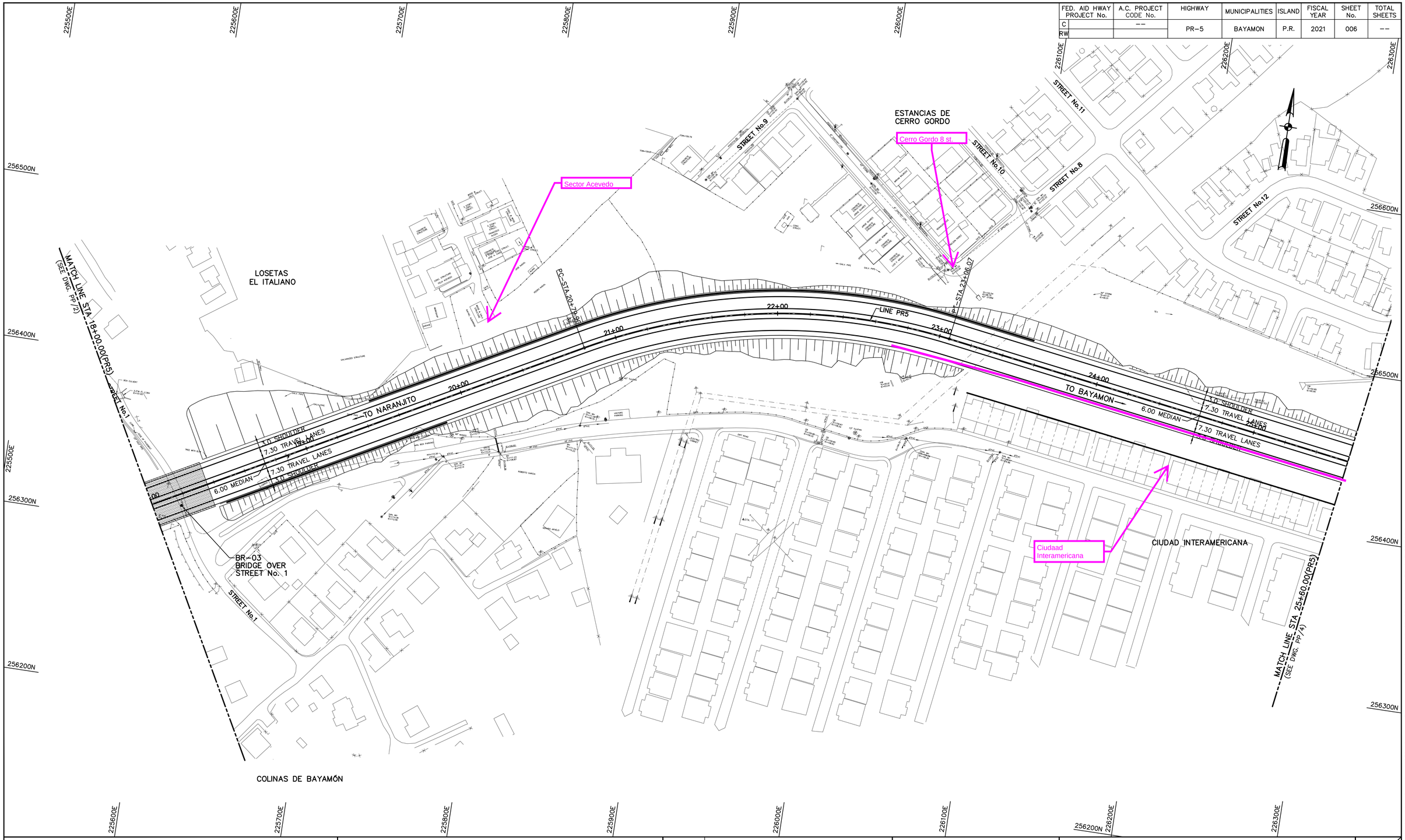
RW							



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PP 03

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RW							

256700N
256600N
256500N
256400N
256300N
226300E
226400E
226500E
226600E
226700E
226800E
226900E
227000E
227100E

STREET No.12
STREET No.13
STREET No.14
STREET No.16
STREET No.17
STREET No.20
STREET No.11
VALLE DE CERRO GORDO

MATCH LINE STA 25+60.00(PR5)
(SEE DWG. PP-73)

Receiver 4
Cerro Gordo Diamante St.

TO NARANJITO
22.00
3.0 SHOULDER
7.30 TRAVEL LANES
6.00 MEDIAN
7.30 TRAVEL LANES
3.0 SHOULDER
24.00
LINE PR5
PC-STA.26+37.87
28+00
29+00
BR-04
BRIDGE OVER
MINILLAS RIVER
PT-STA.29+93.98
30+00
MINILLAS RIVER
CIUDAD INTERAMERICANA

SECTOR
LA TOSCA

MATCH LINE STA 34+00.00(PR5)
(SEE DWG. PP-75)
STREET No.6
1+00
CV-02
2+00
CV-01
TO BAYAMON
33+00
STREET No.8 1+00
STREET No.10
PC-STA.31+10.04
32+00
11+00
STREET No.8
STREET No.6
MINILLAS RIVER
COLINAS DE
CERRO GORDO

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RW							

MATCH LINE STA 4+40.00(PR830)
(SEE DWG. PP/9)

LINE PR830

5.00 RAMP

7.30

5+00

STREET 4

1.50 SIDEWALK

1.50 PLANTING

BR-05
BRIDGE OVER
PR-830

PT-STA.35+77.45

5.00 RAMP

6+00

3.00 SHOULDER

7.30 TRAVEL LANES

3.00 SHOULDER

6.00 MEDIAN

7.30 TRAVEL LANES

3.00 SHOULDER

5.00 RAMP

1.80 SHOULDER

LINE PR5

35+00

36+00

37+00

38+00

39+00

40+00

PC-STA.39+86.20

PR-830

TO NARANJITO

TO BAYAMON

OPEN TOLLING
FACILITIES

MATCH LINE STA 34+00.00(PR5)
(SEE DWG. PP/4)

MATCH LINE STA 41+00.00(PR5)
(SEE DWG. PP/6)

7+00

LINE PR840 ENDS
STA. 5+11.17(PR840)

LINE PR840

BRISAS DEL
ATLANTICO

SECTOR LAS GUABAS

SECTOR LAS PIEDRAS

MATCH LINE STA 8+80.00(PR830)
(SEE DWG. PP/9)

MATCH LINE STA 4+60.00(PR840)
(SEE DWG. PP/6)

226800E
226900E
227000E
227100E
227200E
227300E
256800N
256900N
257000N
257100N
257200N
257300N
257400N
257500N

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LAYOUT PLAN

PP 05

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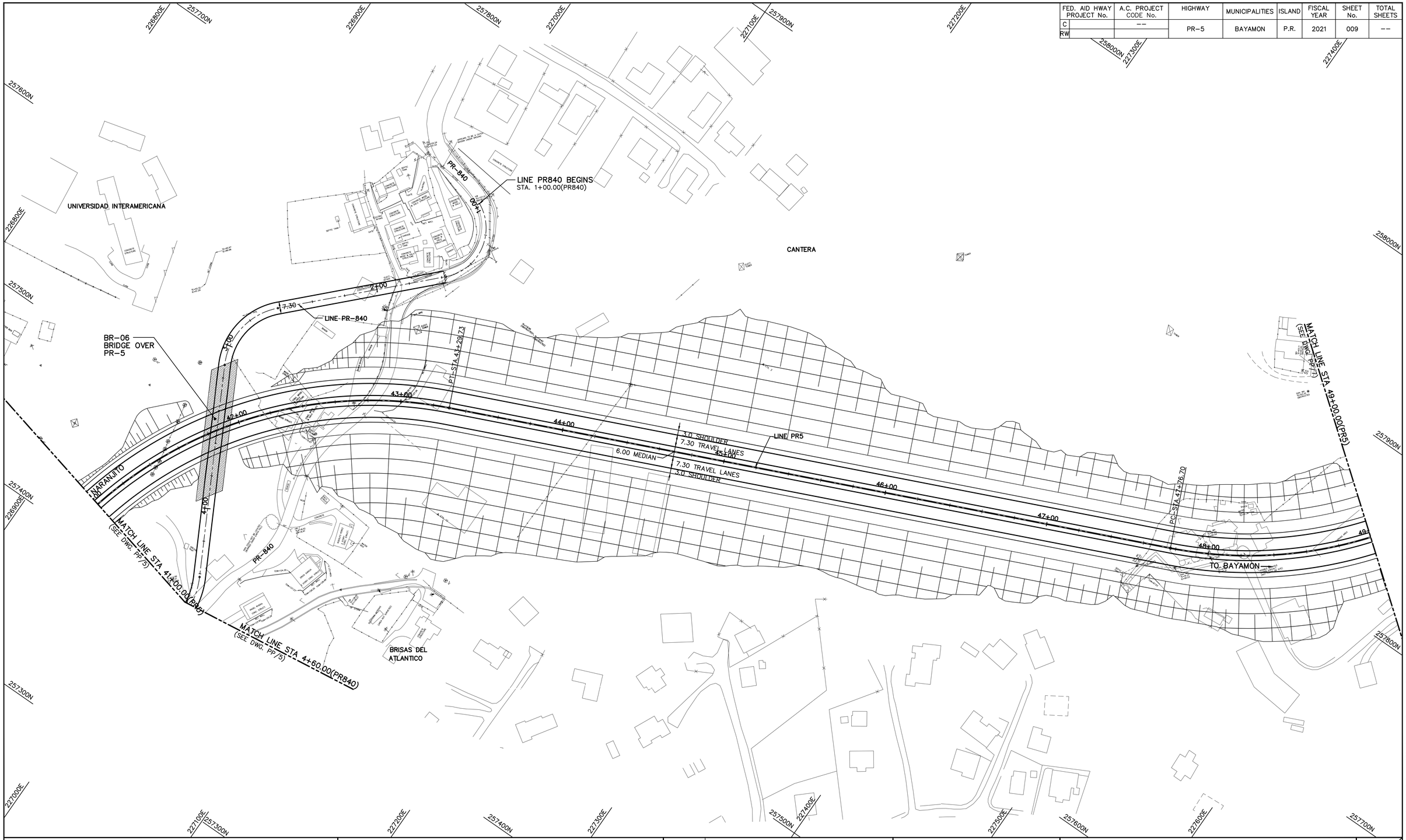
RW								



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BAYAMON — PUERTO RICO

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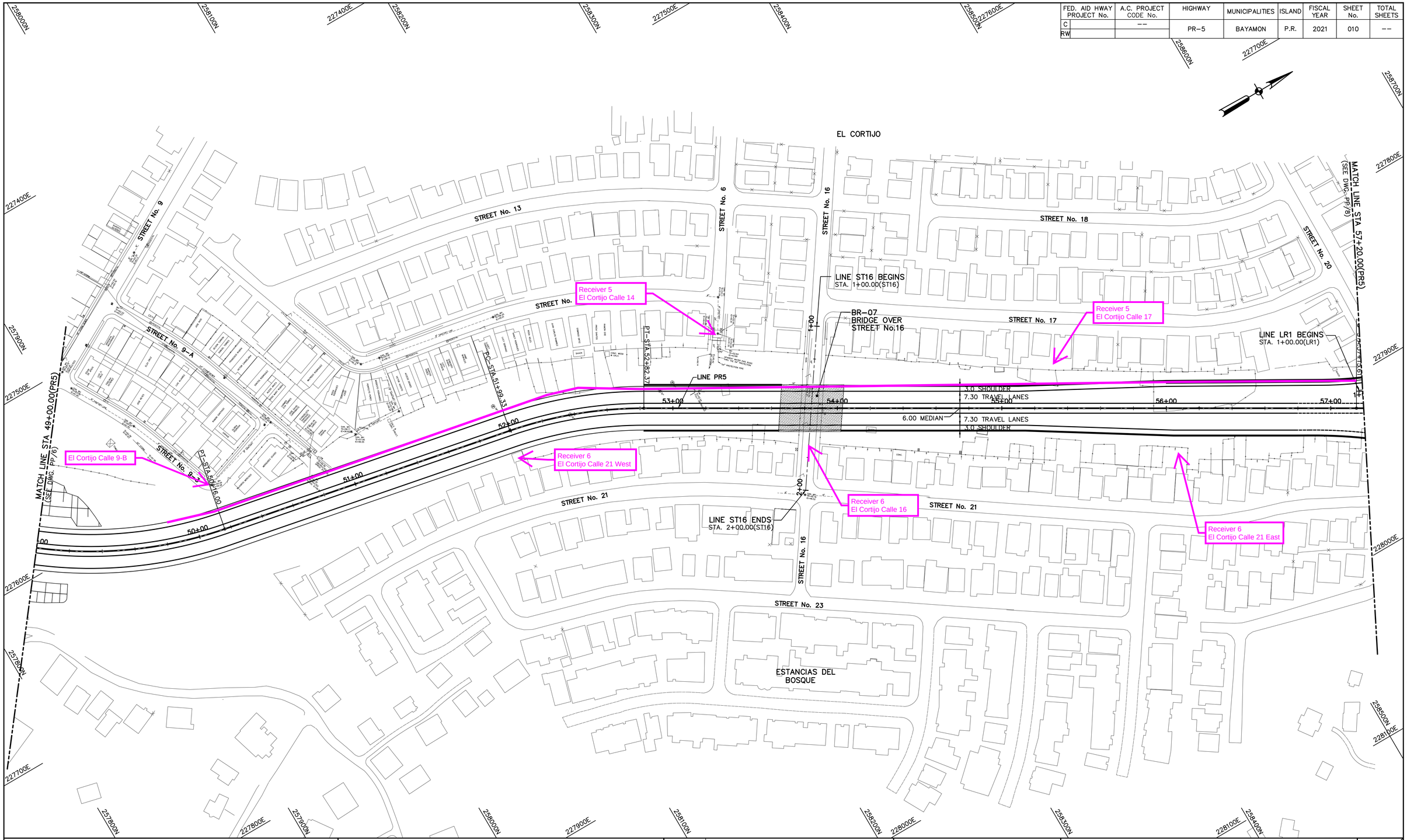
PP 06

DATE: September 22, 2021 3:15 PM USER: Dorio A. Rodriguez FILE: C:\DM WORKSPACE\21095\CHECKOUT\PP-06.DWG

FED. AID HWAY PROJECT No.	A.C. PROJECT CODE No.	HIGHWAY	MUNICIPALITIES	ISLAND	FISCAL YEAR	SHEET No.	TOTAL SHEETS
C	--	PR-5	BAYAMON	P.R.	2021	010	--
RW							



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WORK	BY	DATE
DESIGN		
DRAWING		
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FINAL CHECK		
PROGRESS ISSUE		/ /

CMA ARCHITECTS & ENGINEERS LLC
PUERTO RICO HIGHWAY AND TRANSPORTATION AUTHORITY
1509 Ave FD Roosevelt Ste 200
Guaynabo, PR 00968-2706
Tel: 787-792-1909
E-mail: cma@cmapr.com
www.cmapr.com
CMA# 21095

PR-5 EXTENSION
FROM PR-167 TO PR-199

BAYAMON PUERTO RICO

DATE	REVISIONS

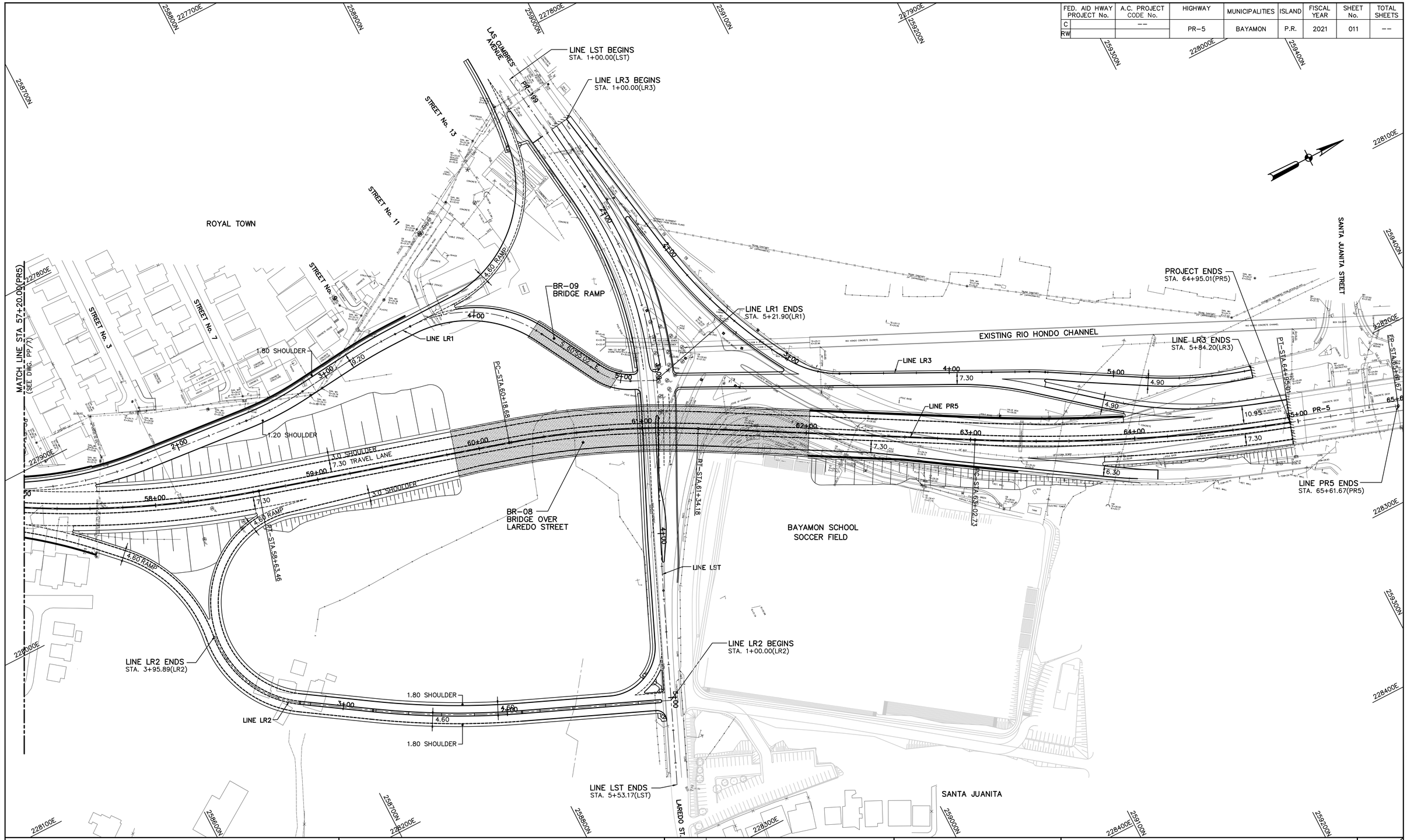
SCALE:

LAYOUT PLAN

PP 07

DATE: September 22, 2021 3:15 PM USER: Dario A. Rodriguez FILE: C:\DM WORKSPACE\21095\CHECKOUT\PP-07.DWG

FED. AID HWAY PROJECT No.	A.C. PROJECT CODE No.	HIGHWAY	MUNICIPALITIES	ISLAND	FISCAL YEAR	SHEET No.	TOTAL SHEETS
C	--	PR-5	BAYAMON	P.R.	2021	011	--
RW							



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WORK	BY	DATE
DESIGN		
DRAWING		
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CHECK		
FINAL CHECK		
PROGRESS ISSUE		//

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CMA# 21095

PR-5 EXTENSION
FROM PR-167 TO PR-199

BAYAMON PUERTO RICO

DATE	REVISIONS

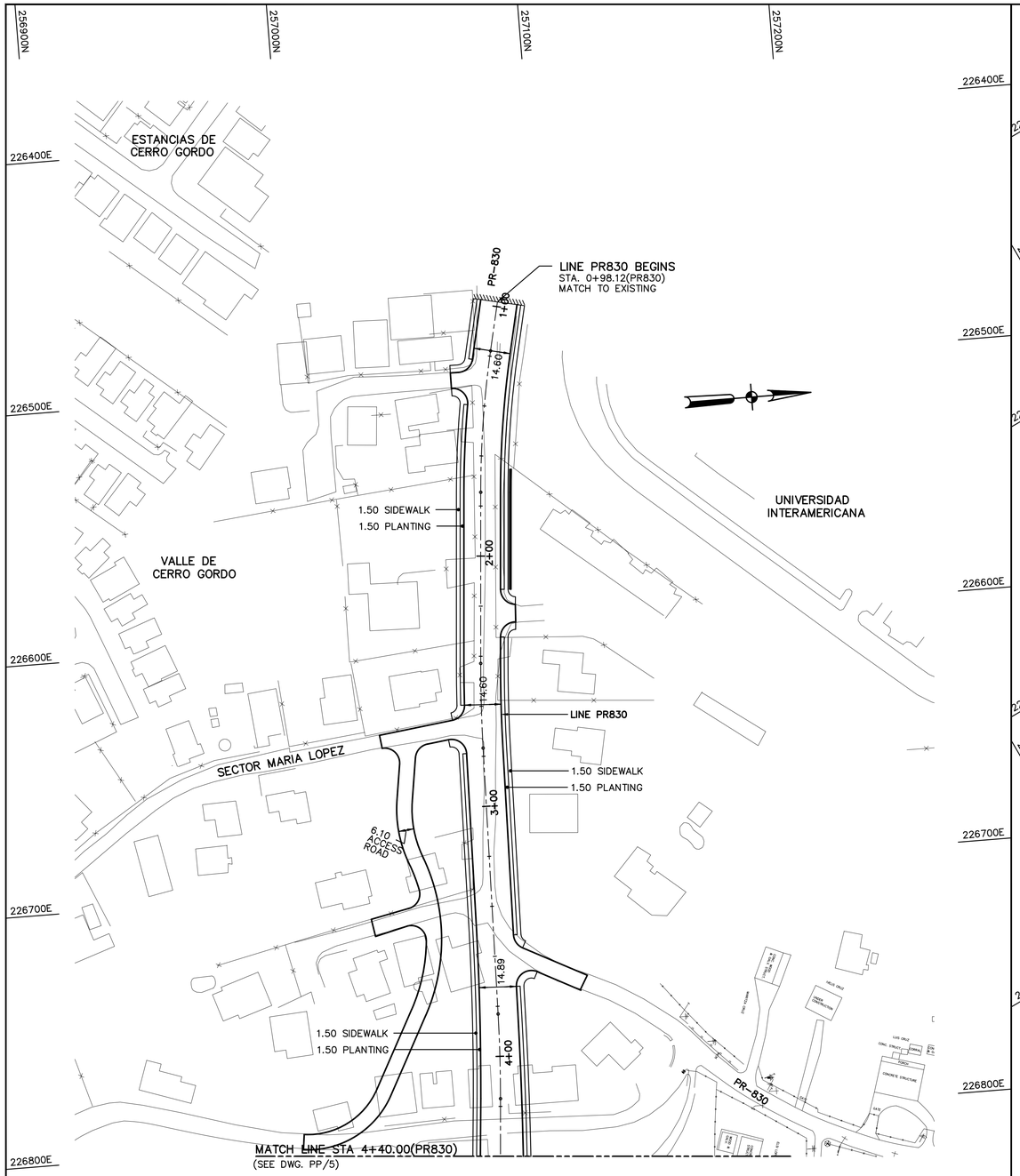
SCALE:

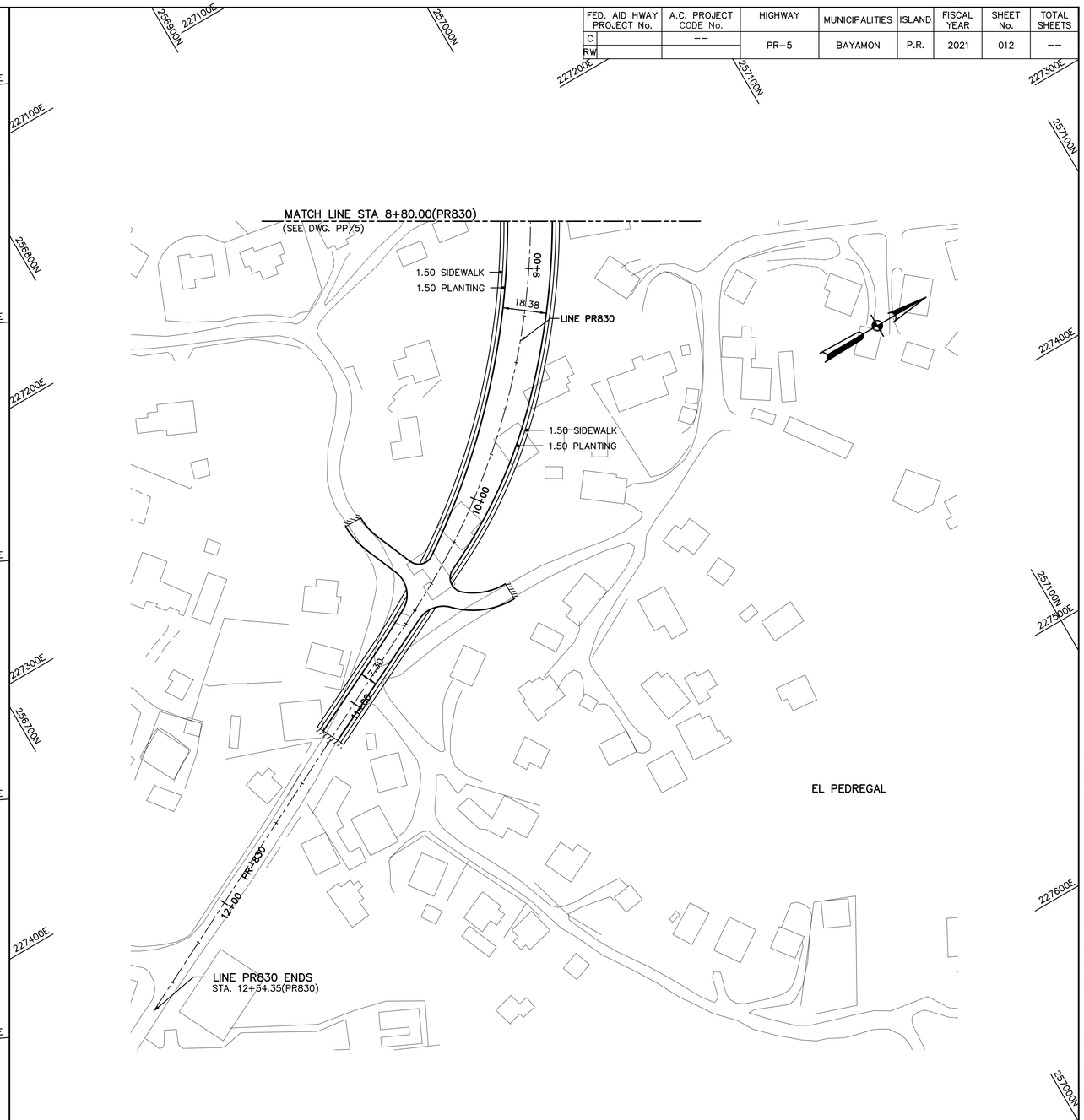
LAYOUT PLAN

PP 08

DATE: September 22, 2021 3:15 PM USER: Dario A. Rodriguez FILE: C:\DM WORKSPACE\21095\CHECKOUT\PP-08.DWG

FED. AID HWAY PROJECT No.	A.C. PROJECT CODE No.	HIGHWAY	MUNICIPALITIES	ISLAND	FISCAL YEAR	SHEET No.	TOTAL SHEETS
C	--	PR-5	BAYAMON	P.R.	2021	012	--
RW							





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WORK	BY	DATE
DESIGN		
DRAWING		
TRACED		
CHECK		
FINAL CHECK		
PROGRESS ISSUE		/ /

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CMA# 21095

PR-5 EXTENSION
FROM PR-167 TO PR-199

BAYAMON PUERTO RICO

DATE	REVISIONS

SCALE:

LAYOUT PLAN

PP 09

DATE: September 22, 2021 3:14 PM USER: Dario A. Rodriguez FILE: C:\DM WORKSPACE\21095\CHECKOUT\PP-09.DWG

APPENDIX B

NOISE STUDY FIELD DATA

CMA
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Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR-199		Date: 09-14-21
Receiver Description & Location: R-8 Estancias Del Basque GPS-960. C.16 Int C.21		
CMA No.: 21096		Start: 4:02 pm End: 4:32 pm
Results:	L_{10} = 59.0 L_{max} = 74.8	L_{eq} = 55.2 L_{min} = 42.50
*Equipment: B&K 2238	Calibrator: B&K 4231	Response: Fast
A-Weighting ☑	Battery Check ☑	Calibration ☑
Weather Data:	Wind Direction:	Temperature: 83.6
	**Wind Velocity: 1.3	Elevation:
Coordinates	Latitude:	Longitude:

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

RH 79.6 CO 000ppm

Background *Noise Sensitive Receivers	Estancias Del Basque.
Unusual Events Noise Contamination	

Default ground: X pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

5min

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION		
Vehicles	Directions	Quantity
Automobiles	C.16 West	5
	C.16 East	14
Medium-duty trucks	C.16 West	0
	C.16 East	0
Heavy-duty trucks	C.16 West	0
	C.16 East	0
Motorcycle	C.16 West	0
	C.16 East.	0

Speed limit on the main line highway: 15mph

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan J. Fernandez / Jose Gares

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension From PR-167-PR-9		Date: 09-14-21
Receiver Description & Location: R-1 Taco Maker	GPS-953	
CMA No.: 21095		Start: 8:05am End: 8:35am
Results:	L_{10} = 55.5 L_{max} = 76.9	L_{eq} = 55.4 L_{min} = 51.3
*Equipment: B&K 2238	Calibrator: B&K 4231	Response: Fast
A-Weighting ☑	Battery Check ☑	Calibration ☑
Weather Data:	Wind Direction:	Temperature: 88.7 RH-69.2
	**Wind Velocity: 1.1	Elevation:
Coordinates	Latitude:	Longitude:

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

Background *Noise Sensitive Receivers	Commercial Areal Fast Food Restaurant.
	PR-167
Unusual Events Noise Contamination	Ambulance. / Extraction / AC.

N/A Default ground: X pavement ___water ___Hard Soil ___Loose Soil ___Lawn ___Field Grass

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

PR-167 5 min.

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION		
Vehicles	Directions	Quantity
Automobiles	167 Sur	47
	167 Norte	37
Medium-duty trucks	167 Sur	4
	167 Norte	0
Heavy-duty trucks	167 Sur	0
	167 Norte	6
Motorcycle	167 Sur	0
	167 Norte	1

N/A

Carbon Monoxide Meter 000 ppm

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernandez / Jose Gonzalez.

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR 199		**Date:** 09-14-21
Receiver Description & Location: R-2 Calle Villa Chica GPS-954		
CMA No.: 21095		**Start:** 8:50 am **End:** 9:20 am
Results:	L_{10} = 51.0 L_{max} = 82.1	L_{eq} = 60.4 L_{min} = ND
***Equipment:** B&K 2238	**Calibrator:** B&K 4231	**Response:** Fast
A-Weighting ☑	**Battery Check** ☑	**Calibration** ☑
Weather Data:	**Wind Direction:**	**Temperature:** 92.3
	****Wind Velocity:** 1.3	**Elevation:**
Coordinates	**Latitude:**	**Longitude:**

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

RH - 65.4

Background *Noise Sensitive Receivers	
Unusual Events Noise Contamination	Dogs / Trimmers / Birds.

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

CO_2 - 0ppm

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION		
Vehicles	Directions	Quantity
Automobiles		
Medium-duty trucks		
Heavy-duty trucks		
Motorcycle		

N/A

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernandez / Jose' Garcia.

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 & PR 199		**Date:** 09-04-21
Receiver Description & Location: R-3 Ciudad Interamericana GPS-955 Carlos Reyes Tesorero Junta Residente ARVC.1 #806		
CMA No.: 21095		**Start:** 9:30am **End:** 10:00am
Results:	L_{10} = 54.5 L_{max} = 76.7	L_{eq} = 54.0 L_{min} = ND
***Equipment:** B&K 2238	**Calibrator:** B&K 4231	**Response:** Fast
A-Weighting ☑	**Battery Check** ☑	**Calibration** ☑
Weather Data:	**Wind Direction:** ****Wind Velocity:** 2	**Temperature:** 91.5 **Elevation:**
Coordinates	**Latitude:**	**Longitude:**

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

RH-61.4

Background *Noise Sensitive Receivers	Ciudad Interamericana
Unusual Events Noise Contamination	Camión.

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION N/A

Vehicles	Directions	Quantity
Automobiles		
Medium-duty trucks		
Heavy-duty trucks		
Motorcycle		

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernández / Jesús Garcés

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR-199		Date: 09-14-21
Receiver Description & Location: GPS-956 R-4 Ciudad Interamericana		
CMA No.: 21095		Start: 10:20 End: 10:50
Results:	L_{10} = ND	L_{eq} = ND <50
	L_{max} = 64.8	L_{min} = ND
*Equipment: B&K 2238	Calibrator: B&K 4231	Response: Fast
A-Weighting ☑	Battery Check ☑	Calibration ☐
Weather Data:	Wind Direction:	Temperature: 90.1
	**Wind Velocity: 1.8	Elevation:
Coordinates	Latitude:	Longitude:

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph. RH-66.4

Background *Noise Sensitive Receivers	Ciudad Interamericana.
Unusual Events Noise Contamination	

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION			N/A
Vehicles	Directions	Quantity	
Automobiles			
Medium-duty trucks			
Heavy-duty trucks			
Motorcycle			

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernandez / Jose Garcia.

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR 199		**Date:** 09-14-21
Receiver Description & Location: GPS-957 R-5 Estancias DE CERRO GORDO		
CMA No.: 21095		**Start:** 12:27pm **End:** 12:57 pm
Results:	L_{10} = 56.0 L_{max} = 82.7	L_{eq} = 57.8 L_{min} = ND
***Equipment:** B&K 2238	**Calibrator:** B&K 4231	**Response:** Fast
A-Weighting ☑	**Battery Check** ☑	**Calibration** ☑
Weather Data:	**Wind Direction:**	**Temperature:** 90.0
	****Wind Velocity:** 1-1	**Elevation:**
Coordinates	**Latitude:**	**Longitude:**

*Equipment placed 1.5m (5 feet) above the ground on a tripod. R.H. 58.5
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

Background *Noise Sensitive Receivers	Estancias DE CERRO GORDO
Unusual Events Noise Contamination	Dogs / Extractor. / Camión.

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION N/A

Vehicles	Directions	Quantity
Automobiles		
Medium-duty trucks		
Heavy-duty trucks		
Motorcycle		

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernández / José García.

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR-199		**Date:** 09-14-21
Receiver Description & Location: R-6 Valle De Cerro Gordo GPS-958		
CMA No.: 21095		**Start:** 1:07pm **End:** 1:37pm
Results:	L_{10} = <50	L_{eq} = <50
	L_{max} = 72.5	L_{min} = <50
***Equipment:** B&K 2238	**Calibrator:** B&K 4231	**Response:** Fast
A-Weighting ☑	**Battery Check** ☑	**Calibration** ☑
Weather Data:	**Wind Direction:**	**Temperature:** 97.2
	****Wind Velocity:** 1.5	**Elevation:**
Coordinates	**Latitude:**	**Longitude:**

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

RH 54.1

Background *Noise Sensitive Receivers	Valle De Cerro Gordo
Unusual Events Noise Contamination	

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

CO_2 005ppm

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION N/A

Vehicles	Directions	Quantity
Automobiles		
Medium-duty trucks		
Heavy-duty trucks		
Motorcycle		

Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernandez / Jose Garcia

CMA
ARCHITECTS & ENGINEERS LLP

Noise Impact Analysis
Field Data Sheet

Project Name: PR-5 Extension PR-167 to PR-199		**Date:** 09-14-21
Receiver Description & Location: R-7 Calle 6 Cortijo GPS-959		
CMA No.: 21096		**Start:** 3:20 pm **End:** 3:50 pm
Results:	L_{10} = <50 L_{max} = 62.5	L_{eq} = <50 L_{min} = <50
***Equipment:** B&K 2238	**Calibrator:** B&K 4231	**Response:** Fast
A-Weighting ☑	**Battery Check** ☑	**Calibration** ☑
Weather Data:	**Wind Direction:**	**Temperature:** 82.7
	****Wind Velocity:** 1.3	**Elevation:**
Coordinates	**Latitude:**	**Longitude:**

*Equipment placed 1.5m (5 feet) above the ground on a tripod.
** No noise reading were recorded when the wind speed exceed a sustained 10 mph.

RH 81.1

Background *Noise Sensitive Receivers	El Cortijo Bayamón
Unusual Events Noise Contamination	Musica,

Default ground: ___pavement ___water ____Hard Soil ____Loose Soil _____Lawn ____Field Grass N/A

* Noise sensitive areas typically include residences, school, libraries, churches and temple, hospitals, recreation and sports area, playground, hotel, motels and parks.

TRAFFIC COUNTS AND VEHICULES CLASSIFICATION N/A

Vehicles	Directions	Quantity
Automobiles		
Medium-duty trucks		
Heavy-duty trucks		
Motorcycle		

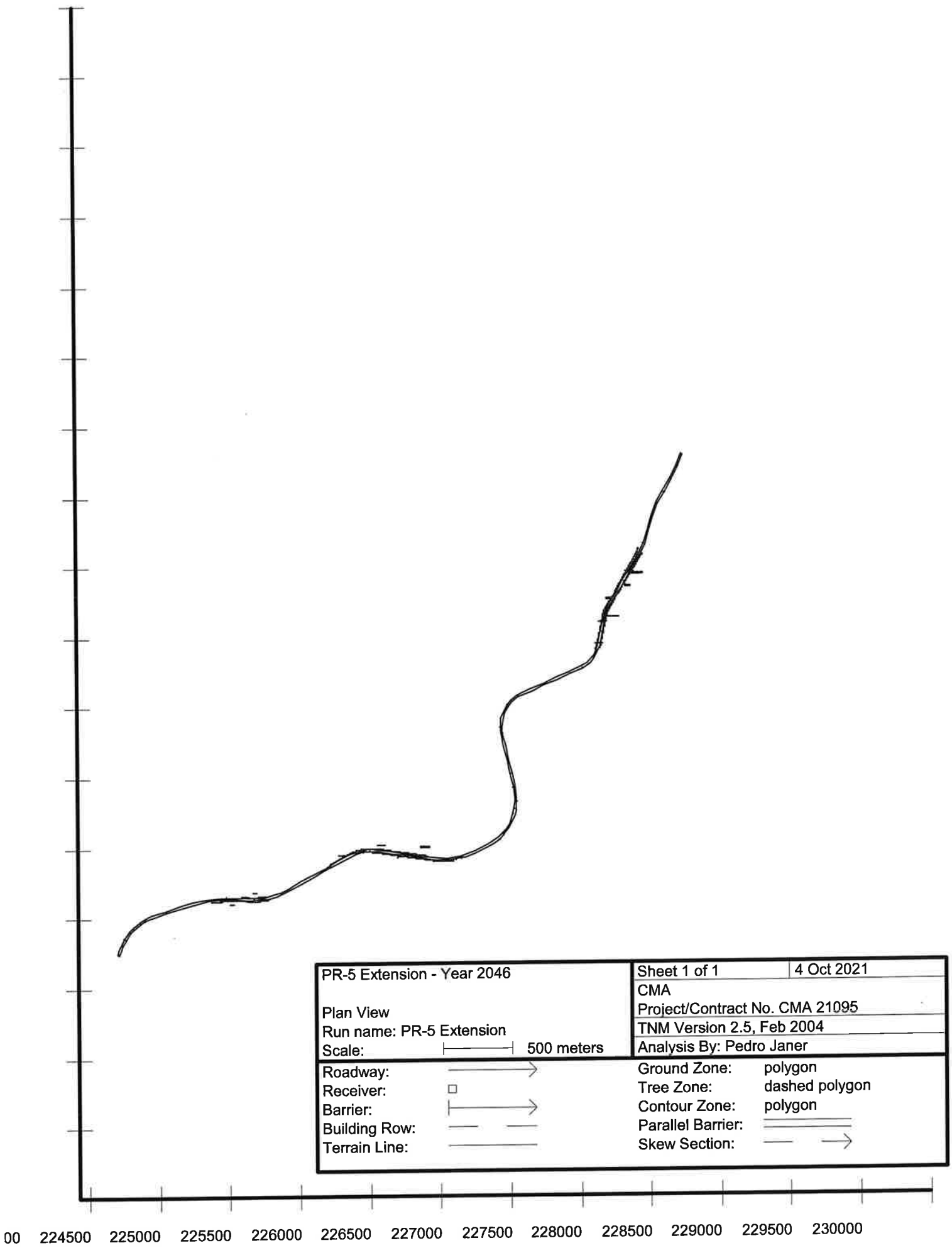
Speed limit on the main line highway: N/A

Automobile – two axles and four tires
Medium duty trucks –two axles and six tires
Heavy duty trucks – three or more axles

Data Obtained By: Juan A. Fernandez / José Garcia

APPENDIX C

TNM 2.5 PRINT OUT


PR-5 Extension - Year 2046
Plan View
Run name: PR-5 Extension
Scale: 500 meters
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Sheet 1 of 1
4 Oct 2021
CMA
Project/Contract No. CMA 21095
TNM Version 2.5, Feb 2004
Analysis By: Pedro Janer
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
00 224500 225000 225500 226000 226500 227000 227500 228000 228500 229000 229500 230000

CMA
Pedro Janer

4 October 2021
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	m			m	m	m		km/h	%		
PR-5 N-S	7.3	point84	84	228,219.0	259,298.1	33.37				Average	
		point83	83	228,184.9	259,210.2	33.07				Average	
		point82	82	228,141.5	259,123.9	35.17				Average	
		point81	81	228,090.9	259,034.5	38.65				Average	
		point80	80	228,042.9	258,947.4	40.39				Average	
		point79	79	228,008.4	258,853.6	40.91				Average	
		point78	78	227,979.9	258,755.7	41.35				Average	
		point77	77	227,948.9	258,661.4	41.85				Average	
		point76	76	227,904.0	258,573.2	42.93				Average	
		point75	75	227,853.4	258,486.9	45.75				Average	
		point74	74	227,802.9	258,400.6	49.73				Average	
		point73	73	227,752.3	258,314.4	53.81				Average	
		point72	72	227,702.8	258,229.8	57.65				Average	
		point71	71	227,673.4	258,171.7	59.90				Average	
		point70	70	227,663.0	258,135.3	60.84				Average	
		point69	69	227,643.1	258,036.2	62.63				Average	
		point68	68	227,623.2	257,939.6	64.32				Average	
		point67	67	227,601.3	257,884.6	65.37				Average	
		point66	66	227,581.2	257,853.8	66.02				Average	
		point65	65	227,538.0	257,810.1	67.71				Average	
		point64	64	227,505.6	257,788.7	69.23				Average	
		point63	63	227,416.0	257,748.1	74.50				Average	
		point62	62	227,322.8	257,707.0	81.55				Average	
		point61	61	227,231.4	257,666.6	88.55				Average	
		point60	60	227,139.9	257,626.2	95.55				Average	

		point59	59	227,049.2	257,584.1	102.50				Average	
		point58	58	227,003.0	257,548.8	106.34				Average	
		point57	57	226,974.4	257,516.3	108.90				Average	
		point56	56	226,943.3	257,461.0	112.23				Average	
		point55	55	226,931.9	257,425.9	113.91				Average	
		point54	54	226,924.3	257,359.5	116.51				Average	
		point53	53	226,927.5	257,323.0	117.67				Average	
		point52	52	226,949.1	257,223.9	119.98				Average	
		point51	51	226,971.1	257,125.0	120.91				Average	
		point50	50	226,992.5	257,028.7	120.57				Average	
		point49	49	227,014.2	256,931.1	118.64				Average	
		point48	48	227,027.3	256,835.6	115.48				Average	
		point47	47	227,022.6	256,775.1	112.94				Average	
		point46	46	227,013.4	256,737.9	110.83				Average	
		point45	45	226,990.3	256,679.6	107.37				Average	
		point44	44	226,970.4	256,645.3	105.33				Average	
		point43	43	226,936.2	256,601.7	102.73				Average	
		point42	42	226,908.1	256,574.4	101.07				Average	
		point41	41	226,860.4	256,540.0	98.93				Average	
		point40	40	226,825.5	256,521.6	97.64				Average	
		point39	39	226,735.7	256,477.8	95.07				Average	
		point38	38	226,643.3	256,443.4	93.42				Average	
		point37	37	226,546.0	256,428.1	92.63				Average	
		point36	36	226,447.6	256,432.4	92.83				Average	
		point35	35	226,348.7	256,447.1	93.96				Average	
		point34	34	226,249.8	256,461.9	95.86				Average	
		point33	33	226,150.9	256,476.7	98.26				Average	
		point32	32	226,052.9	256,491.2	101.19				Average	
		point31	31	225,990.9	256,494.1	103.27				Average	
		point30	30	225,950.3	256,490.2	104.75				Average	
		point29	29	225,889.6	256,475.1	107.19				Average	
		point28	28	225,853.2	256,460.4	108.80				Average	
		point27	27	225,764.8	256,412.9	112.96				Average	
		point26	26	225,677.0	256,365.1	117.12				Average	
		point25	25	225,587.9	256,316.7	121.32				Average	
		point24	24	225,501.3	256,269.6	125.42				Average	
		point23	23	225,413.4	256,221.8	128.33				Average	
		point22	22	225,358.1	256,193.5	129.19				Average	

		point21	21	225,324.0	256,179.8	129.35				Average	
		point20	20	225,267.1	256,163.6	129.06				Average	
		point19	19	225,227.3	256,156.7	128.46				Average	
		point18	18	225,169.3	256,152.7	127.05				Average	
		point17	17	225,127.8	256,154.1	125.68				Average	
		point16	16	225,029.8	256,160.2	122.52				Average	
		point15	15	224,969.4	256,161.0	121.56				Average	
		point14	14	224,929.2	256,159.5	121.47				Average	
		point13	13	224,829.1	256,148.7	123.00				Average	
		point12	12	224,730.7	256,128.0	122.73				Average	
		point11	11	224,634.7	256,098.9	118.86				Average	
		point10	10	224,538.6	256,068.4	113.67				Average	
		point9	9	224,443.9	256,037.5	108.62				Average	
		point8	8	224,389.8	256,011.9	106.35				Average	
		point7	7	224,353.8	255,988.9	105.30				Average	
		point6	6	224,307.8	255,950.5	104.59				Average	
		point5	5	224,279.4	255,920.0	104.63				Average	
		point4	4	224,245.4	255,873.1	105.43				Average	
		point3	3	224,224.5	255,835.2	106.53				Average	
		point2	2	224,208.9	255,798.4	107.59				Average	
		point1	1	224,196.8	255,759.6	108.68					
PR-5 S-N	7.3	point85	85	224,209.7	255,756.2	108.68				Average	
		point86	86	224,223.9	255,800.5	107.39				Average	
		point87	87	224,235.9	255,828.2	106.56				Average	
		point88	88	224,256.7	255,866.1	105.43				Average	
		point89	89	224,289.4	255,911.2	104.64				Average	
		point90	90	224,315.9	255,939.8	104.58				Average	
		point91	91	224,362.4	255,978.6	105.31				Average	
		point92	92	224,396.3	256,000.3	106.35				Average	
		point93	93	224,448.7	256,025.1	108.62				Average	
		point94	94	224,545.8	256,056.8	113.84				Average	
		point95	95	224,639.7	256,086.5	118.91				Average	
		point96	96	224,733.1	256,114.9	122.71				Average	
		point97	97	224,832.2	256,135.8	122.98				Average	
		point98	98	224,930.0	256,146.2	121.47				Average	
		point99	99	225,029.2	256,146.8	122.56				Average	
		point100	100	225,130.9	256,140.6	125.82				Average	
		point101	101	225,229.0	256,143.5	128.46				Average	

		point102	102	225,270.6	256,150.8	129.06				Average	
		point103	103	225,330.3	256,168.0	129.35				Average	
		point104	104	225,419.8	256,210.1	128.33				Average	
		point105	105	225,507.6	256,257.9	125.42				Average	
		point106	106	225,592.8	256,304.2	121.41				Average	
		point107	107	225,683.3	256,353.5	117.12				Average	
		point108	108	225,771.2	256,401.2	112.96				Average	
		point109	109	225,858.9	256,448.3	108.80				Average	
		point110	110	225,896.2	256,463.3	107.09				Average	
		point111	111	225,952.4	256,476.4	104.90				Average	
		point112	112	225,978.7	256,480.1	103.74				Average	
		point113	113	226,051.1	256,478.1	101.19				Average	
		point114	114	226,149.0	256,463.5	98.26				Average	
		point115	115	226,247.9	256,448.8	95.86				Average	
		point116	116	226,346.8	256,434.0	93.96				Average	
		point117	117	226,446.7	256,419.1	92.83				Average	
		point118	118	226,486.0	256,415.0	92.64				Average	
		point119	119	226,546.8	256,414.8	92.63				Average	
		point120	120	226,566.0	256,416.2	92.69				Average	
		point121	121	226,608.1	256,422.0	93.03				Average	
		point122	122	226,646.7	256,430.5	93.42				Average	
		point123	123	226,665.6	256,435.9	93.67				Average	
		point124	124	226,741.5	256,465.8	95.07				Average	
		point125	125	226,831.4	256,509.7	97.64				Average	
		point126	126	226,867.2	256,528.6	98.93				Average	
		point127	127	226,916.7	256,564.4	101.07				Average	
		point128	128	226,946.0	256,592.7	102.73				Average	
		point129	129	226,982.6	256,639.7	105.42				Average	
		point130	130	227,003.6	256,676.3	107.52				Average	
		point131	131	227,025.3	256,731.2	110.67				Average	
		point132	132	227,034.7	256,770.0	112.66				Average	
		point133	133	227,040.6	256,832.7	115.37				Average	
		point134	134	227,039.8	256,858.1	116.31				Average	
		point135	135	227,027.2	256,934.0	118.64				Average	
		point136	136	227,005.5	257,031.6	120.57				Average	
		point137	137	226,983.8	257,129.2	120.91				Average	
		point138	138	226,962.1	257,226.8	119.98				Average	
		point139	139	226,941.5	257,320.0	117.83				Average	

		point140	140	226,937.5	257,364.5	116.33				Average	
		point141	141	226,943.8	257,418.9	114.09				Average	
		point142	142	226,956.0	257,456.9	112.18				Average	
		point143	143	226,985.2	257,508.4	108.90				Average	
		point144	144	227,010.7	257,537.8	106.47				Average	
		point145	145	227,057.7	257,573.7	102.36				Average	
		point146	146	227,148.9	257,615.7	95.27				Average	
		point147	147	227,236.4	257,654.3	88.58				Average	
		point148	148	227,331.9	257,696.4	81.27				Average	
		point149	149	227,421.4	257,736.0	74.50				Average	
		point150	150	227,514.0	257,778.1	69.14				Average	
		point151	151	227,562.7	257,813.7	67.05				Average	
		point152	152	227,591.5	257,845.4	66.03				Average	
		point153	153	227,613.4	257,879.1	65.35				Average	
		point154	154	227,635.6	257,934.2	64.36				Average	
		point155	155	227,656.1	258,033.6	62.63				Average	
		point156	156	227,675.8	258,131.6	60.86				Average	
		point157	157	227,686.7	258,169.4	59.83				Average	
		point158	158	227,713.2	258,221.4	57.73				Average	
		point159	159	227,761.8	258,304.2	53.97				Average	
		point160	160	227,814.3	258,393.9	49.73				Average	
		point161	161	227,864.9	258,480.2	45.76				Average	
		point162	162	227,915.5	258,566.5	42.94				Average	
		point163	163	227,961.2	258,656.3	41.85				Average	
		point164	164	227,991.9	258,749.3	41.36				Average	
		point165	165	228,020.1	258,846.1	40.93				Average	
		point166	166	228,053.6	258,939.0	40.41				Average	
		point167	167	228,102.5	259,027.9	38.65				Average	
		point168	168	228,151.7	259,115.0	35.26				Average	
		point169	169	228,196.6	259,203.7	33.08				Average	
		point170	170	228,231.6	259,293.9	33.37					

CMA
Pedro Janer

4 October 2021
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
PR-5 N-S	point84	84	2074	89	44	89	44	72	0	0	21	89
	point83	83	2074	89	44	89	44	72	0	0	21	89
	point82	82	2074	89	44	89	44	72	0	0	21	89
	point81	81	2074	89	44	89	44	72	0	0	21	89
	point80	80	2074	89	44	89	44	72	0	0	21	89
	point79	79	2074	89	44	89	44	72	0	0	21	89
	point78	78	2074	89	44	89	44	72	0	0	21	89
	point77	77	2074	89	44	89	44	72	0	0	21	89
	point76	76	2074	89	44	89	44	72	0	0	21	89
	point75	75	2074	89	44	89	44	72	0	0	21	89
	point74	74	2074	89	44	89	44	72	0	0	21	89
	point73	73	2074	89	44	89	44	72	0	0	21	89
	point72	72	2074	89	44	89	44	72	0	0	21	89
	point71	71	2074	89	44	89	44	72	0	0	21	89
	point70	70	2074	89	44	89	44	72	0	0	21	89
	point69	69	2074	89	44	89	44	72	0	0	21	89
	point68	68	2074	89	44	89	44	72	0	0	21	89
	point67	67	2074	89	44	89	44	72	0	0	21	89
	point66	66	2074	89	44	89	44	72	0	0	21	89
	point65	65	2074	89	44	89	44	72	0	0	21	89
	point64	64	2074	89	44	89	44	72	0	0	21	89
	point63	63	2074	89	44	89	44	72	0	0	21	89

	point62	62	2074	89	44	89	44	72	0	0	21	89
	point61	61	2074	89	44	89	44	72	0	0	21	89
	point60	60	2074	89	44	89	44	72	0	0	21	89
	point59	59	2074	89	44	89	44	72	0	0	21	89
	point58	58	2074	89	44	89	44	72	0	0	21	89
	point57	57	2074	89	44	89	44	72	0	0	21	89
	point56	56	2074	89	44	89	44	72	0	0	21	89
	point55	55	2074	89	44	89	44	72	0	0	21	89
	point54	54	2074	89	44	89	44	72	0	0	21	89
	point53	53	2074	89	44	89	44	72	0	0	21	89
	point52	52	2074	89	44	89	44	72	0	0	21	89
	point51	51	2074	89	44	89	44	72	0	0	21	89
	point50	50	2074	89	44	89	44	72	0	0	21	89
	point49	49	2074	89	44	89	44	72	0	0	21	89
	point48	48	2074	89	44	89	44	72	0	0	21	89
	point47	47	2074	89	44	89	44	72	0	0	21	89
	point46	46	2074	89	44	89	44	72	0	0	21	89
	point45	45	2074	89	44	89	44	72	0	0	21	89
	point44	44	2074	89	44	89	44	72	0	0	21	89
	point43	43	2074	89	44	89	44	72	0	0	21	89
	point42	42	2074	89	44	89	44	72	0	0	21	89
	point41	41	2074	89	44	89	44	72	0	0	21	89
	point40	40	2074	89	44	89	44	72	0	0	21	89
	point39	39	2074	89	44	89	44	72	0	0	21	89
	point38	38	2074	89	44	89	44	72	0	0	21	89
	point37	37	2074	89	44	89	44	72	0	0	21	89
	point36	36	2074	89	44	89	44	72	0	0	21	89
	point35	35	2074	89	44	89	44	72	0	0	21	89
	point34	34	2074	89	44	89	44	72	0	0	21	89
	point33	33	2074	89	44	89	44	72	0	0	21	89
	point32	32	2074	89	44	89	44	72	0	0	21	89
	point31	31	2074	89	44	89	44	72	0	0	21	89
	point30	30	2074	89	44	89	44	72	0	0	21	89
	point29	29	2074	89	44	89	44	72	0	0	21	89

	point28	28	2074	89	44	89	44	72	0	0	21	89
	point27	27	2074	89	44	89	44	72	0	0	21	89
	point26	26	2074	89	44	89	44	72	0	0	21	89
	point25	25	2074	89	44	89	44	72	0	0	21	89
	point24	24	2074	89	44	89	44	72	0	0	21	89
	point23	23	2074	89	44	89	44	72	0	0	21	89
	point22	22	2074	89	44	89	44	72	0	0	21	89
	point21	21	2074	89	44	89	44	72	0	0	21	89
	point20	20	2074	89	44	89	44	72	0	0	21	89
	point19	19	2074	89	44	89	44	72	0	0	21	89
	point18	18	2074	89	44	89	44	72	0	0	21	89
	point17	17	2074	89	44	89	44	72	0	0	21	89
	point16	16	2074	89	44	89	44	72	0	0	21	89
	point15	15	2074	89	44	89	44	72	0	0	21	89
	point14	14	2074	89	44	89	44	72	0	0	21	89
	point13	13	2074	89	44	89	44	72	0	0	21	89
	point12	12	2074	89	44	89	44	72	0	0	21	89
	point11	11	2074	89	44	89	44	72	0	0	21	89
	point10	10	2074	89	44	89	44	72	0	0	21	89
	point9	9	2074	89	44	89	44	72	0	0	21	89
	point8	8	2074	89	44	89	44	72	0	0	21	89
	point7	7	2074	89	44	89	44	72	0	0	21	89
	point6	6	2074	89	44	89	44	72	0	0	21	89
	point5	5	2074	89	44	89	44	72	0	0	21	89
	point4	4	2074	89	44	89	44	72	0	0	21	89
	point3	3	2074	89	44	89	44	72	0	0	21	89
	point2	2	2074	89	44	89	44	72	0	0	21	89
	point1	1										
PR-5 S-N	point85	85	1670	89	35	89	35	72	0	0	18	89
	point86	86	1670	89	35	89	35	72	0	0	18	89
	point87	87	1670	89	35	89	35	72	0	0	18	89
	point88	88	1670	89	35	89	35	72	0	0	18	89
	point89	89	1670	89	35	89	35	72	0	0	18	89
	point90	90	1670	89	35	89	35	72	0	0	18	89

	point91	91	1670	89	35	89	35	72	0	0	18	89
	point92	92	1670	89	35	89	35	72	0	0	18	89
	point93	93	1670	89	35	89	35	72	0	0	18	89
	point94	94	1670	89	35	89	35	72	0	0	18	89
	point95	95	1670	89	35	89	35	72	0	0	18	89
	point96	96	1670	89	35	89	35	72	0	0	18	89
	point97	97	1670	89	35	89	35	72	0	0	18	89
	point98	98	1670	89	35	89	35	72	0	0	18	89
	point99	99	1670	89	35	89	35	72	0	0	18	89
	point100	100	1670	89	35	89	35	72	0	0	18	89
	point101	101	1670	89	35	89	35	72	0	0	18	89
	point102	102	1670	89	35	89	35	72	0	0	18	89
	point103	103	1670	89	35	89	35	72	0	0	18	89
	point104	104	1670	89	35	89	35	72	0	0	18	89
	point105	105	1670	89	35	89	35	72	0	0	18	89
	point106	106	1670	89	35	89	35	72	0	0	18	89
	point107	107	1670	89	35	89	35	72	0	0	18	89
	point108	108	1670	89	35	89	35	72	0	0	18	89
	point109	109	1670	89	35	89	35	72	0	0	18	89
	point110	110	1670	89	35	89	35	72	0	0	18	89
	point111	111	1670	89	35	89	35	72	0	0	18	89
	point112	112	1670	89	35	89	35	72	0	0	18	89
	point113	113	1670	89	35	89	35	72	0	0	18	89
	point114	114	1670	89	35	89	35	72	0	0	18	89
	point115	115	1670	89	35	89	35	72	0	0	18	89
	point116	116	1670	89	35	89	35	72	0	0	18	89
	point117	117	1670	89	35	89	35	72	0	0	18	89
	point118	118	1670	89	35	89	35	72	0	0	18	89
	point119	119	1670	89	35	89	35	72	0	0	18	89
	point120	120	1670	89	35	89	35	72	0	0	18	89
	point121	121	1670	89	35	89	35	72	0	0	18	89
	point122	122	1670	89	35	89	35	72	0	0	18	89
	point123	123	1670	89	35	89	35	72	0	0	18	89
	point124	124	1670	89	35	89	35	72	0	0	18	89

	point125	125	1670	89	35	89	35	72	0	0	18	89
	point126	126	1670	89	35	89	35	72	0	0	18	89
	point127	127	1670	89	35	89	35	72	0	0	18	89
	point128	128	1670	89	35	89	35	72	0	0	18	89
	point129	129	1670	89	35	89	35	72	0	0	18	89
	point130	130	1670	89	35	89	35	72	0	0	18	89
	point131	131	1670	89	35	89	35	72	0	0	18	89
	point132	132	1670	89	35	89	35	72	0	0	18	89
	point133	133	1670	89	35	89	35	72	0	0	18	89
	point134	134	1670	89	35	89	35	72	0	0	18	89
	point135	135	1670	89	35	89	35	72	0	0	18	89
	point136	136	1670	89	35	89	35	72	0	0	18	89
	point137	137	1670	89	35	89	35	72	0	0	18	89
	point138	138	1670	89	35	89	35	72	0	0	18	89
	point139	139	1670	89	35	89	35	72	0	0	18	89
	point140	140	1670	89	35	89	35	72	0	0	18	89
	point141	141	1670	89	35	89	35	72	0	0	18	89
	point142	142	1670	89	35	89	35	72	0	0	18	89
	point143	143	1670	89	35	89	35	72	0	0	18	89
	point144	144	1670	89	35	89	35	72	0	0	18	89
	point145	145	1670	89	35	89	35	72	0	0	18	89
	point146	146	1670	89	35	89	35	72	0	0	18	89
	point147	147	1670	89	35	89	35	72	0	0	18	89
	point148	148	1670	89	35	89	35	72	0	0	18	89
	point149	149	1670	89	35	89	35	72	0	0	18	89
	point150	150	1670	89	35	89	35	72	0	0	18	89
	point151	151	1670	89	35	89	35	72	0	0	18	89
	point152	152	1670	89	35	89	35	72	0	0	18	89
	point153	153	1670	89	35	89	35	72	0	0	18	89
	point154	154	1670	89	35	89	35	72	0	0	18	89
	point155	155	1670	89	35	89	35	72	0	0	18	89
	point156	156	1670	89	35	89	35	72	0	0	18	89
	point157	157	1670	89	35	89	35	72	0	0	18	89
	point158	158	1670	89	35	89	35	72	0	0	18	89

	point159	159	1670	89	35	89	35	72	0	0	18	89
	point160	160	1670	89	35	89	35	72	0	0	18	89
	point161	161	1670	89	35	89	35	72	0	0	18	89
	point162	162	1670	89	35	89	35	72	0	0	18	89
	point163	163	1670	89	35	89	35	72	0	0	18	89
	point164	164	1670	89	35	89	35	72	0	0	18	89
	point165	165	1670	89	35	89	35	72	0	0	18	89
	point166	166	1670	89	35	89	35	72	0	0	18	89
	point167	167	1670	89	35	89	35	72	0	0	18	89
	point168	168	1670	89	35	89	35	72	0	0	18	89
	point169	169	1670	89	35	89	35	72	0	0	18	89
	point170	170										

CMA
Pedro Janer

4 October 2021
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			m	m	m	m	dBA	dBA	dB	dB	
Amor St.	8	18	225,000.0	256,110.0	120.00	1.50	55.40	67	10.0	7.0	
Villa Rica	9	13	225,160.0	256,190.0	120.00	1.50	60.40	67	10.0	7.0	
Interamericana	10	29	226,190.0	256,440.0	102.50	1.50	55.00	67	10.0	7.0	Y
Cerro Gordo Diamante St.	11	30	226,350.0	256,510.0	99.00	1.50	55.00	67	10.0	7.0	
Cortijo 6 st.	12	30	227,682.0	258,271.0	52.50	1.50	55.20	67	10.0	7.0	
Cortijo 21 St.	13	30	227,820.0	258,360.0	46.00	1.50	55.00	67	10.0	7.0	
Sector Acevedo	16	15	225,774.0	256,452.0	102.00	1.50	57.80	67	10.0	7.0	
Cerro Gordo 8 st.	17	21	226,049.0	256,525.0	102.00	1.50	57.80	67	10.0	7.0	
El Cortijo Street 21 North	20	16	227,866.4	258,450.6	39.00	1.50	55.00	67	10.0	7.0	Y
El Cortijo Street 17	21	19	227,821.4	258,464.0	44.72	1.50	55.00	67	10.0	7.0	Y
El Cortijo Street 21 South	22	21	227,696.3	258,141.3	52.84	1.50	55.00	67	10.0	7.0	Y
El Cortijo Street 14	23	21	227,630.2	258,105.8	57.00	1.50	55.00	67	10.0	7.0	Y
El Cortijo Street 9-B	24	17	227,599.6	257,953.2	60.00	1.50	55.00	67	10.0	7.0	Y

CMA
Pedro Janer

4 October 2021
TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	If Berm Top Width	If Berm Run:Rise	Add'tnl $ per Unit Length
		m	m	$/sq m	$/cu m	m	m:m	$/m
Barrier - Amor St.	W	3.24	30.48	400.00				0.00

Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		m	m	m	m	m				
point1	1	225,271.2	256,144.1	128.86	4.24	0.50	1	1		
point2	2	225,269.9	256,143.8	128.85	4.24	0.50	1	1		
point3	3	225,268.6	256,143.5	128.83	4.24	0.50	1	1		
point4	4	225,267.3	256,143.3	128.82	4.24	0.50	1	1		
point5	5	225,266.0	256,143.0	128.81	4.24	0.50	1	1		
point6	6	225,264.7	256,142.7	128.79	4.24	0.50	1	1		
point7	7	225,263.3	256,142.4	128.77	4.24	0.50	1	1		
point8	8	225,262.0	256,142.1	128.76	4.24	0.50	1	1		
point9	9	225,260.6	256,141.9	128.74	4.24	0.50	1	1		
point10	10	225,259.3	256,141.6	128.72	4.24	0.50	1	1		
point11	11	225,257.9	256,141.4	128.71	4.24	0.50	1	1		
point12	12	225,256.6	256,141.1	128.69	4.24	0.50	1	1		
point13	13	225,255.3	256,140.9	128.67	4.24	0.50	1	1		
point14	14	225,253.9	256,140.6	128.65	4.24	0.50	1	1		
point15	15	225,252.5	256,140.4	128.63	4.24	0.50	1	1		
point16	16	225,251.2	256,140.1	128.62	4.24	0.50	1	1		
point17	17	225,249.8	256,139.9	128.60	4.24	0.50	1	1		
point18	18	225,248.5	256,139.7	128.58	4.24	0.50	1	1		
point19	19	225,247.1	256,139.5	128.56	4.24	0.50	1	1		
point20	20	225,245.8	256,139.2	128.54	4.24	0.50	1	1		
point21	21	225,244.4	256,139.0	128.51	4.24	0.50	1	1		
point22	22	225,243.1	256,138.8	128.49	4.24	0.50	1	1		
point23	23	225,241.7	256,138.6	128.47	4.24	0.50	1	1		
point24	24	225,240.4	256,138.4	128.45	4.24	0.50	1	1		
point25	25	225,239.0	256,138.2	128.43	4.24	0.50	1	1		
point26	26	225,237.7	256,138.0	128.41	4.24	0.50	1	1		
point27	27	225,236.3	256,137.8	128.38	4.24	0.50	1	1		
point28	28	225,235.0	256,137.6	128.36	4.24	0.50	1	1		
point29	29	225,233.6	256,137.4	128.34	4.24	0.50	1	1		
point30	30	225,232.2	256,137.2	128.31	4.24	0.50	1	1		
point31	31	225,230.9	256,137.0	128.29	4.24	0.50	1	1		
point32	32	225,229.5	256,136.8	128.27	4.24	0.50	1	1		
point33	33	225,228.2	256,136.7	128.24	4.24	0.50	1	1		
point34	34	225,226.8	256,136.5	128.22	4.24	0.50	1	1		
point35	35	225,225.4	256,136.3	128.19	4.24	0.50	1	1		

point36	36	225,224.1	256,136.2	128.16	4.24	0.50	1	1	
point37	37	225,222.7	256,136.0	128.14	4.24	0.50	1	1	
point38	38	225,221.4	256,135.8	128.11	4.24	0.50	1	1	
point39	39	225,220.0	256,135.7	128.09	4.24	0.50	1	1	
point40	40	225,218.6	256,135.5	128.06	4.24	0.50	1	1	
point41	41	225,217.3	256,135.4	128.03	4.24	0.50	1	1	
point42	42	225,215.9	256,135.2	128.00	4.24	0.50	1	1	
point43	43	225,214.5	256,135.1	127.98	4.24	0.50	1	1	
point44	44	225,213.2	256,135.0	127.95	4.24	0.50	1	1	
point45	45	225,211.8	256,134.8	127.92	4.24	0.50	1	1	
point46	46	225,210.5	256,134.7	127.89	4.24	0.50	1	1	
point47	47	225,209.1	256,134.6	127.86	4.24	0.50	1	1	
point48	48	225,207.7	256,134.5	127.83	4.24	0.50	1	1	
point49	49	225,206.4	256,134.4	127.80	4.24	0.50	1	1	
point50	50	225,205.0	256,134.3	127.77	4.24	0.50	1	1	
point51	51	225,203.6	256,134.2	127.74	4.24	0.50	1	1	
point52	52	225,202.3	256,134.0	127.71	4.24	0.50	1	1	
point53	53	225,200.9	256,134.0	127.68	4.24	0.50	1	1	
point54	54	225,199.5	256,133.9	127.64	4.24	0.50	1	1	
point55	55	225,198.2	256,133.8	127.61	4.24	0.50	1	1	
point56	56	225,196.8	256,133.7	127.58	4.24	0.50	1	1	
point57	57	225,195.4	256,133.6	127.55	4.24	0.50	1	1	
point58	58	225,194.1	256,133.5	127.51	4.24	0.50	1	1	
point59	59	225,192.7	256,133.4	127.48	4.24	0.50	1	1	
point60	60	225,191.3	256,133.4	127.45	4.24	0.50	1	1	
point61	61	225,190.0	256,133.3	127.41	4.24	0.50	1	1	
point62	62	225,188.6	256,133.2	127.38	4.24	0.50	1	1	
point63	63	225,187.2	256,133.2	127.34	4.24	0.50	1	1	
point64	64	225,185.8	256,133.1	127.31	4.24	0.50	1	1	
point65	65	225,184.5	256,133.0	127.27	4.24	0.50	1	1	
point66	66	225,183.1	256,133.0	127.24	4.24	0.50	1	1	
point67	67	225,181.8	256,133.0	127.20	4.24	0.50	1	1	
point68	68	225,180.4	256,132.9	127.16	4.24	0.50	1	1	
point69	69	225,179.0	256,132.9	127.13	4.24	0.50	1	1	
point70	70	225,177.7	256,132.8	127.09	4.24	0.50	4	1	
point71	71	225,176.2	256,132.8	127.05	4.24	0.50	1	1	
point72	72	225,174.9	256,132.8	127.02	4.24	0.50	1	1	
point73	73	225,173.5	256,132.8	126.98	4.24	0.50	1	1	
point74	74	225,172.2	256,132.8	126.94	4.24	0.50	1	1	
point75	75	225,170.8	256,132.7	126.90	4.24	0.50	1	1	
point76	76	225,169.4	256,132.7	126.86	4.24	0.50	1	1	
point77	77	225,168.0	256,132.7	126.82	4.24	0.50	1	1	
point78	78	225,166.7	256,132.7	126.78	4.24	0.50	1	1	
point79	79	225,165.3	256,132.7	126.74	4.24	0.50	1	1	
point80	80	225,163.9	256,132.7	126.70	4.24	0.50	1	1	
point81	81	225,162.6	256,132.7	126.66	4.24	0.50	1	1	
point82	82	225,161.2	256,132.7	126.62	4.24	0.50	1	1	
point83	83	225,159.8	256,132.7	126.58	4.24	0.50	1	1	

point84	84	225,158.5	256,132.8	126.54	4.24	0.50	1	1		
point85	85	225,157.1	256,132.8	126.49	4.24	0.50	1	1		
point86	86	225,155.7	256,132.8	126.45	4.24	0.50	1	1		
point87	87	225,154.3	256,132.8	126.41	4.24	0.50	1	1		
point88	88	225,153.0	256,132.9	126.37	4.24	0.50	1	1		
point89	89	225,151.6	256,132.9	126.32	4.24	0.50	1	1		
point90	90	225,150.2	256,133.0	126.28	4.24	0.50	1	1		
point91	91	225,148.9	256,133.0	126.23	4.24	0.50	1	1		
point92	92	225,146.9	256,133.1	126.17	4.24	0.50	1	1		
point93	93	225,145.0	256,133.1	126.11	4.24	0.50	1	1		
point94	94	225,143.5	256,133.2	126.06	4.24	0.50	1	1		
point95	95	225,142.1	256,133.3	126.01	4.24	0.50	1	1		
point96	96	225,140.6	256,133.3	125.96	4.24	0.50	1	1		
point97	97	225,139.3	256,133.4	125.92	4.24	0.50	1	1		
point98	98	225,137.9	256,133.5	125.87	4.24	0.50	1	1		
point99	99	225,136.5	256,133.6	125.83	4.24	0.50	1	1		
point100	100	225,135.4	256,133.6	125.79	4.24	0.50	1	1		
point101	101	225,134.2	256,133.7	125.75	4.24	0.50	1	1		
point102	102	225,088.8	256,136.6	124.20	4.24	0.50	1	1		
point103	103	225,087.3	256,136.7	124.16	4.24	0.50	1	1		
point104	104	225,086.0	256,136.8	124.11	4.24	0.50	1	1		
point105	105	225,084.6	256,136.9	124.06	4.24	0.50	1	1		
point106	106	225,082.6	256,137.0	123.99	4.24	0.50	1	1		
point107	107	225,080.6	256,137.1	123.93	4.24	0.50	1	1		
point108	108	225,078.6	256,137.2	123.86	4.24	0.50	1	1		
point109	109	225,076.6	256,137.3	123.79	4.24	0.50	1	1		
point110	110	225,074.1	256,137.5	123.70	4.24	0.50	1	1		
point111	111	225,071.6	256,137.6	123.62	4.24	0.50	1	1		
point112	112	225,070.1	256,137.7	123.57	4.24	0.50	1	1		
point113	113	225,068.6	256,137.7	123.51	4.24	0.50	1	1		
point114	114	225,066.6	256,137.8	123.45	4.24	0.50	1	1		
point115	115	225,064.6	256,137.9	123.38	4.24	0.50	1	1		
point116	116	225,063.0	256,138.0	123.32	4.24	0.50	1	1		
point117	117	225,060.6	256,138.0	123.24	4.24	0.50	1	1		
point118	118	225,058.6	256,138.1	123.17	4.24	0.50	1	1		
point119	119	225,056.6	256,138.2	123.11	4.24	0.50	1	1		
point120	120	225,054.6	256,138.2	123.04	4.24	0.50	1	1		
point121	121	225,052.6	256,138.3	122.98	4.24	0.50	1	1		
point122	122	225,051.2	256,138.3	122.93	4.24	0.50	1	1		
point123	123	225,049.8	256,138.4	122.89	4.24	0.50	1	1		
point124	124	225,048.6	256,138.4	122.85	4.24	0.50	1	1		
point125	125	225,046.7	256,138.4	122.79	4.24	0.50	1	1		
point126	126	225,044.7	256,138.5	122.73	4.24	0.50	1	1		
point127	127	225,042.7	256,138.5	122.68	4.24	0.50	1	1		
point128	128	225,040.7	256,138.5	122.62	4.24	0.50	1	1		
point129	129	225,038.8	256,138.6	122.56	4.24	0.50	1	1		
point130	130	225,036.8	256,138.6	122.51	4.24	0.50	1	1		
point131	131	225,034.8	256,138.6	122.45	4.24	0.50	1	1		

point132	132	225,032.8	256,138.6	122.40	4.24	0.50	1	1
point133	133	225,030.9	256,138.6	122.35	4.24	0.50	1	1
point134	134	225,028.9	256,138.6	122.30	4.24	0.50	1	1
point135	135	225,026.9	256,138.6	122.25	4.24	0.50	1	1
point136	136	225,024.9	256,138.6	122.20	4.24	0.50	1	1
point137	137	225,023.5	256,138.6	122.16	4.24	0.50	1	1
point138	138	225,022.0	256,138.6	122.13	4.24	0.50	1	1
point139	139	225,021.0	256,138.6	122.11	4.24	0.50	1	1
point140	140	225,019.0	256,138.6	122.06	4.24	0.50	1	1
point141	141	225,017.1	256,138.6	122.02	4.24	0.50	1	1
point142	142	225,015.0	256,138.6	121.97	4.24	0.50	1	1
point143	143	225,013.1	256,138.5	121.93	4.24	0.50	1	1
point144	144	225,011.2	256,138.5	121.89	4.24	0.50	1	1
point145	145	225,009.2	256,138.5	121.85	4.24	0.50	1	1
point146	146	225,007.2	256,138.4	121.81	4.24	0.50	1	1
point147	147	225,005.2	256,138.4	121.78	4.24	0.50	1	1
point148	148	225,003.3	256,138.3	121.74	4.24	0.50	1	1
point149	149	225,001.3	256,138.3	121.71	4.24	0.50	1	1
point150	150	224,999.3	256,138.2	121.67	4.24	0.50	1	1
point151	151	224,997.4	256,138.2	121.64	4.24	0.50	1	1
point152	152	224,995.4	256,138.1	121.61	4.24	0.50	1	1
point153	153	224,993.4	256,138.1	121.58	4.24	0.50	1	1
point154	154	224,991.5	256,138.0	121.55	4.24	0.50	1	1
point155	155	224,989.5	256,137.9	121.52	4.24	0.50	1	1
point156	156	224,987.5	256,137.8	121.49	4.24	0.50	1	1
point157	157	224,985.6	256,137.8	121.47	4.24	0.50	1	1
point158	158	224,983.6	256,137.7	121.44	4.24	0.50	1	1
point159	159	224,981.6	256,137.6	121.42	4.24	0.50	1	1
point160	160	224,979.7	256,137.5	121.40	4.24	0.50	1	1
point161	161	224,977.7	256,137.4	121.37	4.24	0.50	1	1
point162	162	224,975.8	256,137.3	121.35	4.24	0.50	1	1
point163	163	224,973.8	256,137.2	121.33	4.24	0.50	1	1
point164	164	224,971.8	256,137.1	121.32	4.24	0.50	1	1
point165	165	224,969.8	256,137.0	121.30	4.24	0.50	1	1
point166	166	224,967.9	256,136.8	121.28	4.24	0.50	1	1
point167	167	224,965.9	256,136.7	121.27	4.24	0.50	1	1
point168	168	224,964.8	256,136.6	121.26	4.24	0.50	1	1
point169	169	224,963.4	256,136.5	121.25	4.24	0.50	1	1
point170	170	224,962.0	256,136.5	121.24	4.24	0.50	1	1
point171	171	224,961.8	256,136.4	121.24	4.24	0.50	1	1
point172	172	224,959.9	256,136.3	121.23	4.24	0.50	1	1
point173	173	224,958.1	256,136.2	121.22	4.24	0.50	1	1
point174	174	224,956.7	256,136.1	121.21	4.24	0.50	1	1
point175	175	224,954.2	256,135.9	121.20	4.24	0.50	1	1
point176	176	224,952.2	256,135.8	121.20	4.24	0.50	1	1
point177	177	224,950.2	256,135.6	121.19	4.24	0.50	1	1
point178	178	224,948.3	256,135.4	121.19	4.24	0.50	1	1
point179	179	224,946.3	256,135.3	121.18	4.24	0.50	1	1

									point180	180	224,944.6	256,135.1	121.18	4.24	0.50	1	1		
									point181	181	224,943.0	256,135.0	121.18	4.24	0.50	1	1		
									point182	182	224,942.6	256,135.0	121.18	4.24	0.50	1	1		
									point183	183	224,942.4	256,135.0	121.18	4.24	0.50	1	1		
									point184	184	224,938.5	256,134.6	121.18	4.24	0.50	1	1		
									point185	185	224,934.6	256,134.2	121.18	4.24	0.50	1	1		
									point186	186	224,930.7	256,133.9	121.19	4.24	0.50	1	1		
									point187	187	224,926.7	256,133.6	121.20	4.24	0.50	1	1		
									point188	188	224,922.8	256,133.2	121.22	4.24	0.50	1	1		
									point189	189	224,918.9	256,132.9	121.25	4.24	0.50	1	1		
									point190	190	224,915.0	256,132.5	121.27	4.24	0.50	1	1		
									point191	191	224,911.1	256,132.2	121.31	4.24	0.50	1	1		
									point192	192	224,907.2	256,131.9	121.35	4.24	0.50	1	1		
									point193	193	224,903.3	256,131.5	121.39	4.24	0.50	1	1		
									point194	194	224,901.2	256,131.3	121.41	4.24	0.50	1	1		
									point195	195	224,899.4	256,131.2	121.44	4.24	0.50	1	1		
									point196	196	224,897.4	256,131.0	121.46	4.24	0.50	1	1		
									point197	197	224,895.5	256,130.8	121.49	4.24	0.50	1	1		
									point198	198	224,893.6	256,130.6	121.52	4.24	0.50	1	1		
									point199	199	224,891.6	256,130.5	121.54	4.24	0.50	1	1		
									point200	200	224,889.6	256,130.3	121.57	4.24	0.50	1	1		
									point201	201	224,887.7	256,130.1	121.61	4.24	0.50	1	1		
									point202	202	224,885.7	256,129.9	121.64	4.24	0.50	1	1		
									point203	203	224,883.8	256,129.7	121.67	4.24	0.50	1	1		
									point204	204	224,881.8	256,129.5	121.71	4.24	0.50	1	1		
									point205	205	224,879.9	256,129.2	121.74	4.24	0.50	1	1		
									point206	206	224,877.9	256,129.0	121.78	4.24	0.50	1	1		
									point207	207	224,876.0	256,128.8	121.81	4.24	0.50	1	1		
									point208	208	224,874.0	256,128.6	121.85	4.24	0.50	1	1		
									point209	209	224,872.1	256,128.4	121.89	4.24	0.50	1	1		
									point210	210	224,870.1	256,128.1	121.93	4.24	0.50	1	1		
									point211	211	224,868.2	256,127.9	121.98	4.24	0.50	1	1		
									point212	212	224,867.7	256,127.8	121.99	4.24	0.50	1	1		
									point213	213	224,866.6	256,127.7	122.01	4.24	0.50	1	1		
									point214	214	224,864.3	256,127.4	122.06	4.24	0.50	1	1		
									point215	215	224,862.4	256,127.2	122.11	4.24	0.50	1	1		
									point216	216	224,860.4	256,126.9	122.15	4.24	0.50	1	1		
									point217	217	224,859.2	256,126.8	122.18	4.24					
Barrier - Villa Rica	W	0.00	30.48	400.00				0.00	point218	218	225,075.9	256,164.1	123.71	0.00	0.50	1	0		
									point219	219	225,078.3	256,164.0	123.79	0.00	0.50	1	0		
									point220	220	225,082.3	256,163.7	123.93	0.00	0.50	1	0		
									point221	221	225,086.3	256,163.4	124.06	0.00	0.50	1	0		
									point222	222	225,089.1	256,163.3	124.16	0.00	0.50	1	0		
									point223	223	225,094.3	256,162.9	124.33	0.00	0.50	1	0		
									point224	224	225,098.3	256,162.7	124.47	0.00	0.50	1	0		
									point225	225	225,102.3	256,162.4	124.60	0.00	0.50	1	0		
									point226	226	225,106.2	256,162.2	124.74	0.00	0.50	1	0		
									point227	227	225,110.2	256,161.9	124.88	0.00	0.50	1	0		

point228	228	225,114.2	256,161.7	125.01	0.00	0.50	1	0
point229	229	225,118.2	256,161.4	125.15	0.00	0.50	1	0
point230	230	225,122.2	256,161.1	125.28	0.00	0.50	1	0
point231	231	225,126.2	256,160.9	125.42	0.00	0.50	1	0
point232	232	225,130.2	256,160.6	125.56	0.00	0.50	1	0
point233	233	225,134.2	256,160.4	125.69	0.00	0.50	1	0
point234	234	225,135.9	256,160.3	125.75	0.00	0.50	1	0
point235	235	225,137.4	256,160.2	125.80	0.00	0.50	1	0
point236	236	225,139.0	256,160.1	125.86	0.00	0.50	1	0
point237	237	225,140.5	256,160.0	125.91	0.00	0.50	1	0
point238	238	225,142.0	256,159.9	125.96	0.00	0.50	1	0
point239	239	225,143.4	256,159.8	126.01	0.00	0.50	1	0
point240	240	225,144.8	256,159.8	126.06	0.00	0.50	1	0
point241	241	225,146.1	256,159.7	126.11	0.00	0.50	1	0
point242	242	225,147.9	256,159.6	126.17	0.00	0.50	1	0
point243	243	225,149.8	256,159.6	126.23	0.00	0.50	1	0
point244	244	225,151.1	256,159.5	126.28	0.00	0.50	1	0
point245	245	225,152.4	256,159.5	126.32	0.00	0.50	1	0
point246	246	225,153.7	256,159.4	126.37	0.00	0.50	1	0
point247	247	225,155.0	256,159.4	126.41	0.00	0.50	1	0
point248	248	225,156.2	256,159.4	126.45	0.00	0.50	1	0
point249	249	225,157.5	256,159.4	126.49	0.00	0.50	1	0
point250	250	225,158.8	256,159.4	126.54	0.00	0.50	1	0
point251	251	225,160.1	256,159.3	126.58	0.00	0.50	1	0
point252	252	225,161.4	256,159.3	126.62	0.00	0.50	1	0
point253	253	225,162.7	256,159.3	126.66	0.00	0.50	1	0
point254	254	225,164.0	256,159.3	126.70	0.00	0.50	1	0
point255	255	225,165.3	256,159.3	126.74	0.00	0.50	1	0
point256	256	225,166.6	256,159.3	126.78	0.00	0.50	1	0
point257	257	225,167.9	256,159.3	126.82	0.00	0.50	1	0
point258	258	225,169.2	256,159.3	126.86	0.00	0.50	1	0
point259	259	225,170.5	256,159.3	126.90	0.00	0.50	1	0
point260	260	225,171.8	256,159.3	126.94	0.00	0.50	1	0
point261	261	225,173.1	256,159.4	126.98	0.00	0.50	1	0
point262	262	225,174.4	256,159.4	127.02	0.00	0.50	1	0
point263	263	225,175.7	256,159.4	127.05	0.00	0.50	1	0
point264	264	225,177.0	256,159.4	127.09	0.00	0.50	1	0
point265	265	225,178.3	256,159.5	127.13	0.00	0.50	1	0
point266	266	225,179.6	256,159.5	127.16	0.00	0.50	1	0
point267	267	225,180.9	256,159.5	127.20	0.00	0.50	1	0
point268	268	225,182.2	256,159.6	127.24	0.00	0.50	1	0
point269	269	225,183.5	256,159.6	127.27	0.00	0.50	1	0
point270	270	225,184.8	256,159.7	127.31	0.00	0.50	1	0
point271	271	225,186.1	256,159.7	127.34	0.00	0.50	1	0
point272	272	225,187.4	256,159.8	127.38	0.00	0.50	1	0
point273	273	225,188.7	256,159.9	127.41	0.00	0.50	1	0
point274	274	225,190.0	256,159.9	127.45	0.00	0.50	1	0
point275	275	225,191.2	256,160.0	127.48	0.00	0.50	1	0

point276	276	225,192.5	256,160.0	127.51	0.00	0.50	1	0
point277	277	225,193.8	256,160.2	127.55	0.00	0.50	1	0
point278	278	225,195.1	256,160.2	127.58	0.00	0.50	1	0
point279	279	225,196.4	256,160.3	127.61	0.00	0.50	1	0
point280	280	225,197.7	256,160.4	127.64	0.00	0.50	1	0
point281	281	225,199.0	256,160.5	127.68	0.00	0.50	1	0
point282	282	225,200.3	256,160.6	127.71	0.00	0.50	1	0
point283	283	225,201.6	256,160.7	127.74	0.00	0.50	1	0
point284	284	225,202.9	256,160.8	127.77	0.00	0.50	1	0
point285	285	225,204.2	256,160.9	127.80	0.00	0.50	1	0
point286	286	225,205.5	256,161.0	127.83	0.00	0.50	1	0
point287	287	225,206.8	256,161.1	127.86	0.00	0.50	1	0
point288	288	225,208.0	256,161.2	127.89	0.00	0.50	1	0
point289	289	225,209.3	256,161.3	127.92	0.00	0.50	1	0
point290	290	225,210.6	256,161.4	127.95	0.00	0.50	1	0
point291	291	225,211.9	256,161.6	127.98	0.00	0.50	1	0
point292	292	225,213.2	256,161.7	128.00	0.00	0.50	1	0
point293	293	225,214.5	256,161.8	128.03	0.00	0.50	1	0
point294	294	225,215.8	256,162.0	128.06	0.00	0.50	1	0
point295	295	225,217.1	256,162.1	128.09	0.00	0.50	1	0
point296	296	225,218.4	256,162.3	128.11	0.00	0.50	1	0
point297	297	225,219.7	256,162.4	128.14	0.00	0.50	1	0
point298	298	225,221.0	256,162.6	128.16	0.00	0.50	1	0
point299	299	225,222.2	256,162.7	128.19	0.00	0.50	1	0
point300	300	225,223.5	256,162.9	128.22	0.00	0.50	1	0
point301	301	225,224.8	256,163.0	128.24	0.00	0.50	1	0
point302	302	225,226.1	256,163.2	128.27	0.00	0.50	1	0
point303	303	225,227.4	256,163.4	128.29	0.00	0.50	1	0
point304	304	225,228.7	256,163.5	128.31	0.00	0.50	1	0
point305	305	225,230.0	256,163.7	128.34	0.00	0.50	1	0
point306	306	225,231.2	256,163.9	128.36	0.00	0.50	1	0
point307	307	225,232.5	256,164.1	128.38	0.00	0.50	1	0
point308	308	225,233.8	256,164.3	128.41	0.00	0.50	1	0
point309	309	225,235.1	256,164.5	128.43	0.00	0.50	1	0
point310	310	225,236.4	256,164.7	128.45	0.00	0.50	1	0
point311	311	225,237.6	256,164.9	128.47	0.00	0.50	1	0
point312	312	225,238.9	256,165.1	128.49	0.00	0.50	1	0
point313	313	225,240.2	256,165.3	128.51	0.00	0.50	1	0
point314	314	225,241.5	256,165.5	128.54	0.00	0.50	1	0
point315	315	225,242.8	256,165.7	128.56	0.00	0.50	1	0
point316	316	225,244.0	256,165.9	128.58	0.00	0.50	1	0
point317	317	225,245.3	256,166.1	128.60	0.00	0.50	1	0
point318	318	225,246.6	256,166.3	128.62	0.00	0.50	1	0
point319	319	225,247.9	256,166.6	128.63	0.00	0.50	1	0
point320	320	225,249.1	256,166.8	128.65	0.00	0.50	1	0
point321	321	225,250.4	256,167.0	128.67	0.00	0.50	1	0
point322	322	225,251.7	256,167.3	128.69	0.00	0.50	1	0
point323	323	225,253.0	256,167.5	128.71	0.00	0.50	1	0

									point324	324	225,254.2	256,167.8	128.72	0.00	0.50	1	0		
									point325	325	225,255.5	256,168.0	128.74	0.00	0.50	1	0		
									point326	326	225,256.8	256,168.2	128.76	0.00	0.50	1	0		
									point327	327	225,258.1	256,168.5	128.77	0.00	0.50	1	0		
									point328	328	225,259.3	256,168.8	128.79	0.00	0.50	1	0		
									point329	329	225,260.6	256,169.0	128.81	0.00	0.50	1	0		
									point330	330	225,261.9	256,169.3	128.82	0.00	0.50	1	0		
									point331	331	225,263.4	256,169.6	128.84	0.00					
Barrier - Cerro Gordo	W	0.00	30.48	400.00				0.00	point332	332	225,708.9	256,390.1	115.26	0.00	0.50	1	0		
									point333	333	225,712.4	256,392.0	115.10	0.00	0.50	1	0		
									point334	334	225,715.9	256,393.9	114.93	0.00	0.50	1	0		
									point335	335	225,719.5	256,395.8	114.76	0.00	0.50	1	0		
									point336	336	225,723.0	256,397.7	114.60	0.00	0.50	1	0		
									point337	337	225,726.5	256,399.7	114.43	0.00	0.50	1	0		
									point338	338	225,730.0	256,401.6	114.26	0.00	0.50	1	0		
									point339	339	225,733.5	256,403.5	114.10	0.00	0.50	1	0		
									point340	340	225,737.0	256,405.4	113.93	0.00	0.50	1	0		
									point341	341	225,740.5	256,407.3	113.76	0.00	0.50	1	0		
									point342	342	225,744.1	256,409.2	113.60	0.00	0.50	1	0		
									point343	343	225,747.6	256,411.1	113.43	0.00	0.50	1	0		
									point344	344	225,751.1	256,413.0	113.26	0.00	0.50	1	0		
									point345	345	225,754.6	256,414.9	113.10	0.00	0.50	1	0		
									point346	346	225,758.1	256,416.9	112.93	0.00	0.50	1	0		
									point347	347	225,761.6	256,418.8	112.77	0.00	0.50	1	0		
									point348	348	225,765.1	256,420.7	112.60	0.00	0.50	1	0		
									point349	349	225,768.7	256,422.6	112.43	0.00	0.50	1	0		
									point350	350	225,772.2	256,424.5	112.27	0.00	0.50	1	0		
									point351	351	225,775.7	256,426.4	112.10	0.00	0.50	1	0		
									point352	352	225,779.2	256,428.3	111.93	0.00	0.50	1	0		
									point353	353	225,782.7	256,430.2	111.77	0.00	0.50	1	0		
									point354	354	225,786.2	256,432.1	111.60	0.00	0.50	1	0		
									point355	355	225,789.8	256,434.0	111.43	0.00	0.50	1	0		
									point356	356	225,793.3	256,436.0	111.27	0.00	0.50	1	0		
									point357	357	225,796.8	256,437.9	111.10	0.00	0.50	1	0		
									point358	358	225,800.3	256,439.8	110.93	0.00	0.50	1	0		
									point359	359	225,803.8	256,441.7	110.77	0.00	0.50	1	0		
									point360	360	225,807.3	256,443.6	110.60	0.00	0.50	1	0		
									point361	361	225,810.8	256,445.5	110.43	0.00	0.50	1	0		
									point362	362	225,814.3	256,447.4	110.27	0.00	0.50	1	0		
									point363	363	225,817.9	256,449.3	110.10	0.00	0.50	1	0		
									point364	364	225,821.4	256,451.2	109.94	0.00	0.50	1	0		
									point365	365	225,824.9	256,453.2	109.77	0.00	0.50	1	0		
									point366	366	225,828.4	256,455.1	109.60	0.00	0.50	1	0		
									point367	367	225,831.8	256,456.9	109.44	0.00	0.50	1	0		
									point368	368	225,833.1	256,457.6	109.38	0.00	0.50	1	0		
									point369	369	225,834.3	256,458.3	109.33	0.00	0.50	1	0		
									point370	370	225,835.6	256,459.0	109.27	0.00	0.50	1	0		
									point371	371	225,836.8	256,459.6	109.21	0.00	0.50	1	0		

point372	372	225,838.0	256,460.2	109.16	0.00	0.50	1	0		
point373	373	225,839.2	256,460.9	109.10	0.00	0.50	1	0		
point374	374	225,840.5	256,461.5	109.05	0.00	0.50	1	0		
point375	375	225,841.7	256,462.1	108.99	0.00	0.50	1	0		
point376	376	225,843.0	256,462.8	108.94	0.00	0.50	1	0		
point377	377	225,844.2	256,463.4	108.88	0.00	0.50	1	0		
point378	378	225,845.5	256,464.0	108.83	0.00	0.50	1	0		
point379	379	225,846.7	256,464.6	108.77	0.00	0.50	1	0		
point380	380	225,847.9	256,465.2	108.71	0.00	0.50	1	0		
point381	381	225,849.2	256,465.8	108.66	0.00	0.50	1	0		
point382	382	225,850.4	256,466.4	108.60	0.00	0.50	1	0		
point383	383	225,851.7	256,467.0	108.55	0.00	0.50	1	0		
point384	384	225,852.9	256,467.5	108.49	0.00	0.50	1	0		
point385	385	225,854.2	256,468.1	108.44	0.00	0.50	1	0		
point386	386	225,855.5	256,468.7	108.38	0.00	0.50	1	0		
point387	387	225,856.7	256,469.3	108.33	0.00	0.50	1	0		
point388	388	225,858.0	256,469.8	108.27	0.00	0.50	1	0		
point389	389	225,859.2	256,470.4	108.21	0.00	0.50	1	0		
point390	390	225,860.5	256,470.9	108.16	0.00	0.50	1	0		
point391	391	225,861.8	256,471.5	108.10	0.00	0.50	1	0		
point392	392	225,863.1	256,472.0	108.05	0.00	0.50	1	0		
point393	393	225,864.3	256,472.6	107.99	0.00	0.50	1	0		
point394	394	225,865.6	256,473.1	107.94	0.00	0.50	1	0		
point395	395	225,866.9	256,473.6	107.88	0.00	0.50	1	0		
point396	396	225,868.2	256,474.2	107.83	0.00	0.50	1	0		
point397	397	225,869.5	256,474.7	107.77	0.00	0.50	1	0		
point398	398	225,870.7	256,475.2	107.72	0.00	0.50	1	0		
point399	399	225,872.0	256,475.7	107.66	0.00	0.50	1	0		
point400	400	225,873.3	256,476.2	107.60	0.00	0.50	1	0		
point401	401	225,874.6	256,476.7	107.55	0.00	0.50	1	0		
point402	402	225,875.9	256,477.2	107.49	0.00	0.50	1	0		
point403	403	225,877.2	256,477.7	107.44	0.00	0.50	1	0		
point404	404	225,878.5	256,478.2	107.38	0.00	0.50	1	0		
point405	405	225,879.8	256,478.7	107.33	0.00	0.50	1	0		
point406	406	225,881.1	256,479.1	107.27	0.00	0.50	1	0		
point407	407	225,882.4	256,479.6	107.22	0.00	0.50	1	0		
point408	408	225,883.7	256,480.1	107.16	0.00	0.50	1	0		
point409	409	225,885.0	256,480.5	107.10	0.00	0.50	1	0		
point410	410	225,886.3	256,481.0	107.05	0.00	0.50	1	0		
point411	411	225,887.6	256,481.5	106.99	0.00	0.50	1	0		
point412	412	225,888.9	256,481.9	106.94	0.00	0.50	1	0		
point413	413	225,890.2	256,482.3	106.88	0.00	0.50	1	0		
point414	414	225,891.5	256,482.8	106.83	0.00	0.50	1	0		
point415	415	225,892.9	256,483.2	106.77	0.00	0.50	1	0		
point416	416	225,894.2	256,483.6	106.72	0.00	0.50	1	0		
point417	417	225,895.5	256,484.0	106.66	0.00	0.50	1	0		
point418	418	225,896.8	256,484.5	106.61	0.00	0.50	1	0		
point419	419	225,898.1	256,484.9	106.55	0.00	0.50	1	0		

point420	420	225,899.5	256,485.3	106.50	0.00	0.50	1	0		
point421	421	225,900.8	256,485.7	106.44	0.00	0.50	1	0		
point422	422	225,902.1	256,486.1	106.39	0.00	0.50	1	0		
point423	423	225,903.4	256,486.5	106.34	0.00	0.50	1	0		
point424	424	225,904.8	256,486.9	106.28	0.00	0.50	1	0		
point425	425	225,906.1	256,487.2	106.23	0.00	0.50	1	0		
point426	426	225,907.4	256,487.6	106.17	0.00	0.50	1	0		
point427	427	225,908.8	256,488.0	106.12	0.00	0.50	1	0		
point428	428	225,910.1	256,488.4	106.07	0.00	0.50	1	0		
point429	429	225,911.4	256,488.7	106.01	0.00	0.50	1	0		
point430	430	225,912.8	256,489.1	105.96	0.00	0.50	1	0		
point431	431	225,914.1	256,489.4	105.91	0.00	0.50	1	0		
point432	432	225,915.4	256,489.8	105.85	0.00	0.50	1	0		
point433	433	225,916.8	256,490.1	105.80	0.00	0.50	1	0		
point434	434	225,918.1	256,490.4	105.75	0.00	0.50	1	0		
point435	435	225,919.5	256,490.8	105.69	0.00	0.50	1	0		
point436	436	225,920.8	256,491.1	105.64	0.00	0.50	1	0		
point437	437	225,922.2	256,491.4	105.59	0.00	0.50	1	0		
point438	438	225,923.5	256,491.7	105.54	0.00	0.50	1	0		
point439	439	225,924.9	256,492.0	105.48	0.00	0.50	1	0		
point440	440	225,926.2	256,492.3	105.43	0.00	0.50	1	0		
point441	441	225,927.6	256,492.6	105.38	0.00	0.50	1	0		
point442	442	225,928.9	256,492.9	105.33	0.00	0.50	1	0		
point443	443	225,930.2	256,493.2	105.27	0.00	0.50	1	0		
point444	444	225,931.6	256,493.5	105.22	0.00	0.50	1	0		
point445	445	225,933.0	256,493.8	105.17	0.00	0.50	1	0		
point446	446	225,934.3	256,494.1	105.12	0.00	0.50	1	0		
point447	447	225,935.7	256,494.3	105.07	0.00	0.50	1	0		
point448	448	225,937.0	256,494.6	105.01	0.00	0.50	1	0		
point449	449	225,938.4	256,494.8	104.96	0.00	0.50	1	0		
point450	450	225,939.8	256,495.1	104.91	3.33	0.50	1	1		
point451	451	225,941.1	256,495.4	104.86	3.33	0.50	1	1		
point452	452	225,942.1	256,495.5	104.82	3.33	0.50	1	1		
point453	453	225,943.7	256,495.8	104.76	3.33	0.50	1	1		
point454	454	225,945.2	256,496.1	104.71	3.33	0.50	1	1		
point455	455	225,946.6	256,496.3	104.65	3.33	0.50	1	1		
point456	456	225,948.0	256,496.5	104.60	3.33	0.50	1	1		
point457	457	225,949.3	256,496.7	104.55	3.33	0.50	1	1		
point458	458	225,950.7	256,496.9	104.50	3.33	0.50	1	1		
point459	459	225,952.1	256,497.1	104.45	3.33	0.50	1	1		
point460	460	225,953.4	256,497.3	104.40	3.33	0.50	1	1		
point461	461	225,954.8	256,497.5	104.35	3.33	0.50	1	1		
point462	462	225,956.2	256,497.7	104.30	3.33	0.50	1	1		
point463	463	225,957.6	256,497.9	104.25	3.33	0.50	1	1		
point464	464	225,958.9	256,498.1	104.20	3.33	0.50	1	1		
point465	465	225,960.3	256,498.3	104.15	3.33	0.50	1	1		
point466	466	225,961.7	256,498.4	104.10	3.33	0.50	1	1		
point467	467	225,963.0	256,498.6	104.05	3.33	0.50	1	1		

point468	468	225,964.4	256,498.8	104.00	3.33	0.50	1	1	
point469	469	225,965.8	256,498.9	103.95	3.33	0.50	1	1	
point470	470	225,967.2	256,499.1	103.90	3.33	0.50	1	1	
point471	471	225,968.5	256,499.2	103.85	3.33	0.50	1	1	
point472	472	225,969.9	256,499.3	103.80	3.33	0.50	1	1	
point473	473	225,971.3	256,499.5	103.75	3.33	0.50	1	1	
point474	474	225,972.7	256,499.6	103.70	3.33	0.50	1	1	
point475	475	225,974.0	256,499.7	103.65	3.33	0.50	1	1	
point476	476	225,975.4	256,499.8	103.61	3.33	0.50	1	1	
point477	477	225,976.8	256,499.9	103.56	3.33	0.50	1	1	
point478	478	225,978.2	256,500.1	103.51	3.33	0.50	1	1	
point479	479	225,979.6	256,500.2	103.46	3.33	0.50	1	1	
point480	480	225,981.0	256,500.2	103.41	3.33	0.50	1	1	
point481	481	225,982.3	256,500.3	103.36	3.33	0.50	1	1	
point482	482	225,983.7	256,500.4	103.31	3.33	0.50	1	1	
point483	483	225,985.1	256,500.5	103.27	3.33	0.50	1	1	
point484	484	225,986.5	256,500.6	103.22	3.33	0.50	1	1	
point485	485	225,987.9	256,500.7	103.17	3.33	0.50	1	1	
point486	486	225,989.2	256,500.7	103.12	3.33	0.50	1	1	
point487	487	225,990.6	256,500.8	103.07	3.33	0.50	1	1	
point488	488	225,992.0	256,500.8	103.03	3.33	0.50	1	1	
point489	489	225,993.4	256,500.9	102.98	3.33	0.50	1	1	
point490	490	225,994.8	256,500.9	102.93	3.33	0.50	1	1	
point491	491	225,996.2	256,501.0	102.88	3.33	0.50	1	1	
point492	492	225,997.5	256,501.0	102.84	3.33	0.50	1	1	
point493	493	225,998.9	256,501.0	102.79	3.33	0.50	1	1	
point494	494	226,000.3	256,501.0	102.74	3.33	0.50	1	1	
point495	495	226,001.7	256,501.1	102.70	3.33	0.50	1	1	
point496	496	226,003.1	256,501.1	102.65	3.33	0.50	1	1	
point497	497	226,004.5	256,501.1	102.60	3.33	0.50	1	1	
point498	498	226,005.8	256,501.1	102.55	3.33	0.50	1	1	
point499	499	226,007.2	256,501.1	102.51	3.33	0.50	1	1	
point500	500	226,008.6	256,501.1	102.46	3.33	0.50	1	1	
point501	501	226,010.0	256,501.0	102.42	3.33	0.50	1	1	
point502	502	226,011.4	256,501.0	102.37	3.33	0.50	1	1	
point503	503	226,012.8	256,501.0	102.32	3.33	0.50	1	1	
point504	504	226,014.1	256,501.0	102.28	3.33	0.50	1	1	
point505	505	226,015.5	256,500.9	102.23	3.33	0.50	1	1	
point506	506	226,016.9	256,500.9	102.18	3.33	0.50	1	1	
point507	507	226,018.3	256,500.8	102.14	3.33	0.50	1	1	
point508	508	226,019.7	256,500.8	102.09	3.33	0.50	1	1	
point509	509	226,021.1	256,500.7	102.05	3.33	0.50	1	1	
point510	510	226,022.4	256,500.7	102.00	3.33	0.50	1	1	
point511	511	226,023.8	256,500.6	101.96	3.33	0.50	1	1	
point512	512	226,025.2	256,500.5	101.91	3.33	0.50	1	1	
point513	513	226,026.6	256,500.5	101.87	3.33	0.50	1	1	
point514	514	226,028.0	256,500.4	101.82	3.33	0.50	1	1	
point515	515	226,029.4	256,500.3	101.78	3.33	0.50	1	1	

point516	516	226,030.7	256,500.2	101.73	3.33	0.50	1	1		
point517	517	226,032.1	256,500.1	101.69	3.33	0.50	1	1		
point518	518	226,033.5	256,500.0	101.64	3.33	0.50	1	1		
point519	519	226,034.9	256,499.9	101.60	3.33	0.50	1	1		
point520	520	226,036.2	256,499.8	101.55	3.33	0.50	1	1		
point521	521	226,037.6	256,499.6	101.51	3.33	0.50	1	1		
point522	522	226,039.0	256,499.5	101.46	3.33	0.50	1	1		
point523	523	226,040.4	256,499.4	101.42	3.33	0.50	1	1		
point524	524	226,041.8	256,499.3	101.38	3.33	0.50	1	1		
point525	525	226,043.1	256,499.1	101.33	3.33	0.50	1	1		
point526	526	226,044.5	256,499.0	101.29	3.33	0.50	1	1		
point527	527	226,045.9	256,498.8	101.24	3.33	0.50	1	1		
point528	528	226,047.3	256,498.7	101.20	3.33	0.50	1	1		
point529	529	226,048.6	256,498.5	101.16	3.33	0.50	1	1		
point530	530	226,050.0	256,498.3	101.11	3.33	0.50	1	1		
point531	531	226,051.4	256,498.2	101.07	3.33	0.50	1	1		
point532	532	226,052.8	256,498.0	101.03	3.33	0.50	1	1		
point533	533	226,054.1	256,497.8	100.98	3.33	0.50	1	1		
point534	534	226,055.5	256,497.6	100.94	3.33	0.50	1	1		
point535	535	226,056.9	256,497.4	100.90	3.33	0.50	1	1		
point536	536	226,057.9	256,497.3	100.86	3.33	0.50	1	1		
point537	537	226,059.0	256,497.1	100.83	3.33	0.50	1	1		
point538	538	226,060.9	256,496.8	100.77	3.33	0.50	1	1		
point539	539	226,064.9	256,496.2	100.64	3.33	0.50	1	1		
point540	540	226,068.8	256,495.6	100.51	3.33	0.50	1	1		
point541	541	226,072.8	256,495.0	100.39	3.33	0.50	1	1		
point542	542	226,076.7	256,494.5	100.26	3.33	0.50	1	1		
point543	543	226,080.7	256,493.9	100.14	3.33	0.50	1	1		
point544	544	226,084.7	256,493.2	100.02	3.33	0.50	1	1		
point545	545	226,088.6	256,492.7	99.89	3.33	0.50	1	1		
point546	546	226,092.6	256,492.1	99.77	3.33	0.50	1	1		
point547	547	226,096.5	256,491.5	99.65	3.33	0.50	1	1		
point548	548	226,100.5	256,490.9	99.53	3.33	0.50	1	1		
point549	549	226,104.4	256,490.3	99.42	3.33	0.50	1	1		
point550	550	226,108.4	256,489.7	99.30	3.33	0.50	1	1		
point551	551	226,112.3	256,489.1	99.18	3.33	0.50	1	1		
point552	552	226,116.3	256,488.5	99.07	3.33	0.50	1	1		
point553	553	226,120.2	256,488.0	98.95	3.33	0.50	1	1		
point554	554	226,124.2	256,487.4	98.84	3.33	0.50	1	1		
point555	555	226,128.2	256,486.8	98.72	3.33	0.50	1	1		
point556	556	226,132.1	256,486.2	98.61	3.33	0.50	1	1		
point557	557	226,136.1	256,485.6	98.50	3.33	0.50	1	1		
point558	558	226,140.0	256,485.0	98.39	3.33	0.50	1	1		
point559	559	226,144.0	256,484.4	98.28	3.33	0.50	1	1		
point560	560	226,148.0	256,483.8	98.17	3.33	0.50	1	1		
point561	561	226,151.9	256,483.2	98.06	3.33	0.50	1	1		
point562	562	226,155.9	256,482.6	97.96	3.33	0.50	1	1		
point563	563	226,159.8	256,482.1	97.85	3.33	0.50	1	1		

point564	564	226,163.8	256,481.5	97.75	3.33	0.50	1	1		
point565	565	226,167.7	256,480.9	97.64	3.33	0.50	1	1		
point566	566	226,171.7	256,480.3	97.54	3.33	0.50	1	0		
point567	567	226,175.6	256,479.7	97.44	3.33	0.50	1	0		
point568	568	226,179.6	256,479.1	97.34	3.33	0.50	1	0		
point569	569	226,183.5	256,478.5	97.23	3.33	0.50	1	0		
point570	570	226,187.5	256,477.9	97.14	3.33	0.50	1	0		
point571	571	226,191.5	256,477.3	97.04	3.33	0.50	1	0		
point572	572	226,195.4	256,476.7	96.94	3.33	0.50	1	0		
point573	573	226,199.4	256,476.2	96.84	3.33	0.50	1	0		
point574	574	226,203.3	256,475.6	96.75	3.33	0.50	1	0		
point575	575	226,207.3	256,475.0	96.65	3.33	0.50	1	0		
point576	576	226,211.2	256,474.4	96.56	3.33	0.50	1	0		
point577	577	226,215.2	256,473.8	96.46	3.33	0.50	1	0		
point578	578	226,219.2	256,473.2	96.37	3.33	0.50	1	0		
point579	579	226,223.1	256,472.6	96.28	3.33	0.50	1	0		
point580	580	226,227.1	256,472.0	96.19	3.33	0.50	1	0		
point581	581	226,231.0	256,471.5	96.10	3.33	0.50	1	0		
point582	582	226,235.0	256,470.8	96.01	3.33	0.50	1	0		
point583	583	226,238.9	256,470.2	95.92	3.33	0.50	1	0		
point584	584	226,242.9	256,469.7	95.84	3.33	0.50	1	0		
point585	585	226,246.9	256,469.1	95.75	3.33	0.50	1	0		
point586	586	226,250.8	256,468.5	95.67	3.33	0.50	1	0		
point587	587	226,254.8	256,467.9	95.58	3.33	0.50	1	0		
point588	588	226,258.7	256,467.3	95.50	3.33	0.50	1	0		
point589	589	226,262.7	256,466.7	95.42	3.33	0.50	1	0		
point590	590	226,266.6	256,466.1	95.33	3.33	0.50	1	0		
point591	591	226,270.6	256,465.5	95.25	3.33	0.50	1	0		
point592	592	226,274.5	256,464.9	95.17	3.33	0.50	1	0		
point593	593	226,278.5	256,464.3	95.09	3.33	0.50	1	0		
point594	594	226,282.5	256,463.8	95.02	3.33	0.50	1	0		
point595	595	226,286.4	256,463.2	94.94	3.33	0.50	1	0		
point596	596	226,290.4	256,462.6	94.86	3.33	0.50	1	0		
point597	597	226,294.3	256,462.0	94.79	3.33	0.50	1	0		
point598	598	226,298.3	256,461.4	94.71	3.33	0.50	1	0		
point599	599	226,302.2	256,460.8	94.63	3.33	0.50	1	0		
point600	600	226,306.2	256,460.2	94.56	3.33	0.50	1	0		
point601	601	226,310.2	256,459.6	94.48	3.33	0.50	1	0		
point602	602	226,314.1	256,459.0	94.41	3.33	0.50	1	0		
point603	603	226,318.1	256,458.4	94.33	3.33	0.50	1	0		
point604	604	226,322.0	256,457.9	94.25	3.33	0.50	1	0		
point605	605	226,326.0	256,457.3	94.18	3.33	0.50	1	0		
point606	606	226,329.9	256,456.7	94.11	3.33	0.50	1	0		
point607	607	226,333.9	256,456.1	94.04	3.33	0.50	1	0		
point608	608	226,337.8	256,455.5	93.97	3.33	0.50	1	0		
point609	609	226,341.8	256,454.9	93.90	3.33	0.50	1	0		
point610	610	226,345.8	256,454.3	93.84	3.33	0.50	1	0		
point611	611	226,349.7	256,453.7	93.77	3.33	0.50	1	0		

									point612	612	226,353.7	256,453.1	93.71	3.33	0.50	1	0		
									point613	613	226,357.6	256,452.5	93.65	3.33	0.50	1	0		
									point614	614	226,361.6	256,452.0	93.59	3.33	0.50	1	0		
									point615	615	226,365.5	256,451.4	93.53	3.33	0.50	1	0		
									point616	616	226,369.5	256,450.8	93.47	3.33	0.50	1	0		
									point617	617	226,373.5	256,450.2	93.42	3.33	0.50	1	0		
									point618	618	226,377.4	256,449.6	93.36	3.33	0.50	1	0		
									point619	619	226,381.4	256,449.0	93.31	3.33	0.50	1	0		
									point620	620	226,385.3	256,448.4	93.26	3.33	0.50	1	0		
									point621	621	226,389.3	256,447.8	93.21	3.33	0.50	1	0		
									point622	622	226,393.2	256,447.2	93.16	3.33	0.50	1	0		
									point623	623	226,397.2	256,446.6	93.11	3.33	0.50	1	0		
									point624	624	226,401.1	256,446.0	93.07	3.33	0.50	1	0		
									point625	625	226,405.1	256,445.5	93.02	3.33	0.50	1	0		
									point626	626	226,409.1	256,444.9	92.98	3.33					
Barrier - Interamericana	W	4.45	30.48	400.00				0.00	point627	627	226,586.7	256,411.9	92.60	5.45	0.50	1	1		
									point628	628	226,586.5	256,411.9	92.60	5.45	0.50	1	1		
									point629	629	226,585.2	256,411.8	92.60	5.45	0.50	1	1		
									point630	630	226,583.9	256,411.6	92.59	5.45	0.50	1	1		
									point631	631	226,582.6	256,411.4	92.58	5.45	0.50	1	1		
									point632	632	226,581.2	256,411.2	92.57	5.45	0.50	1	1		
									point633	633	226,579.9	256,411.0	92.57	5.45	0.50	1	1		
									point634	634	226,578.5	256,410.9	92.56	5.45	0.50	1	1		
									point635	635	226,577.1	256,410.7	92.55	5.45	0.50	1	1		
									point636	636	226,575.8	256,410.6	92.54	5.45	0.50	1	1		
									point637	637	226,574.4	256,410.4	92.54	5.45	0.50	1	1		
									point638	638	226,573.1	256,410.3	92.53	5.45	0.50	1	1		
									point639	639	226,571.7	256,410.1	92.52	5.45	0.50	1	1		
									point640	640	226,570.3	256,410.0	92.52	5.45	0.50	1	1		
									point641	641	226,569.0	256,409.9	92.51	5.45	0.50	1	1		
									point642	642	226,567.6	256,409.7	92.51	5.45	0.50	1	1		
									point643	643	226,566.2	256,409.6	92.50	5.45	0.50	1	1		
									point644	644	226,564.9	256,409.5	92.49	5.45	0.50	1	1		
									point645	645	226,563.5	256,409.3	92.49	5.45	0.50	1	1		
									point646	646	226,562.2	256,409.2	92.48	5.45	0.50	1	1		
									point647	647	226,560.8	256,409.1	92.48	5.45	0.50	1	1		
									point648	648	226,559.4	256,409.0	92.47	5.45	0.50	1	1		
									point649	649	226,558.1	256,408.9	92.47	5.45	0.50	1	1		
									point650	650	226,556.7	256,408.8	92.46	5.45	0.50	1	1		
									point651	651	226,555.3	256,408.7	92.46	5.45	0.50	1	1		
									point652	652	226,554.0	256,408.6	92.45	5.45	0.50	1	1		
									point653	653	226,552.6	256,408.5	92.45	5.45	0.50	1	1		
									point654	654	226,551.2	256,408.4	92.45	5.45	0.50	1	1		
									point655	655	226,549.9	256,408.3	92.44	5.45	0.50	1	1		
									point656	656	226,548.5	256,408.2	92.44	5.45	0.50	1	1		
									point657	657	226,547.1	256,408.2	92.44	5.45	0.50	1	1		
									point658	658	226,545.8	256,408.1	92.43	5.45	0.50	1	1		
									point659	659	226,544.4	256,408.0	92.43	5.45	0.50	1	1		

point660	660	226,543.0	256,408.0	92.43	5.45	0.50	1	1	
point661	661	226,541.7	256,407.9	92.42	5.45	0.50	1	1	
point662	662	226,540.3	256,407.8	92.42	5.45	0.50	1	1	
point663	663	226,538.9	256,407.8	92.42	5.45	0.50	1	1	
point664	664	226,537.6	256,407.7	92.42	5.45	0.50	1	1	
point665	665	226,536.2	256,407.6	92.41	5.45	0.50	1	1	
point666	666	226,534.8	256,407.6	92.41	5.45	0.50	1	1	
point667	667	226,533.5	256,407.6	92.41	5.45	0.50	1	1	
point668	668	226,532.1	256,407.5	92.41	5.45	0.50	1	1	
point669	669	226,530.7	256,407.5	92.41	5.45	0.50	1	1	
point670	670	226,529.4	256,407.5	92.40	5.45	0.50	1	1	
point671	671	226,528.0	256,407.4	92.40	5.45	0.50	1	1	
point672	672	226,526.6	256,407.4	92.40	5.45	0.50	1	1	
point673	673	226,525.2	256,407.4	92.40	5.45	0.50	1	1	
point674	674	226,523.9	256,407.4	92.40	5.45	0.50	1	1	
point675	675	226,522.5	256,407.4	92.40	5.45	0.50	1	1	
point676	676	226,520.5	256,407.4	92.40	5.45	0.50	1	1	
point677	677	226,518.6	256,407.3	92.40	5.45	0.50	1	1	
point678	678	226,518.4	256,407.3	92.40	5.45	0.50	1	1	
point679	679	226,517.0	256,407.4	92.40	5.45	0.50	1	1	
point680	680	226,515.7	256,407.4	92.40	5.45	0.50	1	1	
point681	681	226,514.3	256,407.4	92.40	5.45	0.50	1	1	
point682	682	226,512.9	256,407.4	92.40	5.45	0.50	1	1	
point683	683	226,511.6	256,407.4	92.40	5.45	0.50	1	1	
point684	684	226,510.2	256,407.4	92.40	5.45	0.50	1	1	
point685	685	226,508.8	256,407.4	92.40	5.45	0.50	1	1	
point686	686	226,507.5	256,407.5	92.41	5.45	0.50	1	1	
point687	687	226,506.1	256,407.5	92.41	5.45	0.50	1	1	
point688	688	226,504.7	256,407.5	92.41	5.45	0.50	1	1	
point689	689	226,503.4	256,407.6	92.41	5.45	0.50	1	1	
point690	690	226,502.0	256,407.6	92.41	5.45	0.50	1	1	
point691	691	226,500.6	256,407.6	92.41	5.45	0.50	1	1	
point692	692	226,499.2	256,407.7	92.42	5.45	0.50	1	1	
point693	693	226,497.9	256,407.8	92.42	5.45	0.50	1	1	
point694	694	226,496.5	256,407.8	92.42	5.45	0.50	1	1	
point695	695	226,495.2	256,407.9	92.42	5.45	0.50	1	1	
point696	696	226,493.8	256,407.9	92.43	5.45	0.50	1	1	
point697	697	226,492.4	256,408.0	92.43	5.45	0.50	1	1	
point698	698	226,491.0	256,408.1	92.43	5.45	0.50	1	1	
point699	699	226,489.7	256,408.2	92.44	5.45	0.50	1	1	
point700	700	226,488.3	256,408.2	92.44	5.45	0.50	1	1	
point701	701	226,487.0	256,408.3	92.44	5.45	0.50	1	1	
point702	702	226,485.6	256,408.4	92.45	5.45	0.50	1	1	
point703	703	226,484.2	256,408.5	92.45	5.45	0.50	1	1	
point704	704	226,482.8	256,408.6	92.46	5.45	0.50	1	1	
point705	705	226,481.5	256,408.7	92.46	5.45	0.50	1	1	
point706	706	226,480.1	256,408.8	92.46	5.45	0.50	1	1	
point707	707	226,478.8	256,408.9	92.47	5.45	0.50	1	1	

point708	708	226,477.4	256,409.0	92.47	5.45	0.50	1	1														
point709	709	226,476.0	256,409.1	92.48	5.45	0.50	1	1														
point710	710	226,474.7	256,409.2	92.48	5.45	0.50	1	1														
point711	711	226,473.3	256,409.3	92.49	5.45	0.50	1	1														
point712	712	226,471.9	256,409.5	92.50	5.45	0.50	1	1														
point713	713	226,470.6	256,409.6	92.50	5.45	0.50	1	1														
point714	714	226,469.2	256,409.7	92.51	5.45	0.50	1	1														
point715	715	226,467.8	256,409.8	92.51	5.45	0.50	1	1														
point716	716	226,466.5	256,410.0	92.52	5.45	0.50	1	1														
point717	717	226,465.1	256,410.1	92.53	5.45	0.50	1	1														
point718	718	226,463.8	256,410.2	92.53	5.45	0.50	1	1														
point719	719	226,462.4	256,410.4	92.54	5.45	0.50	1	1														
point720	720	226,461.0	256,410.6	92.55	5.45	0.50	1	1														
point721	721	226,459.7	256,410.7	92.55	5.45	0.50	1	1														
point722	722	226,458.3	256,410.9	92.56	5.45	0.50	1	1														
point723	723	226,457.0	256,411.0	92.57	5.45	0.50	1	1														
point724	724	226,455.6	256,411.2	92.57	5.45	0.50	1	1														
point725	725	226,454.2	256,411.4	92.58	5.45	0.50	1	1														
point726	726	226,452.9	256,411.5	92.59	5.45	0.50	1	1														
point727	727	226,451.5	256,411.7	92.60	5.45	0.50	1	1														
point728	728	226,450.2	256,411.9	92.61	5.45	0.50	1	1														
point729	729	226,448.8	256,412.1	92.61	5.45	0.50	1	1														
point730	730	226,447.5	256,412.2	92.62	5.45	0.50	1	1														
point731	731	226,446.1	256,412.5	92.63	5.45	0.50	1	1														
point732	732	226,444.8	256,412.7	92.64	5.45	0.50	1	1														
point733	733	226,443.7	256,412.8	92.65	5.45	0.50	1	1														
point734	734	226,442.6	256,413.0	92.66	5.45	0.50	1	1														
point735	735	226,440.7	256,413.2	92.67	5.45	0.50	1	1														
point736	736	226,436.8	256,413.8	92.70	5.45	0.50	1	1														
point737	737	226,432.8	256,414.4	92.73	5.45	0.50	1	1														
point738	738	226,428.9	256,415.0	92.76	5.45	0.50	1	1														
point739	739	226,424.9	256,415.6	92.79	5.45	0.50	1	1														
point740	740	226,421.0	256,416.2	92.83	5.45	0.50	1	1														
point741	741	226,417.0	256,416.8	92.86	5.45	0.50	1	1														
point742	742	226,415.7	256,417.0	92.88	5.45	0.50	1	1														
point743	743	226,413.0	256,417.4	92.90	5.45	0.50	1	1														
point744	744	226,409.1	256,418.0	92.94	5.45	0.50	1	1														
point745	745	226,405.1	256,418.6	92.98	5.45	0.50	1	1														
point746	746	226,401.2	256,419.2	93.02	5.45	0.50	1	1														
point747	747	226,397.2	256,419.8	93.07	5.45	0.50	1	1														
point748	748	226,393.3	256,420.3	93.11	5.45	0.50	1	1														
point749	749	226,389.3	256,420.9	93.16	5.45	0.50	1	1														
point750	750	226,385.3	256,421.5	93.21	5.45	0.50	1	1														
point751	751	226,381.4	256,422.1	93.26	5.45	0.50	1	1														
point752	752	226,377.4	256,422.7	93.31	5.45	0.50	1	1														
point753	753	226,373.5	256,423.3	93.36	5.45	0.50	1	1														
point754	754	226,369.5	256,423.9	93.42	5.45	0.50	1	1														
point755	755	226,365.6	256,424.5	93.47	5.45	0.50	1	1														

point756	756	226,361.6	256,425.0	93.53	5.45	0.50	1	1		
point757	757	226,357.7	256,425.7	93.59	5.45	0.50	1	1		
point758	758	226,353.7	256,426.2	93.65	5.45	0.50	1	1		
point759	759	226,349.8	256,426.8	93.71	5.45	0.50	1	1		
point760	760	226,345.8	256,427.4	93.77	5.45	0.50	1	1		
point761	761	226,341.8	256,428.0	93.84	5.45	0.50	1	1		
point762	762	226,337.9	256,428.6	93.90	5.45	0.50	1	1		
point763	763	226,333.9	256,429.2	93.97	5.45	0.50	1	1		
point764	764	226,330.0	256,429.8	94.04	5.45	0.50	1	1		
point765	765	226,326.0	256,430.4	94.11	5.45	0.50	1	1		
point766	766	226,322.0	256,430.9	94.18	5.45	0.50	1	1		
point767	767	226,318.1	256,431.6	94.25	5.45	0.50	1	1		
point768	768	226,314.1	256,432.1	94.33	5.45	0.50	1	1		
point769	769	226,310.2	256,432.7	94.41	5.45	0.50	1	1		
point770	770	226,306.2	256,433.3	94.48	5.45	0.50	1	1		
point771	771	226,302.3	256,433.9	94.56	5.45	0.50	1	1		
point772	772	226,298.3	256,434.5	94.63	5.45	0.50	1	1		
point773	773	226,294.4	256,435.1	94.71	5.45	0.50	1	1		
point774	774	226,290.4	256,435.7	94.79	5.45	0.50	1	1		
point775	775	226,286.5	256,436.3	94.86	5.45	0.50	1	1		
point776	776	226,282.5	256,436.8	94.94	5.45	0.50	1	1		
point777	777	226,278.5	256,437.5	95.02	5.45	0.50	1	1		
point778	778	226,274.6	256,438.0	95.09	5.45	0.50	1	1		
point779	779	226,270.6	256,438.6	95.17	5.45	0.50	1	1		
point780	780	226,266.7	256,439.2	95.25	5.45	0.50	1	1		
point781	781	226,262.7	256,439.8	95.33	5.45	0.50	1	1		
point782	782	226,258.8	256,440.4	95.42	5.45	0.50	1	1		
point783	783	226,254.8	256,441.0	95.50	5.45	0.50	1	1		
point784	784	226,250.8	256,441.6	95.58	5.45	0.50	1	1		
point785	785	226,246.9	256,442.2	95.67	5.45	0.50	1	1		
point786	786	226,242.9	256,442.8	95.75	5.45	0.50	1	1		
point787	787	226,239.0	256,443.4	95.84	5.45	0.50	1	1		
point788	788	226,235.0	256,443.9	95.92	5.45	0.50	1	1		
point789	789	226,231.1	256,444.5	96.01	5.45	0.50	1	1		
point790	790	226,227.1	256,445.1	96.10	5.45	0.50	1	1		
point791	791	226,223.1	256,445.7	96.19	5.45	0.50	1	1		
point792	792	226,219.2	256,446.3	96.28	5.45	0.50	1	1		
point793	793	226,215.2	256,446.9	96.37	5.45	0.50	1	1		
point794	794	226,211.3	256,447.5	96.46	5.45	0.50	1	1		
point795	795	226,207.3	256,448.1	96.56	5.45	0.50	1	1		
point796	796	226,203.4	256,448.7	96.65	5.45	0.50	1	1		
point797	797	226,199.4	256,449.2	96.75	5.45	0.50	1	1		
point798	798	226,195.5	256,449.8	96.84	5.45	0.50	1	1		
point799	799	226,191.5	256,450.4	96.94	5.45	0.50	1	1		
point800	800	226,187.5	256,451.0	97.04	5.45	0.50	1	1		
point801	801	226,183.6	256,451.6	97.14	5.45	0.50	1	1		
point802	802	226,179.6	256,452.2	97.23	5.45	0.50	1	1		
point803	803	226,175.7	256,452.8	97.34	5.45	0.50	1	1		

point804	804	226,171.7	256,453.4	97.44	5.45	0.50	1	1		
point805	805	226,167.8	256,454.0	97.54	5.45	0.50	1	1		
point806	806	226,163.8	256,454.6	97.64	5.45	0.50	1	1		
point807	807	226,159.8	256,455.2	97.75	5.45	0.50	1	1		
point808	808	226,155.9	256,455.8	97.85	5.45	0.50	1	1		
point809	809	226,151.9	256,456.3	97.96	5.45	0.50	1	1		
point810	810	226,148.0	256,456.9	98.06	5.45	0.50	1	1		
point811	811	226,144.0	256,457.5	98.17	5.45	0.50	1	1		
point812	812	226,140.0	256,458.1	98.28	5.45	0.50	1	1		
point813	813	226,136.1	256,458.7	98.39	5.45	0.50	1	1		
point814	814	226,132.2	256,459.3	98.50	5.45	0.50	1	1		
point815	815	226,128.2	256,459.9	98.61	5.45	0.50	1	1		
point816	816	226,124.2	256,460.5	98.72	5.45	0.50	1	1		
point817	817	226,120.3	256,461.1	98.84	5.45	0.50	1	1		
point818	818	226,116.3	256,461.7	98.95	5.45	0.50	1	1		
point819	819	226,112.4	256,462.2	99.07	5.45	0.50	1	1		
point820	820	226,108.4	256,462.8	99.18	5.45	0.50	1	1		
point821	821	226,104.5	256,463.4	99.30	5.45	0.50	1	1		
point822	822	226,100.5	256,464.0	99.42	5.45	0.50	1	1		
point823	823	226,096.5	256,464.6	99.53	5.45	0.50	1	1		
point824	824	226,092.6	256,465.2	99.65	5.45	0.50	1	1		
point825	825	226,088.6	256,465.8	99.77	5.45	0.50	1	1		
point826	826	226,084.7	256,466.4	99.89	5.45	0.50	1	1		
point827	827	226,080.7	256,467.0	100.02	5.45	0.50	1	1		
point828	828	226,076.8	256,467.5	100.14	5.45	0.50	1	1		
point829	829	226,072.8	256,468.2	100.26	5.45	0.50	1	1		
point830	830	226,068.9	256,468.7	100.39	5.45	0.50	1	1		
point831	831	226,064.9	256,469.3	100.51	5.45	0.50	1	1		
point832	832	226,060.9	256,469.9	100.64	5.45	0.50	1	1		
point833	833	226,057.0	256,470.5	100.77	5.45	0.50	1	1		
point834	834	226,055.1	256,470.8	100.83	5.45	0.50	1	1		
point835	835	226,054.1	256,470.9	100.86	5.45	0.50	1	1		
point836	836	226,053.1	256,471.1	100.90	5.45	0.50	1	1		
point837	837	226,051.9	256,471.3	100.94	5.45	0.50	1	1		
point838	838	226,050.6	256,471.5	100.98	5.45	0.50	1	1		
point839	839	226,049.3	256,471.6	101.03	5.45	0.50	1	1		
point840	840	226,048.0	256,471.8	101.07	5.45	0.50	1	1		
point841	841	226,046.8	256,471.9	101.11	5.45	0.50	1	1		
point842	842	226,045.5	256,472.1	101.16	5.45	0.50	1	1		
point843	843	226,044.2	256,472.2	101.20	5.45	0.50	1	1		
point844	844	226,042.9	256,472.4	101.24	5.45	0.50	1	1		
point845	845	226,041.7	256,472.5	101.29	5.45	0.50	1	1		
point846	846	226,040.4	256,472.7	101.33	5.45	0.50	1	1		
point847	847	226,039.1	256,472.8	101.38	5.45	0.50	1	1		
point848	848	226,037.8	256,472.9	101.42	5.45	0.50	1	1		
point849	849	226,036.6	256,473.0	101.46	5.45	0.50	1	1		
point850	850	226,035.3	256,473.1	101.51	5.45	0.50	1	1		
point851	851	226,034.0	256,473.3	101.55	5.45	0.50	1	1		

									point852	852	226,032.7	256,473.3	101.60	5.45	0.50	1	1		
									point853	853	226,031.4	256,473.5	101.64	5.45	0.50	1	1		
									point854	854	226,030.2	256,473.6	101.69	5.45	0.50	1	1		
									point855	855	226,028.9	256,473.7	101.73	5.45	0.50	1	1		
									point856	856	226,027.6	256,473.8	101.78	5.45	0.50	1	1		
									point857	857	226,026.3	256,473.8	101.82	5.45	0.50	1	1		
									point858	858	226,025.0	256,473.9	101.87	5.45	0.50	1	1		
									point859	859	226,023.8	256,474.0	101.91	5.45	0.50	1	1		
									point860	860	226,022.5	256,474.1	101.96	5.45	0.50	1	1		
									point861	861	226,021.2	256,474.1	102.00	5.45	0.50	1	1		
									point862	862	226,019.9	256,474.2	102.05	5.45	0.50	1	1		
									point863	863	226,018.6	256,474.2	102.09	5.45	0.50	1	1		
									point864	864	226,017.3	256,474.3	102.14	5.45	0.50	1	1		
									point865	865	226,016.1	256,474.3	102.18	5.45	0.50	1	1		
									point866	866	226,014.8	256,474.3	102.23	5.45	0.50	1	1		
									point867	867	226,013.5	256,474.4	102.28	5.45	0.50	1	1		
									point868	868	226,012.2	256,474.4	102.32	5.45	0.50	1	1		
									point869	869	226,010.9	256,474.4	102.37	5.45					
El Cortijo Barrier West 1	W	3.00	30.48	400.00				0.00	point1501	1501	227,743.8	258,313.0	53.76	4.26	0.50	1	1		
									point1502	1502	227,744.2	258,313.8	53.72	4.26	0.50	1	1		
									point1503	1503	227,746.3	258,317.2	53.56	4.26	0.50	1	1		
									point1504	1504	227,748.3	258,320.6	53.40	4.26	0.50	1	1		
									point1505	1505	227,750.3	258,324.1	53.24	4.26	0.50	1	1		
									point1506	1506	227,752.3	258,327.6	53.08	4.26	0.50	1	1		
									point1507	1507	227,754.3	258,331.0	52.92	4.26	0.50	1	1		
									point1508	1508	227,756.4	258,334.5	52.76	4.26	0.50	1	1		
									point1509	1509	227,758.4	258,337.9	52.60	4.26	0.50	1	1		
									point1510	1510	227,760.4	258,341.4	52.44	4.26	0.50	1	1		
									point1511	1511	227,762.5	258,344.8	52.28	4.26	0.50	1	1		
									point1512	1512	227,764.5	258,348.3	52.12	4.26	0.50	1	1		
									point1513	1513	227,766.5	258,351.7	51.96	4.26	0.50	1	1		
									point1514	1514	227,768.5	258,355.2	51.80	4.26	0.50	1	1		
									point1515	1515	227,770.5	258,358.6	51.64	4.26	0.50	1	1		
									point1516	1516	227,772.6	258,362.1	51.48	4.26	0.50	1	1		
									point1517	1517	227,774.6	258,365.5	51.32	4.26	0.50	1	1		
									point1518	1518	227,776.6	258,369.0	51.16	4.26	0.50	1	1		
									point1519	1519	227,778.6	258,372.4	51.00	4.26	0.50	1	1		
									point1520	1520	227,780.7	258,375.9	50.84	4.26	0.50	1	1		
									point1521	1521	227,782.7	258,379.3	50.68	4.26	0.50	1	1		
									point1522	1522	227,784.7	258,382.8	50.52	4.26	0.50	1	1		
									point1523	1523	227,786.7	258,386.2	50.36	4.26	0.50	1	1		
									point1524	1524	227,788.8	258,389.7	50.20	4.26	0.50	1	1		
									point1525	1525	227,790.8	258,393.1	50.04	4.26	0.50	1	1		
									point1526	1526	227,792.8	258,396.6	49.88	4.26	0.50	1	1		
									point1527	1527	227,794.8	258,400.0	49.72	4.26	0.50	1	1		
									point1528	1528	227,796.8	258,403.5	49.56	4.26	0.50	1	1		
									point1529	1529	227,798.9	258,406.9	49.40	4.26	0.50	1	1		
									point1530	1530	227,800.9	258,410.4	49.24	4.26	0.50	1	1		

point1531	1531	227,802.1	258,412.6	49.14	4.26	0.50	1	1		
point1532	1532	227,802.2	258,412.6	49.14	4.26	0.50	1	1		
point1533	1533	227,802.9	258,413.9	49.08	4.26	0.50	1	1		
point1534	1534	227,804.3	258,416.5	48.96	4.26	0.50	1	1		
point1535	1535	227,804.3	258,416.5	48.96	4.26	0.50	1	1		
point1536	1536	227,804.8	258,417.4	48.92	4.26	0.50	1	1		
point1537	1537	227,806.7	258,420.9	48.76	4.26	0.50	1	1		
point1538	1538	227,808.6	258,424.4	48.59	4.26	0.50	1	1		
point1539	1539	227,810.5	258,427.9	48.43	4.26	0.50	1	1		
point1540	1540	227,812.4	258,431.5	48.27	4.26	0.50	1	1		
point1541	1541	227,814.3	258,435.0	48.11	4.26	0.50	1	1		
point1542	1542	227,816.2	258,438.5	47.94	4.26	0.50	1	1		
point1543	1543	227,818.1	258,442.0	47.78	4.26	0.50	1	1		
point1544	1544	227,820.0	258,445.5	47.62	4.26	0.50	1	1		
point1545	1545	227,821.9	258,449.0	47.46	4.26	0.50	1	1		
point1546	1546	227,823.8	258,452.6	47.29	4.26	0.50	1	1		
point1547	1547	227,825.8	258,456.1	47.13	4.26	0.50	1	1		
point1548	1548	227,827.7	258,459.6	46.97	4.26	0.50	1	1		
point1549	1549	227,829.6	258,463.1	46.81	4.26	0.50	1	1		
point1550	1550	227,831.5	258,466.6	46.64	4.26	0.50	1	1		
point1551	1551	227,833.4	258,470.1	46.48	4.26	0.50	1	1		
point1552	1552	227,835.3	258,473.7	46.32	4.26	0.50	1	1		
point1553	1553	227,836.8	258,476.4	46.19	4.26	0.50	1	1		
point1554	1554	227,837.2	258,477.2	46.15	4.26	0.50	1	1		
point1555	1555	227,839.1	258,480.7	45.99	4.26	0.50	1	1		
point1556	1556	227,841.0	258,484.2	45.84	4.26	0.50	1	1		
point1557	1557	227,842.9	258,487.7	45.68	4.26	0.50	1	1		
point1558	1558	227,844.8	258,491.3	45.53	4.26	0.50	1	1		
point1559	1559	227,845.0	258,491.6	45.51	4.26	0.50	1	1		
point1560	1560	227,845.1	258,491.7	45.51	4.26	0.50	1	1		
point1561	1561	227,846.8	258,494.7	45.38	4.26	0.50	1	1		
point1562	1562	227,847.3	258,495.6	45.35	4.26	0.50	1	1		
point1563	1563	227,847.3	258,495.6	45.34	4.26	0.50	1	1		
point1564	1564	227,848.8	258,498.2	45.24	4.26	0.50	1	1		
point1565	1565	227,850.8	258,501.7	45.10	4.26	0.50	1	1		
point1566	1566	227,852.8	258,505.1	44.96	4.26	0.50	1	1		
point1567	1567	227,854.8	258,508.6	44.82	4.26	0.50	1	1		
point1568	1568	227,856.8	258,512.1	44.69	4.26	0.50	1	1		
point1569	1569	227,858.8	258,515.5	44.56	4.26	0.50	1	1		
point1570	1570	227,860.8	258,519.0	44.43	4.26	0.50	1	1		
point1571	1571	227,862.8	258,522.4	44.30	4.26	0.50	1	1		
point1572	1572	227,864.8	258,525.9	44.18	4.26	0.50	1	1		
point1573	1573	227,866.8	258,529.4	44.06	4.26	0.50	1	1		
point1574	1574	227,868.8	258,532.8	43.95	4.26	0.50	1	1		
point1575	1575	227,870.8	258,536.3	43.83	4.26	0.50	1	1		
point1576	1576	227,872.8	258,539.8	43.72	4.26	0.50	1	1		
point1577	1577	227,874.8	258,543.2	43.61	4.26	0.50	1	1		
point1578	1578	227,876.8	258,546.7	43.51	4.26	0.50	1	1		

									point1579	1579	227,878.8	258,550.2	43.41	4.26	0.50	1	1		
									point1580	1580	227,880.8	258,553.7	43.31	4.26	0.50	1	1		
									point1581	1581	227,882.8	258,557.1	43.21	4.26	0.50	1	1		
									point1582	1582	227,884.2	258,559.5	43.14	4.26	0.50	1	1		
									point1583	1583	227,884.3	258,559.7	43.14	4.26	0.50	1	1		
									point1584	1584	227,884.8	258,560.6	43.11	4.26	0.50	1	1		
									point1586	1586	227,886.5	258,563.5	43.04	4.26	0.50	1	1		
									point1587	1587	227,886.8	258,564.0	43.02	4.26	0.50	1	1		
									point1589	1589	227,888.8	258,567.5	42.93	4.26	0.50	1	1		
									point1591	1591	227,890.8	258,571.0	42.85	4.26	0.50	1	1		
									point1592	1592	227,892.3	258,573.6	42.79	4.26	0.50	1	1		
									point1594	1594	227,892.8	258,574.4	42.77	4.26	0.50	1	1		
									point1595	1595	227,894.7	258,577.9	42.68	4.26	0.50	1	1		
									point1596	1596	227,896.6	258,581.5	42.60	4.26	0.50	1	1		
									point1597	1597	227,898.5	258,585.0	42.53	4.26	0.50	1	1		
									point1598	1598	227,900.2	258,588.6	42.45	4.26	0.50	1	1		
									point1599	1599	227,901.9	258,592.2	42.37	4.26	0.50	1	1		
									point1600	1600	227,902.0	258,592.5	42.37	4.26	0.50	1	1		
									point1601	1601	227,902.5	258,593.7	42.34	4.26	0.50	1	1		
									point1602	1602	227,903.0	258,594.7	42.32	4.26	0.50	1	1		
									point1603	1603	227,903.5	258,595.8	42.30	4.26	0.50	1	1		
									point1604	1604	227,905.0	258,599.4	42.23	4.26	0.50	1	1		
									point1605	1605	227,906.0	258,601.8	42.18	4.26	0.50	1	1		
									point1606	1606	227,906.4	258,602.8	42.16	4.26	0.50	1	1		
									point1607	1607	227,906.5	258,603.0	42.16	4.26	0.50	1	1		
									point1608	1608	227,907.9	258,606.7	42.09	4.26	0.50	1	1		
									point1609	1609	227,909.2	258,610.4	42.02	4.26	0.50	1	1		
									point1610	1610	227,910.5	258,614.1	41.96	4.26	0.50	1	1		
									point1611	1611	227,911.7	258,617.8	41.90	4.26	0.50	1	1		
									point1612	1612	227,912.3	258,619.7	41.86	4.26	0.50	1	1		
									point1613	1613	227,912.8	258,621.5	41.83	4.26	0.50	1	1		
									point1614	1614	227,912.9	258,621.6	41.83	4.26	0.50	1	1		
									point1615	1615	227,912.9	258,621.8	41.83	4.26	0.50	1	1		
									point1616	1616	227,913.5	258,623.9	41.80	4.26	0.50	1	1		
									point1617	1617	227,913.9	258,625.3	41.78	4.26	0.50	1	1		
									point1618	1618	227,914.9	258,629.1	41.72	4.26	0.50	1	1		
									point1619	1619	227,915.2	258,630.3	41.70	4.26					
El Cortijo Barrier West 2	W	3.50	30.48	400.00				0.00	point1620	1620	227,605.2	257,907.7	64.77	4.26	0.50	1	1		
									point1621	1621	227,606.7	257,911.2	64.71	4.26	0.50	1	1		
									point1622	1622	227,608.1	257,914.7	64.64	4.26	0.50	1	1		
									point1623	1623	227,609.4	257,918.2	64.57	4.26	0.50	1	1		
									point1624	1624	227,610.8	257,921.8	64.50	4.26	0.50	1	1		
									point1625	1625	227,612.0	257,925.4	64.43	4.26	0.50	1	1		
									point1626	1626	227,613.2	257,929.0	64.36	4.26	0.50	1	1		
									point1627	1627	227,614.3	257,932.6	64.30	4.26	0.50	1	1		
									point1628	1628	227,615.4	257,936.2	64.23	4.26	0.50	1	1		
									point1629	1629	227,616.4	257,939.8	64.16	4.26	0.50	1	1		
									point1630	1630	227,617.4	257,943.5	64.09	4.26	0.50	1	1		

point1631	1631	227,618.3	257,947.2	64.02	4.26	0.50	1	1
point1632	1632	227,619.1	257,950.9	63.95	4.26	0.50	1	1
point1633	1633	227,619.9	257,954.6	63.88	4.26	0.50	1	1
point1634	1634	227,620.0	257,955.1	63.87	4.26	0.50	1	1
point1635	1635	227,620.7	257,958.5	63.82	4.26	0.50	1	1
point1636	1636	227,621.5	257,962.4	63.75	4.26	0.50	1	1
point1637	1637	227,622.3	257,966.3	63.68	4.26	0.50	1	1
point1638	1638	227,623.0	257,970.2	63.61	4.26	0.50	1	1
point1639	1639	227,623.8	257,974.2	63.54	4.26	0.50	1	1
point1640	1640	227,624.6	257,978.1	63.47	4.26	0.50	1	1
point1641	1641	227,625.4	257,982.0	63.41	4.26	0.50	1	1
point1642	1642	227,626.2	257,985.9	63.34	4.26	0.50	1	1
point1643	1643	227,627.0	257,989.9	63.27	4.26	0.50	1	1
point1644	1644	227,627.8	257,993.8	63.20	4.26	0.50	1	1
point1645	1645	227,628.6	257,997.7	63.13	4.26	0.50	1	1
point1646	1646	227,629.3	258,001.6	63.06	4.26	0.50	1	1
point1647	1647	227,630.1	258,005.5	63.00	4.26	0.50	1	1
point1648	1648	227,630.9	258,009.5	62.93	4.26	0.50	1	1
point1649	1649	227,631.7	258,013.4	62.86	4.26	0.50	1	1
point1650	1650	227,632.5	258,017.3	62.79	4.26	0.50	1	1
point1651	1651	227,633.3	258,021.2	62.72	4.26	0.50	1	1
point1652	1652	227,634.1	258,025.1	62.65	4.26	0.50	1	1
point1653	1653	227,634.8	258,029.1	62.58	4.26	0.50	1	1
point1654	1654	227,635.6	258,033.0	62.52	4.26	0.50	1	1
point1655	1655	227,636.4	258,036.9	62.45	4.26	0.50	1	1
point1656	1656	227,637.2	258,040.8	62.38	4.26	0.50	1	1
point1657	1657	227,638.0	258,044.8	62.31	4.26	0.50	1	1
point1658	1658	227,638.8	258,048.7	62.24	4.26	0.50	1	1
point1659	1659	227,639.6	258,052.6	62.17	4.26	0.50	1	1
point1660	1660	227,640.4	258,056.5	62.11	4.26	0.50	1	1
point1661	1661	227,641.2	258,060.4	62.04	4.26	0.50	1	1
point1662	1662	227,641.9	258,064.4	61.97	4.26	0.50	1	1
point1663	1663	227,642.7	258,068.3	61.90	4.26	0.50	1	1
point1664	1664	227,643.5	258,072.2	61.83	4.26	0.50	1	1
point1665	1665	227,644.3	258,076.1	61.76	4.26	0.50	1	1
point1666	1666	227,645.1	258,080.0	61.70	4.26	0.50	1	1
point1667	1667	227,645.9	258,084.0	61.63	4.26	0.50	1	1
point1668	1668	227,646.7	258,087.9	61.56	4.26	0.50	1	1
point1669	1669	227,647.5	258,091.8	61.49	4.26	0.50	1	1
point1670	1670	227,648.2	258,095.8	61.42	4.26	0.50	1	1
point1671	1671	227,649.0	258,099.7	61.35	4.26	0.50	1	1
point1672	1672	227,649.8	258,103.6	61.28	4.26	0.50	1	1
point1673	1673	227,650.6	258,107.5	61.22	4.26	0.50	1	1
point1674	1674	227,651.4	258,111.4	61.15	4.26	0.50	1	1
point1675	1675	227,651.4	258,111.6	61.15	4.26	0.50	1	1
point1676	1676	227,652.2	258,115.3	61.08	4.26	0.50	1	1
point1677	1677	227,653.0	258,119.3	61.00	4.26	0.50	1	1
point1678	1678	227,653.7	258,123.2	60.93	4.26	0.50	1	1

point1679	1679	227,654.5	258,127.1	60.85	4.26	0.50	1	1		
point1680	1680	227,655.3	258,131.0	60.77	4.26	0.50	1	1		
point1681	1681	227,656.1	258,134.9	60.68	4.26	0.50	1	1		
point1682	1682	227,656.1	258,135.0	60.68	4.26	0.50	1	1		
point1683	1683	227,657.0	258,139.1	60.59	4.26	0.50	1	1		
point1684	1684	227,657.9	258,143.2	60.50	4.26	0.50	1	1		
point1685	1685	227,658.9	258,147.3	60.41	4.26	0.50	1	1		
point1686	1686	227,660.0	258,151.3	60.31	4.26	0.50	1	1		
point1687	1687	227,661.1	258,155.4	60.21	4.26	0.50	1	1		
point1688	1688	227,662.3	258,159.5	60.11	4.26	0.50	1	1		
point1689	1689	227,663.5	258,163.5	60.00	4.26	0.50	1	1		
point1690	1690	227,664.8	258,167.5	59.89	4.26	0.50	1	1		
point1691	1691	227,666.2	258,171.5	59.78	4.26	0.50	1	1		
point1692	1692	227,667.7	258,175.4	59.66	4.26	0.50	1	1		
point1693	1693	227,668.2	258,176.9	59.62	4.26	0.50	1	1		
point1694	1694	227,669.2	258,179.4	59.54	4.26	0.50	1	1		
point1695	1695	227,670.7	258,183.3	59.42	4.26	0.50	1	1		
point1696	1696	227,672.4	258,187.2	59.30	4.26	0.50	1	1		
point1697	1697	227,674.1	258,191.0	59.17	4.26	0.50	1	1		
point1698	1698	227,675.8	258,194.8	59.04	4.26	0.50	1	1		
point1699	1699	227,677.7	258,198.6	58.91	4.26	0.50	1	1		
point1700	1700	227,679.5	258,202.4	58.77	4.26	0.50	1	1		
point1701	1701	227,681.5	258,206.1	58.63	4.26	0.50	1	1		
point1702	1702	227,683.5	258,209.9	58.49	4.26	0.50	1	1		
point1703	1703	227,685.5	258,213.5	58.34	4.26	0.50	1	1		
point1704	1704	227,687.1	258,216.2	58.23	4.26	0.50	1	1		
point1705	1705	227,687.6	258,217.1	58.19	4.26	0.50	1	1		
point1706	1706	227,689.6	258,220.6	58.04	4.26	0.50	1	1		
point1707	1707	227,691.7	258,224.0	57.88	4.26	0.50	1	1		
point1708	1708	227,693.7	258,227.5	57.72	4.26	0.50	1	1		
point1709	1709	227,693.7	258,227.6	57.72	4.26	0.50	1	1		
point1710	1710	227,695.7	258,230.9	57.56	4.26	0.50	1	1		
point1711	1711	227,697.7	258,234.4	57.40	4.26	0.50	1	1		
point1712	1712	227,699.8	258,237.8	57.24	4.26	0.50	1	1		
point1713	1713	227,701.8	258,241.3	57.08	4.26	0.50	1	1		
point1714	1714	227,703.8	258,244.7	56.92	4.26	0.50	1	1		
point1715	1715	227,705.8	258,248.2	56.76	4.26	0.50	1	1		
point1716	1716	227,707.8	258,251.7	56.60	4.26	0.50	1	1		
point1717	1717	227,709.8	258,255.1	56.44	4.26	0.50	1	1		
point1718	1718	227,711.2	258,257.4	56.34	4.26	0.50	1	1		
point1719	1719	227,711.9	258,258.5	56.28	4.26	0.50	1	1		
point1720	1720	227,713.9	258,262.0	56.12	4.26	0.50	1	1		
point1721	1721	227,715.9	258,265.4	55.96	4.26	0.50	1	1		
point1722	1722	227,718.0	258,268.9	55.80	4.26	0.50	1	1		
point1723	1723	227,720.0	258,272.3	55.64	4.26	0.50	1	1		
point1724	1724	227,722.0	258,275.8	55.48	4.26	0.50	1	1		
point1725	1725	227,724.0	258,279.2	55.32	4.26	0.50	1	1		
point1726	1726	227,724.6	258,280.3	55.28	4.26					

El Cortijo Barrier West 3	W	3.00	30.48	400.00				0.00	point1729	1729	227,743.8	258,313.0	53.76	3.65	0.50	1	1		
									point1730	1730	227,724.6	258,280.3	55.28	3.65					
El Cortijo Barrier East 1	W	3.00	30.48	400.00				0.00	point1731	1731	227,947.3	258,593.6	41.97	4.26	0.50	1	1		
									point1732	1732	227,945.1	258,590.9	42.03	4.26	0.50	1	1		
									point1733	1733	227,942.5	258,587.6	42.10	4.26	0.50	1	1		
									point1734	1734	227,939.9	258,584.3	42.17	4.26	0.50	1	1		
									point1735	1735	227,939.7	258,584.1	42.18	4.26	0.50	1	1		
									point1736	1736	227,939.0	258,583.2	42.20	4.26	0.50	1	1		
									point1737	1737	227,937.4	258,581.0	42.24	4.26	0.50	1	1		
									point1738	1738	227,934.9	258,577.7	42.32	4.26	0.50	1	1		
									point1739	1739	227,934.1	258,576.6	42.34	4.26	0.50	1	1		
									point1740	1740	227,933.4	258,575.7	42.36	4.26	0.50	1	1		
									point1741	1741	227,932.6	258,574.5	42.38	4.26	0.50	1	1		
									point1742	1742	227,932.5	258,574.3	42.39	4.26	0.50	1	1		
									point1743	1743	227,930.2	258,571.0	42.46	4.26	0.50	1	1		
									point1744	1744	227,927.9	258,567.7	42.54	4.26	0.50	1	1		
									point1745	1745	227,925.7	258,564.4	42.62	4.26	0.50	1	1		
									point1746	1746	227,923.6	258,561.0	42.70	4.26	0.50	1	1		
									point1747	1747	227,921.5	258,557.6	42.78	4.26	0.50	1	1		
									point1749	1749	227,921.0	258,556.8	42.80	4.26	0.50	1	1		
									point1750	1750	227,919.4	258,554.2	42.86	4.26	0.50	1	1		
									point1753	1753	227,917.4	258,550.7	42.95	4.26	0.50	1	1		
									point1754	1754	227,915.4	258,547.2	43.03	4.26	0.50	1	1		
									point1756	1756	227,915.1	258,546.7	43.05	4.26	0.50	1	1		
									point1757	1757	227,913.4	258,543.8	43.13	4.26	0.50	1	1		
									point1758	1758	227,912.9	258,542.9	43.15	4.26	0.50	1	1		
									point1759	1759	227,912.8	258,542.7	43.15	4.26	0.50	1	1		
									point1760	1760	227,911.4	258,540.4	43.22	4.26	0.50	1	1		
									point1761	1761	227,909.3	258,536.9	43.32	4.26	0.50	1	1		
									point1762	1762	227,907.3	258,533.5	43.41	4.26	0.50	1	1		
									point1763	1763	227,905.3	258,530.0	43.52	4.26	0.50	1	1		
									point1764	1764	227,903.3	258,526.5	43.62	4.26	0.50	1	1		
									point1765	1765	227,901.2	258,523.1	43.73	4.26	0.50	1	1		
									point1766	1766	227,899.2	258,519.6	43.84	4.26	0.50	1	1		
									point1767	1767	227,897.2	258,516.2	43.95	4.26	0.50	1	1		
									point1768	1768	227,895.2	258,512.7	44.07	4.26	0.50	1	1		
									point1769	1769	227,893.2	258,509.3	44.19	4.26	0.50	1	1		
									point1770	1770	227,891.2	258,505.9	44.31	4.26	0.50	1	1		
									point1771	1771	227,889.1	258,502.4	44.43	4.26	0.50	1	1		
									point1772	1772	227,887.1	258,498.9	44.56	4.26	0.50	1	1		
									point1773	1773	227,885.1	258,495.5	44.69	4.26	0.50	1	1		
									point1774	1774	227,883.0	258,492.0	44.82	4.26	0.50	1	1		
									point1775	1775	227,881.0	258,488.6	44.96	4.26	0.50	1	1		
									point1776	1776	227,879.0	258,485.1	45.10	4.26	0.50	1	1		
									point1777	1777	227,877.0	258,481.7	45.24	4.26	0.50	1	1		
									point1778	1778	227,875.5	258,479.1	45.34	4.26	0.50	1	1		
									point1779	1779	227,875.5	258,479.1	45.35	4.26	0.50	1	1		
									point1780	1780	227,874.9	258,478.2	45.38	4.26	0.50	1	1		

									point1781	1781	227,873.1	258,475.3	45.51	4.26	0.50	1	1		
									point1782	1782	227,873.0	258,475.2	45.52	4.26	0.50	1	1		
									point1783	1783	227,872.8	258,474.9	45.53	4.26	0.50	1	1		
									point1784	1784	227,870.7	258,471.5	45.68	4.26	0.50	1	1		
									point1785	1785	227,868.5	258,468.1	45.84	4.26	0.50	1	1		
									point1786	1786	227,866.4	258,464.7	46.00	4.26	0.50	1	1		
									point1787	1787	227,864.2	258,461.3	46.16	4.26	0.50	1	1		
									point1788	1788	227,863.8	258,460.6	46.19	4.26	0.50	1	1		
									point1789	1789	227,862.1	258,458.0	46.32	4.26	0.50	1	1		
									point1790	1790	227,860.0	258,454.6	46.48	4.26	0.50	1	1		
									point1791	1791	227,857.8	258,451.2	46.65	4.26	0.50	1	1		
									point1792	1792	227,855.7	258,447.8	46.81	4.26	0.50	1	1		
									point1793	1793	227,853.6	258,444.4	46.97	4.26	0.50	1	1		
									point1794	1794	227,851.4	258,441.0	47.13	4.26	0.50	1	1		
									point1795	1795	227,849.3	258,437.6	47.30	4.26	0.50	1	1		
									point1796	1796	227,847.1	258,434.3	47.46	4.26	0.50	1	1		
									point1797	1797	227,845.0	258,430.9	47.62	4.26	0.50	1	1		
									point1798	1798	227,842.9	258,427.5	47.78	4.26	0.50	1	1		
									point1799	1799	227,840.8	258,424.1	47.95	4.26	0.50	1	1		
									point1800	1800	227,838.6	258,420.7	48.11	4.26	0.50	1	1		
									point1801	1801	227,836.5	258,417.3	48.27	4.26	0.50	1	1		
									point1802	1802	227,834.3	258,414.0	48.44	4.26	0.50	1	1		
									point1803	1803	227,832.2	258,410.6	48.60	4.26	0.50	1	1		
									point1804	1804	227,830.1	258,407.2	48.76	4.26	0.50	1	1		
									point1805	1805	227,827.9	258,403.8	48.92	4.26	0.50	1	1		
									point1806	1806	227,827.4	258,403.0	48.96	4.26	0.50	1	1		
									point1807	1807	227,827.3	258,402.9	48.96	4.26	0.50	1	1		
									point1808	1808	227,825.9	258,400.4	49.08	4.26	0.50	1	1		
									point1809	1809	227,825.1	258,399.2	49.14	4.26	0.50	1	1		
									point1810	1810	227,825.1	258,399.1	49.14	4.26	0.50	1	1		
									point1811	1811	227,823.8	258,396.9	49.24	4.26	0.50	1	1		
									point1812	1812	227,821.8	258,393.5	49.40	4.26	0.50	1	1		
									point1813	1813	227,819.8	258,390.0	49.56	4.26	0.50	1	1		
									point1814	1792	227,817.8	258,386.6	49.72	4.26	0.50	1	1		
									point1815	1815	227,815.7	258,383.1	49.88	4.26	0.50	1	1		
									point1816	1816	227,813.7	258,379.7	50.04	4.26	0.50	1	1		
									point1817	1817	227,811.7	258,376.2	50.20	4.26	0.50	1	1		
									point1818	1818	227,809.7	258,372.8	50.36	4.26	0.50	1	1		
									point1819	1819	227,807.6	258,369.3	50.52	4.26	0.50	1	1		
									point1820	1820	227,805.6	258,365.9	50.68	4.26	0.50	1	1		
									point1821	1821	227,803.6	258,362.4	50.84	4.26	0.50	1	1		
									point1822	1822	227,801.6	258,359.0	51.00	4.26	0.50	1	1		
									point1823	1823	227,799.6	258,355.5	51.16	4.26	0.50	1	1		
									point1824	1824	227,797.5	258,352.1	51.32	4.26	0.50	1	1		
									point1825	1825	227,795.5	258,348.6	51.48	4.26	0.50	1	1		
									point1826	1826	227,793.5	258,345.2	51.64	4.26	0.50	1	1		
									point1827	1827	227,791.5	258,341.7	51.80	4.26	0.50	1	1		
									point1828	1828	227,789.4	258,338.3	51.96	4.26	0.50	1	1		

									point1829	1829	227,787.4	258,334.8	52.12	4.26	0.50	1	1		
									point1830	1830	227,785.4	258,331.4	52.28	4.26	0.50	1	1		
									point1831	1831	227,783.4	258,327.9	52.44	4.26	0.50	1	1		
									point1832	1832	227,781.4	258,324.5	52.60	4.26	0.50	1	1		
									point1833	1833	227,779.3	258,321.0	52.76	4.26	0.50	1	1		
									point1834	1834	227,777.3	258,317.6	52.92	4.26	0.50	1	1		
									point1835	1835	227,775.3	258,314.1	53.08	4.26	0.50	1	1		
									point1836	1836	227,773.3	258,310.7	53.24	4.26	0.50	1	1		
									point1837	1837	227,771.2	258,307.2	53.40	4.26	0.50	1	1		
									point1838	1838	227,769.2	258,303.8	53.56	4.26	0.50	1	1		
									point1839	1839	227,767.2	258,300.3	53.72	4.26	0.50	1	1		
									point1840	1840	227,766.7	258,299.5	53.76	4.26					
El Cortijo Barrier East 3	W	3.00	30.48	400.00				0.00	point1841	1841	227,747.6	258,266.8	55.28	4.26	0.50	1	1		
									point1842	1842	227,747.0	258,265.8	55.32	4.26	0.50	1	1		
									point1843	1843	227,744.9	258,262.3	55.48	4.26	0.50	1	1		
									point1844	1844	227,742.9	258,258.9	55.64	4.26	0.50	1	1		
									point1845	1845	227,740.9	258,255.4	55.80	4.26	0.50	1	1		
									point1846	1846	227,738.9	258,252.0	55.96	4.26	0.50	1	1		
									point1847	1847	227,736.9	258,248.5	56.12	4.26	0.50	1	1		
									point1848	1848	227,734.8	258,245.1	56.28	4.26	0.50	1	1		
									point1849	1849	227,734.2	258,243.9	56.34	4.26	0.50	1	1		
									point1850	1850	227,732.8	258,241.6	56.44	4.26	0.50	1	1		
									point1851	1851	227,730.8	258,238.2	56.60	4.26	0.50	1	1		
									point1852	1852	227,728.8	258,234.7	56.76	4.26	0.50	1	1		
									point1853	1853	227,726.7	258,231.3	56.92	4.26	0.50	1	1		
									point1854	1854	227,724.7	258,227.8	57.08	4.26	0.50	1	1		
									point1855	1855	227,722.7	258,224.4	57.24	4.26	0.50	1	1		
									point1856	1856	227,720.7	258,220.9	57.40	4.26	0.50	1	1		
									point1857	1857	227,718.6	258,217.5	57.56	4.26	0.50	1	1		
									point1858	1858	227,716.7	258,214.1	57.72	4.26	0.50	1	1		
									point1859	1859	227,716.6	258,214.0	57.72	4.26	0.50	1	1		
									point1860	1860	227,714.6	258,210.6	57.88	4.26	0.50	1	1		
									point1861	1861	227,712.6	258,207.1	58.04	4.26	0.50	1	1		
									point1862	1862	227,710.6	258,203.7	58.19	4.26	0.50	1	1		
									point1863	1863	227,710.0	258,202.8	58.23	4.26	0.50	1	1		
									point1864	1864	227,708.6	258,200.4	58.34	4.26	0.50	1	1		
									point1865	1865	227,706.8	258,197.0	58.49	4.26	0.50	1	1		
									point1866	1866	227,705.0	258,193.7	58.63	4.26	0.50	1	1		
									point1867	1867	227,703.2	258,190.4	58.77	4.26	0.50	1	1		
									point1868	1868	227,701.5	258,187.0	58.91	4.26	0.50	1	1		
									point1869	1869	227,699.9	258,183.5	59.04	4.26	0.50	1	1		
									point1870	1870	227,698.3	258,180.1	59.17	4.26	0.50	1	1		
									point1871	1871	227,696.8	258,176.7	59.30	4.26	0.50	1	1		
									point1872	1872	227,695.3	258,173.2	59.42	4.26	0.50	1	1		
									point1873	1873	227,693.9	258,169.6	59.54	4.26	0.50	1	1		
									point1874	1874	227,693.1	258,167.4	59.62	4.26	0.50	1	1		
									point1875	1875	227,692.6	258,166.1	59.66	4.26	0.50	1	1		
									point1876	1876	227,691.3	258,162.5	59.78	4.26	0.50	1	1		

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									point1925	1925	227,652.3	257,980.7	63.34	4.26	0.50	1	1		
									point1926	1926	227,651.5	257,976.8	63.41	4.26	0.50	1	1		
									point1927	1927	227,650.7	257,972.9	63.47	4.26	0.50	1	1		
									point1928	1928	227,649.9	257,969.0	63.54	4.26	0.50	1	1		
									point1929	1929	227,649.1	257,965.0	63.61	4.26	0.50	1	1		
									point1930	1930	227,648.3	257,961.1	63.68	4.26	0.50	1	1		
									point1931	1931	227,647.6	257,957.2	63.75	4.26	0.50	1	1		
									point1932	1932	227,646.8	257,953.2	63.82	4.26	0.50	1	1		
									point1933	1933	227,646.1	257,949.9	63.87	4.26	0.50	1	1		
									point1934	1934	227,646.0	257,949.3	63.88	4.26	0.50	1	1		
									point1935	1935	227,645.1	257,945.2	63.95	4.26	0.50	1	1		
									point1936	1936	227,644.2	257,941.1	64.02	4.26	0.50	1	1		
									point1937	1937	227,643.2	257,937.0	64.09	4.26	0.50	1	1		
									point1938	1938	227,642.1	257,932.9	64.16	4.26	0.50	1	1		
									point1939	1939	227,641.0	257,928.8	64.23	4.26	0.50	1	1		
									point1940	1940	227,639.8	257,924.8	64.30	4.26	0.50	1	1		
									point1941	1941	227,638.5	257,920.8	64.36	4.26	0.50	1	1		
									point1942	1942	227,637.2	257,916.8	64.43	4.26	0.50	1	1		
									point1943	1943	227,636.0	257,913.4	64.49	4.26					
El Cortijo Barrier East 2	W	3.00	30.48	400.00				0.00	point1944	1944	227,747.6	258,266.8	55.28	4.26	0.50	1	1		
									point1945	1945	227,766.7	258,299.5	53.76	4.26					

CMA
Pedro Janer

4 October 2021
TNM 2.5

INPUT: BARRIER NOISE REDUCTION COEFFICIENTS
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046

Barrier	Segments				Reflected Roadways	Segments	
Name	Name	No.	NRC		Name	Name	No.
			LSide	RSide			
Barrier - Amor St.	point1	1	0.8	0.8	---	---	0
	point2	2	0.8	0.8	---	---	0
	point3	3	0.8	0.8	---	---	0
	point4	4	0.8	0.8	---	---	0
	point5	5	0.8	0.8	---	---	0
	point6	6	0.8	0.8	---	---	0
	point7	7	0.8	0.8	---	---	0
	point8	8	0.8	0.8	---	---	0
	point9	9	0.8	0.8	---	---	0
	point10	10	0.8	0.8	---	---	0
	point11	11	0.8	0.8	---	---	0
	point12	12	0.8	0.8	---	---	0
	point13	13	0.8	0.8	---	---	0
	point14	14	0.8	0.8	---	---	0
	point15	15	0.8	0.8	---	---	0
	point16	16	0.8	0.8	---	---	0
	point17	17	0.8	0.8	---	---	0
	point18	18	0.8	0.8	---	---	0
	point19	19	0.8	0.8	---	---	0
	point20	20	0.8	0.8	---	---	0
	point21	21	0.8	0.8	---	---	0
	point22	22	0.8	0.8	---	---	0
	point23	23	0.8	0.8	---	---	0

	point24	24	0.8	0.8	---	---	0
	point25	25	0.8	0.8	---	---	0
	point26	26	0.8	0.8	---	---	0
	point27	27	0.8	0.8	---	---	0
	point28	28	0.8	0.8	---	---	0
	point29	29	0.8	0.8	---	---	0
	point30	30	0.8	0.8	---	---	0
	point31	31	0.8	0.8	---	---	0
	point32	32	0.8	0.8	---	---	0
	point33	33	0.8	0.8	---	---	0
	point34	34	0.8	0.8	---	---	0
	point35	35	0.8	0.8	---	---	0
	point36	36	0.8	0.8	---	---	0
	point37	37	0.8	0.8	---	---	0
	point38	38	0.8	0.8	---	---	0
	point39	39	0.8	0.8	---	---	0
	point40	40	0.8	0.8	---	---	0
	point41	41	0.8	0.8	---	---	0
	point42	42	0.8	0.8	---	---	0
	point43	43	0.8	0.8	---	---	0
	point44	44	0.8	0.8	---	---	0
	point45	45	0.8	0.8	---	---	0
	point46	46	0.8	0.8	---	---	0
	point47	47	0.8	0.8	---	---	0
	point48	48	0.8	0.8	---	---	0
	point49	49	0.8	0.8	---	---	0
	point50	50	0.8	0.8	---	---	0
	point51	51	0.8	0.8	---	---	0
	point52	52	0.8	0.8	---	---	0
	point53	53	0.8	0.8	---	---	0
	point54	54	0.8	0.8	---	---	0
	point55	55	0.8	0.8	---	---	0
	point56	56	0.8	0.8	---	---	0
	point57	57	0.8	0.8	---	---	0

	point58	58	0.8	0.8	---	---	0
	point59	59	0.8	0.8	---	---	0
	point60	60	0.8	0.8	---	---	0
	point61	61	0.8	0.8	---	---	0
	point62	62	0.8	0.8	---	---	0
	point63	63	0.8	0.8	---	---	0
	point64	64	0.8	0.8	---	---	0
	point65	65	0.8	0.8	---	---	0
	point66	66	0.8	0.8	---	---	0
	point67	67	0.8	0.8	---	---	0
	point68	68	0.8	0.8	---	---	0
	point69	69	0.8	0.8	---	---	0
	point70	70	0.8	0.8	---	---	0
	point71	71	0.8	0.8	---	---	0
	point72	72	0.8	0.8	---	---	0
	point73	73	0.8	0.8	---	---	0
	point74	74	0.8	0.8	---	---	0
	point75	75	0.8	0.8	---	---	0
	point76	76	0.8	0.8	---	---	0
	point77	77	0.8	0.8	---	---	0
	point78	78	0.8	0.8	---	---	0
	point79	79	0.8	0.8	---	---	0
	point80	80	0.8	0.8	---	---	0
	point81	81	0.8	0.8	---	---	0
	point82	82	0.8	0.8	---	---	0
	point83	83	0.8	0.8	---	---	0
	point84	84	0.8	0.8	---	---	0
	point85	85	0.8	0.8	---	---	0
	point86	86	0.8	0.8	---	---	0
	point87	87	0.8	0.8	---	---	0
	point88	88	0.8	0.8	---	---	0
	point89	89	0.8	0.8	---	---	0
	point90	90	0.8	0.8	---	---	0
	point91	91	0.8	0.8	---	---	0

	point92	92	0.8	0.8	---	---	0
	point93	93	0.8	0.8	---	---	0
	point94	94	0.8	0.8	---	---	0
	point95	95	0.8	0.8	---	---	0
	point96	96	0.8	0.8	---	---	0
	point97	97	0.8	0.8	---	---	0
	point98	98	0.8	0.8	---	---	0
	point99	99	0.8	0.8	---	---	0
	point100	100	0.8	0.8	---	---	0
	point101	101	0.8	0.8	---	---	0
	point102	102	0.8	0.8	---	---	0
	point103	103	0.8	0.8	---	---	0
	point104	104	0.8	0.8	---	---	0
	point105	105	0.8	0.8	---	---	0
	point106	106	0.8	0.8	---	---	0
	point107	107	0.8	0.8	---	---	0
	point108	108	0.8	0.8	---	---	0
	point109	109	0.8	0.8	---	---	0
	point110	110	0.8	0.8	---	---	0
	point111	111	0.8	0.8	---	---	0
	point112	112	0.8	0.8	---	---	0
	point113	113	0.8	0.8	---	---	0
	point114	114	0.8	0.8	---	---	0
	point115	115	0.8	0.8	---	---	0
	point116	116	0.8	0.8	---	---	0
	point117	117	0.8	0.8	---	---	0
	point118	118	0.8	0.8	---	---	0
	point119	119	0.8	0.8	---	---	0
	point120	120	0.8	0.8	---	---	0
	point121	121	0.8	0.8	---	---	0
	point122	122	0.8	0.8	---	---	0
	point123	123	0.8	0.8	---	---	0
	point124	124	0.8	0.8	---	---	0
	point125	125	0.8	0.8	---	---	0

	point126	126	0.8	0.8	---	---	0
	point127	127	0.8	0.8	---	---	0
	point128	128	0.8	0.8	---	---	0
	point129	129	0.8	0.8	---	---	0
	point130	130	0.8	0.8	---	---	0
	point131	131	0.8	0.8	---	---	0
	point132	132	0.8	0.8	---	---	0
	point133	133	0.8	0.8	---	---	0
	point134	134	0.8	0.8	---	---	0
	point135	135	0.8	0.8	---	---	0
	point136	136	0.8	0.8	---	---	0
	point137	137	0.8	0.8	---	---	0
	point138	138	0.8	0.8	---	---	0
	point139	139	0.8	0.8	---	---	0
	point140	140	0.8	0.8	---	---	0
	point141	141	0.8	0.8	---	---	0
	point142	142	0.8	0.8	---	---	0
	point143	143	0.8	0.8	---	---	0
	point144	144	0.8	0.8	---	---	0
	point145	145	0.8	0.8	---	---	0
	point146	146	0.8	0.8	---	---	0
	point147	147	0.8	0.8	---	---	0
	point148	148	0.8	0.8	---	---	0
	point149	149	0.8	0.8	---	---	0
	point150	150	0.8	0.8	---	---	0
	point151	151	0.8	0.8	---	---	0
	point152	152	0.8	0.8	---	---	0
	point153	153	0.8	0.8	---	---	0
	point154	154	0.8	0.8	---	---	0
	point155	155	0.8	0.8	---	---	0
	point156	156	0.8	0.8	---	---	0
	point157	157	0.8	0.8	---	---	0
	point158	158	0.8	0.8	---	---	0
	point159	159	0.8	0.8	---	---	0

	point160	160	0.8	0.8	---	---	0
	point161	161	0.8	0.8	---	---	0
	point162	162	0.8	0.8	---	---	0
	point163	163	0.8	0.8	---	---	0
	point164	164	0.8	0.8	---	---	0
	point165	165	0.8	0.8	---	---	0
	point166	166	0.8	0.8	---	---	0
	point167	167	0.8	0.8	---	---	0
	point168	168	0.8	0.8	---	---	0
	point169	169	0.8	0.8	---	---	0
	point170	170	0.8	0.8	---	---	0
	point171	171	0.8	0.8	---	---	0
	point172	172	0.8	0.8	---	---	0
	point173	173	0.8	0.8	---	---	0
	point174	174	0.8	0.8	---	---	0
	point175	175	0.8	0.8	---	---	0
	point176	176	0.8	0.8	---	---	0
	point177	177	0.8	0.8	---	---	0
	point178	178	0.8	0.8	---	---	0
	point179	179	0.8	0.8	---	---	0
	point180	180	0.8	0.8	---	---	0
	point181	181	0.8	0.8	---	---	0
	point182	182	0.8	0.8	---	---	0
	point183	183	0.8	0.8	---	---	0
	point184	184	0.8	0.8	---	---	0
	point185	185	0.8	0.8	---	---	0
	point186	186	0.8	0.8	---	---	0
	point187	187	0.8	0.8	---	---	0
	point188	188	0.8	0.8	---	---	0
	point189	189	0.8	0.8	---	---	0
	point190	190	0.8	0.8	---	---	0
	point191	191	0.8	0.8	---	---	0
	point192	192	0.8	0.8	---	---	0
	point193	193	0.8	0.8	---	---	0

	point194	194	0.8	0.8	---	---	0
	point195	195	0.8	0.8	---	---	0
	point196	196	0.8	0.8	---	---	0
	point197	197	0.8	0.8	---	---	0
	point198	198	0.8	0.8	---	---	0
	point199	199	0.8	0.8	---	---	0
	point200	200	0.8	0.8	---	---	0
	point201	201	0.8	0.8	---	---	0
	point202	202	0.8	0.8	---	---	0
	point203	203	0.8	0.8	---	---	0
	point204	204	0.8	0.8	---	---	0
	point205	205	0.8	0.8	---	---	0
	point206	206	0.8	0.8	---	---	0
	point207	207	0.8	0.8	---	---	0
	point208	208	0.8	0.8	---	---	0
	point209	209	0.8	0.8	---	---	0
	point210	210	0.8	0.8	---	---	0
	point211	211	0.8	0.8	---	---	0
	point212	212	0.8	0.8	---	---	0
	point213	213	0.8	0.8	---	---	0
	point214	214	0.8	0.8	---	---	0
	point215	215	0.8	0.8	---	---	0
	point216	216	0.8	0.8	---	---	0
Barrier - Villa Rica	point218	218	0.8	0.8	---	---	0
	point219	219	0.8	0.8	---	---	0
	point220	220	0.8	0.8	---	---	0
	point221	221	0.8	0.8	---	---	0
	point222	222	0.8	0.8	---	---	0
	point223	223	0.8	0.8	---	---	0
	point224	224	0.8	0.8	---	---	0
	point225	225	0.8	0.8	---	---	0
	point226	226	0.8	0.8	---	---	0
	point227	227	0.8	0.8	---	---	0
	point228	228	0.8	0.8	---	---	0

	point229	229	0.8	0.8	---	---	0
	point230	230	0.8	0.8	---	---	0
	point231	231	0.8	0.8	---	---	0
	point232	232	0.8	0.8	---	---	0
	point233	233	0.8	0.8	---	---	0
	point234	234	0.8	0.8	---	---	0
	point235	235	0.8	0.8	---	---	0
	point236	236	0.8	0.8	---	---	0
	point237	237	0.8	0.8	---	---	0
	point238	238	0.8	0.8	---	---	0
	point239	239	0.8	0.8	---	---	0
	point240	240	0.8	0.8	---	---	0
	point241	241	0.8	0.8	---	---	0
	point242	242	0.8	0.8	---	---	0
	point243	243	0.8	0.8	---	---	0
	point244	244	0.8	0.8	---	---	0
	point245	245	0.8	0.8	---	---	0
	point246	246	0.8	0.8	---	---	0
	point247	247	0.8	0.8	---	---	0
	point248	248	0.8	0.8	---	---	0
	point249	249	0.8	0.8	---	---	0
	point250	250	0.8	0.8	---	---	0
	point251	251	0.8	0.8	---	---	0
	point252	252	0.8	0.8	---	---	0
	point253	253	0.8	0.8	---	---	0
	point254	254	0.8	0.8	---	---	0
	point255	255	0.8	0.8	---	---	0
	point256	256	0.8	0.8	---	---	0
	point257	257	0.8	0.8	---	---	0
	point258	258	0.8	0.8	---	---	0
	point259	259	0.8	0.8	---	---	0
	point260	260	0.8	0.8	---	---	0
	point261	261	0.8	0.8	---	---	0
	point262	262	0.8	0.8	---	---	0

	point263	263	0.8	0.8	---	---	0
	point264	264	0.8	0.8	---	---	0
	point265	265	0.8	0.8	---	---	0
	point266	266	0.8	0.8	---	---	0
	point267	267	0.8	0.8	---	---	0
	point268	268	0.8	0.8	---	---	0
	point269	269	0.8	0.8	---	---	0
	point270	270	0.8	0.8	---	---	0
	point271	271	0.8	0.8	---	---	0
	point272	272	0.8	0.8	---	---	0
	point273	273	0.8	0.8	---	---	0
	point274	274	0.8	0.8	---	---	0
	point275	275	0.8	0.8	---	---	0
	point276	276	0.8	0.8	---	---	0
	point277	277	0.8	0.8	---	---	0
	point278	278	0.8	0.8	---	---	0
	point279	279	0.8	0.8	---	---	0
	point280	280	0.8	0.8	---	---	0
	point281	281	0.8	0.8	---	---	0
	point282	282	0.8	0.8	---	---	0
	point283	283	0.8	0.8	---	---	0
	point284	284	0.8	0.8	---	---	0
	point285	285	0.8	0.8	---	---	0
	point286	286	0.8	0.8	---	---	0
	point287	287	0.8	0.8	---	---	0
	point288	288	0.8	0.8	---	---	0
	point289	289	0.8	0.8	---	---	0
	point290	290	0.8	0.8	---	---	0
	point291	291	0.8	0.8	---	---	0
	point292	292	0.8	0.8	---	---	0
	point293	293	0.8	0.8	---	---	0
	point294	294	0.8	0.8	---	---	0
	point295	295	0.8	0.8	---	---	0
	point296	296	0.8	0.8	---	---	0

	point297	297	0.8	0.8	---	---	0
	point298	298	0.8	0.8	---	---	0
	point299	299	0.8	0.8	---	---	0
	point300	300	0.8	0.8	---	---	0
	point301	301	0.8	0.8	---	---	0
	point302	302	0.8	0.8	---	---	0
	point303	303	0.8	0.8	---	---	0
	point304	304	0.8	0.8	---	---	0
	point305	305	0.8	0.8	---	---	0
	point306	306	0.8	0.8	---	---	0
	point307	307	0.8	0.8	---	---	0
	point308	308	0.8	0.8	---	---	0
	point309	309	0.8	0.8	---	---	0
	point310	310	0.8	0.8	---	---	0
	point311	311	0.8	0.8	---	---	0
	point312	312	0.8	0.8	---	---	0
	point313	313	0.8	0.8	---	---	0
	point314	314	0.8	0.8	---	---	0
	point315	315	0.8	0.8	---	---	0
	point316	316	0.8	0.8	---	---	0
	point317	317	0.8	0.8	---	---	0
	point318	318	0.8	0.8	---	---	0
	point319	319	0.8	0.8	---	---	0
	point320	320	0.8	0.8	---	---	0
	point321	321	0.8	0.8	---	---	0
	point322	322	0.8	0.8	---	---	0
	point323	323	0.8	0.8	---	---	0
	point324	324	0.8	0.8	---	---	0
	point325	325	0.8	0.8	---	---	0
	point326	326	0.8	0.8	---	---	0
	point327	327	0.8	0.8	---	---	0
	point328	328	0.8	0.8	---	---	0
	point329	329	0.8	0.8	---	---	0
	point330	330	0.8	0.8	---	---	0

Barrier - Cerro Gordo	point332	332	0.8	0.8	---	---	0
	point333	333	0.8	0.8	---	---	0
	point334	334	0.8	0.8	---	---	0
	point335	335	0.8	0.8	---	---	0
	point336	336	0.8	0.8	---	---	0
	point337	337	0.8	0.8	---	---	0
	point338	338	0.8	0.8	---	---	0
	point339	339	0.8	0.8	---	---	0
	point340	340	0.8	0.8	---	---	0
	point341	341	0.8	0.8	---	---	0
	point342	342	0.8	0.8	---	---	0
	point343	343	0.8	0.8	---	---	0
	point344	344	0.8	0.8	---	---	0
	point345	345	0.8	0.8	---	---	0
	point346	346	0.8	0.8	---	---	0
	point347	347	0.8	0.8	---	---	0
	point348	348	0.8	0.8	---	---	0
	point349	349	0.8	0.8	---	---	0
	point350	350	0.8	0.8	---	---	0
	point351	351	0.8	0.8	---	---	0
	point352	352	0.8	0.8	---	---	0
	point353	353	0.8	0.8	---	---	0
	point354	354	0.8	0.8	---	---	0
	point355	355	0.8	0.8	---	---	0
	point356	356	0.8	0.8	---	---	0
	point357	357	0.8	0.8	---	---	0
	point358	358	0.8	0.8	---	---	0
	point359	359	0.8	0.8	---	---	0
	point360	360	0.8	0.8	---	---	0
	point361	361	0.8	0.8	---	---	0
	point362	362	0.8	0.8	---	---	0
	point363	363	0.8	0.8	---	---	0
	point364	364	0.8	0.8	---	---	0
	point365	365	0.8	0.8	---	---	0

	point366	366	0.8	0.8	---	---	0
	point367	367	0.8	0.8	---	---	0
	point368	368	0.8	0.8	---	---	0
	point369	369	0.8	0.8	---	---	0
	point370	370	0.8	0.8	---	---	0
	point371	371	0.8	0.8	---	---	0
	point372	372	0.8	0.8	---	---	0
	point373	373	0.8	0.8	---	---	0
	point374	374	0.8	0.8	---	---	0
	point375	375	0.8	0.8	---	---	0
	point376	376	0.8	0.8	---	---	0
	point377	377	0.8	0.8	---	---	0
	point378	378	0.8	0.8	---	---	0
	point379	379	0.8	0.8	---	---	0
	point380	380	0.8	0.8	---	---	0
	point381	381	0.8	0.8	---	---	0
	point382	382	0.8	0.8	---	---	0
	point383	383	0.8	0.8	---	---	0
	point384	384	0.8	0.8	---	---	0
	point385	385	0.8	0.8	---	---	0
	point386	386	0.8	0.8	---	---	0
	point387	387	0.8	0.8	---	---	0
	point388	388	0.8	0.8	---	---	0
	point389	389	0.8	0.8	---	---	0
	point390	390	0.8	0.8	---	---	0
	point391	391	0.8	0.8	---	---	0
	point392	392	0.8	0.8	---	---	0
	point393	393	0.8	0.8	---	---	0
	point394	394	0.8	0.8	---	---	0
	point395	395	0.8	0.8	---	---	0
	point396	396	0.8	0.8	---	---	0
	point397	397	0.8	0.8	---	---	0
	point398	398	0.8	0.8	---	---	0
	point399	399	0.8	0.8	---	---	0

	point400	400	0.8	0.8	---	---	0
	point401	401	0.8	0.8	---	---	0
	point402	402	0.8	0.8	---	---	0
	point403	403	0.8	0.8	---	---	0
	point404	404	0.8	0.8	---	---	0
	point405	405	0.8	0.8	---	---	0
	point406	406	0.8	0.8	---	---	0
	point407	407	0.8	0.8	---	---	0
	point408	408	0.8	0.8	---	---	0
	point409	409	0.8	0.8	---	---	0
	point410	410	0.8	0.8	---	---	0
	point411	411	0.8	0.8	---	---	0
	point412	412	0.8	0.8	---	---	0
	point413	413	0.8	0.8	---	---	0
	point414	414	0.8	0.8	---	---	0
	point415	415	0.8	0.8	---	---	0
	point416	416	0.8	0.8	---	---	0
	point417	417	0.8	0.8	---	---	0
	point418	418	0.8	0.8	---	---	0
	point419	419	0.8	0.8	---	---	0
	point420	420	0.8	0.8	---	---	0
	point421	421	0.8	0.8	---	---	0
	point422	422	0.8	0.8	---	---	0
	point423	423	0.8	0.8	---	---	0
	point424	424	0.8	0.8	---	---	0
	point425	425	0.8	0.8	---	---	0
	point426	426	0.8	0.8	---	---	0
	point427	427	0.8	0.8	---	---	0
	point428	428	0.8	0.8	---	---	0
	point429	429	0.8	0.8	---	---	0
	point430	430	0.8	0.8	---	---	0
	point431	431	0.8	0.8	---	---	0
	point432	432	0.8	0.8	---	---	0
	point433	433	0.8	0.8	---	---	0

	point434	434	0.8	0.8	---	---	0
	point435	435	0.8	0.8	---	---	0
	point436	436	0.8	0.8	---	---	0
	point437	437	0.8	0.8	---	---	0
	point438	438	0.8	0.8	---	---	0
	point439	439	0.8	0.8	---	---	0
	point440	440	0.8	0.8	---	---	0
	point441	441	0.8	0.8	---	---	0
	point442	442	0.8	0.8	---	---	0
	point443	443	0.8	0.8	---	---	0
	point444	444	0.8	0.8	---	---	0
	point445	445	0.8	0.8	---	---	0
	point446	446	0.8	0.8	---	---	0
	point447	447	0.8	0.8	---	---	0
	point448	448	0.8	0.8	---	---	0
	point449	449	0.8	0.8	---	---	0
	point450	450	0.8	0.8	---	---	0
	point451	451	0.8	0.8	---	---	0
	point452	452	0.8	0.8	---	---	0
	point453	453	0.8	0.8	---	---	0
	point454	454	0.8	0.8	---	---	0
	point455	455	0.8	0.8	---	---	0
	point456	456	0.8	0.8	---	---	0
	point457	457	0.8	0.8	---	---	0
	point458	458	0.8	0.8	---	---	0
	point459	459	0.8	0.8	---	---	0
	point460	460	0.8	0.8	---	---	0
	point461	461	0.8	0.8	---	---	0
	point462	462	0.8	0.8	---	---	0
	point463	463	0.8	0.8	---	---	0
	point464	464	0.8	0.8	---	---	0
	point465	465	0.8	0.8	---	---	0
	point466	466	0.8	0.8	---	---	0
	point467	467	0.8	0.8	---	---	0

	point468	468	0.8	0.8	---	---	0
	point469	469	0.8	0.8	---	---	0
	point470	470	0.8	0.8	---	---	0
	point471	471	0.8	0.8	---	---	0
	point472	472	0.8	0.8	---	---	0
	point473	473	0.8	0.8	---	---	0
	point474	474	0.8	0.8	---	---	0
	point475	475	0.8	0.8	---	---	0
	point476	476	0.8	0.8	---	---	0
	point477	477	0.8	0.8	---	---	0
	point478	478	0.8	0.8	---	---	0
	point479	479	0.8	0.8	---	---	0
	point480	480	0.8	0.8	---	---	0
	point481	481	0.8	0.8	---	---	0
	point482	482	0.8	0.8	---	---	0
	point483	483	0.8	0.8	---	---	0
	point484	484	0.8	0.8	---	---	0
	point485	485	0.8	0.8	---	---	0
	point486	486	0.8	0.8	---	---	0
	point487	487	0.8	0.8	---	---	0
	point488	488	0.8	0.8	---	---	0
	point489	489	0.8	0.8	---	---	0
	point490	490	0.8	0.8	---	---	0
	point491	491	0.8	0.8	---	---	0
	point492	492	0.8	0.8	---	---	0
	point493	493	0.8	0.8	---	---	0
	point494	494	0.8	0.8	---	---	0
	point495	495	0.8	0.8	---	---	0
	point496	496	0.8	0.8	---	---	0
	point497	497	0.8	0.8	---	---	0
	point498	498	0.8	0.8	---	---	0
	point499	499	0.8	0.8	---	---	0
	point500	500	0.8	0.8	---	---	0
	point501	501	0.8	0.8	---	---	0

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	point504	504	0.8	0.8	---	---	0
	point505	505	0.8	0.8	---	---	0
	point506	506	0.8	0.8	---	---	0
	point507	507	0.8	0.8	---	---	0
	point508	508	0.8	0.8	---	---	0
	point509	509	0.8	0.8	---	---	0
	point510	510	0.8	0.8	---	---	0
	point511	511	0.8	0.8	---	---	0
	point512	512	0.8	0.8	---	---	0
	point513	513	0.8	0.8	---	---	0
	point514	514	0.8	0.8	---	---	0
	point515	515	0.8	0.8	---	---	0
	point516	516	0.8	0.8	---	---	0
	point517	517	0.8	0.8	---	---	0
	point518	518	0.8	0.8	---	---	0
	point519	519	0.8	0.8	---	---	0
	point520	520	0.8	0.8	---	---	0
	point521	521	0.8	0.8	---	---	0
	point522	522	0.8	0.8	---	---	0
	point523	523	0.8	0.8	---	---	0
	point524	524	0.8	0.8	---	---	0
	point525	525	0.8	0.8	---	---	0
	point526	526	0.8	0.8	---	---	0
	point527	527	0.8	0.8	---	---	0
	point528	528	0.8	0.8	---	---	0
	point529	529	0.8	0.8	---	---	0
	point530	530	0.8	0.8	---	---	0
	point531	531	0.8	0.8	---	---	0
	point532	532	0.8	0.8	---	---	0
	point533	533	0.8	0.8	---	---	0
	point534	534	0.8	0.8	---	---	0
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	point538	538	0.8	0.8	---	---	0
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	point540	540	0.8	0.8	---	---	0
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	point542	542	0.8	0.8	---	---	0
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	point544	544	0.8	0.8	---	---	0
	point545	545	0.8	0.8	---	---	0
	point546	546	0.8	0.8	---	---	0
	point547	547	0.8	0.8	---	---	0
	point548	548	0.8	0.8	---	---	0
	point549	549	0.8	0.8	---	---	0
	point550	550	0.8	0.8	---	---	0
	point551	551	0.8	0.8	---	---	0
	point552	552	0.8	0.8	---	---	0
	point553	553	0.8	0.8	---	---	0
	point554	554	0.8	0.8	---	---	0
	point555	555	0.8	0.8	---	---	0
	point556	556	0.8	0.8	---	---	0
	point557	557	0.8	0.8	---	---	0
	point558	558	0.8	0.8	---	---	0
	point559	559	0.8	0.8	---	---	0
	point560	560	0.8	0.8	---	---	0
	point561	561	0.8	0.8	---	---	0
	point562	562	0.8	0.8	---	---	0
	point563	563	0.8	0.8	---	---	0
	point564	564	0.8	0.8	---	---	0
	point565	565	0.8	0.8	---	---	0
	point566	566	0.8	0.8	---	---	0
	point567	567	0.8	0.8	---	---	0
	point568	568	0.8	0.8	---	---	0
	point569	569	0.8	0.8	---	---	0

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	point571	571	0.8	0.8	---	---	0
	point572	572	0.8	0.8	---	---	0
	point573	573	0.8	0.8	---	---	0
	point574	574	0.8	0.8	---	---	0
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	point576	576	0.8	0.8	---	---	0
	point577	577	0.8	0.8	---	---	0
	point578	578	0.8	0.8	---	---	0
	point579	579	0.8	0.8	---	---	0
	point580	580	0.8	0.8	---	---	0
	point581	581	0.8	0.8	---	---	0
	point582	582	0.8	0.8	---	---	0
	point583	583	0.8	0.8	---	---	0
	point584	584	0.8	0.8	---	---	0
	point585	585	0.8	0.8	---	---	0
	point586	586	0.8	0.8	---	---	0
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	point588	588	0.8	0.8	---	---	0
	point589	589	0.8	0.8	---	---	0
	point590	590	0.8	0.8	---	---	0
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	point592	592	0.8	0.8	---	---	0
	point593	593	0.8	0.8	---	---	0
	point594	594	0.8	0.8	---	---	0
	point595	595	0.8	0.8	---	---	0
	point596	596	0.8	0.8	---	---	0
	point597	597	0.8	0.8	---	---	0
	point598	598	0.8	0.8	---	---	0
	point599	599	0.8	0.8	---	---	0
	point600	600	0.8	0.8	---	---	0
	point601	601	0.8	0.8	---	---	0
	point602	602	0.8	0.8	---	---	0
	point603	603	0.8	0.8	---	---	0

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	point613	613	0.8	0.8	---	---	0
	point614	614	0.8	0.8	---	---	0
	point615	615	0.8	0.8	---	---	0
	point616	616	0.8	0.8	---	---	0
	point617	617	0.8	0.8	---	---	0
	point618	618	0.8	0.8	---	---	0
	point619	619	0.8	0.8	---	---	0
	point620	620	0.8	0.8	---	---	0
	point621	621	0.8	0.8	---	---	0
	point622	622	0.8	0.8	---	---	0
	point623	623	0.8	0.8	---	---	0
	point624	624	0.8	0.8	---	---	0
	point625	625	0.8	0.8	---	---	0
Barrier - Interamericana	point627	627	0.8	0.8	---	---	0
	point628	628	0.8	0.8	---	---	0
	point629	629	0.8	0.8	---	---	0
	point630	630	0.8	0.8	---	---	0
	point631	631	0.8	0.8	---	---	0
	point632	632	0.8	0.8	---	---	0
	point633	633	0.8	0.8	---	---	0
	point634	634	0.8	0.8	---	---	0
	point635	635	0.8	0.8	---	---	0
	point636	636	0.8	0.8	---	---	0
	point637	637	0.8	0.8	---	---	0
	point638	638	0.8	0.8	---	---	0

	point639	639	0.8	0.8	---	---	0
	point640	640	0.8	0.8	---	---	0
	point641	641	0.8	0.8	---	---	0
	point642	642	0.8	0.8	---	---	0
	point643	643	0.8	0.8	---	---	0
	point644	644	0.8	0.8	---	---	0
	point645	645	0.8	0.8	---	---	0
	point646	646	0.8	0.8	---	---	0
	point647	647	0.8	0.8	---	---	0
	point648	648	0.8	0.8	---	---	0
	point649	649	0.8	0.8	---	---	0
	point650	650	0.8	0.8	---	---	0
	point651	651	0.8	0.8	---	---	0
	point652	652	0.8	0.8	---	---	0
	point653	653	0.8	0.8	---	---	0
	point654	654	0.8	0.8	---	---	0
	point655	655	0.8	0.8	---	---	0
	point656	656	0.8	0.8	---	---	0
	point657	657	0.8	0.8	---	---	0
	point658	658	0.8	0.8	---	---	0
	point659	659	0.8	0.8	---	---	0
	point660	660	0.8	0.8	---	---	0
	point661	661	0.8	0.8	---	---	0
	point662	662	0.8	0.8	---	---	0
	point663	663	0.8	0.8	---	---	0
	point664	664	0.8	0.8	---	---	0
	point665	665	0.8	0.8	---	---	0
	point666	666	0.8	0.8	---	---	0
	point667	667	0.8	0.8	---	---	0
	point668	668	0.8	0.8	---	---	0
	point669	669	0.8	0.8	---	---	0
	point670	670	0.8	0.8	---	---	0
	point671	671	0.8	0.8	---	---	0
	point672	672	0.8	0.8	---	---	0

	point673	673	0.8	0.8	---	---	0
	point674	674	0.8	0.8	---	---	0
	point675	675	0.8	0.8	---	---	0
	point676	676	0.8	0.8	---	---	0
	point677	677	0.8	0.8	---	---	0
	point678	678	0.8	0.8	---	---	0
	point679	679	0.8	0.8	---	---	0
	point680	680	0.8	0.8	---	---	0
	point681	681	0.8	0.8	---	---	0
	point682	682	0.8	0.8	---	---	0
	point683	683	0.8	0.8	---	---	0
	point684	684	0.8	0.8	---	---	0
	point685	685	0.8	0.8	---	---	0
	point686	686	0.8	0.8	---	---	0
	point687	687	0.8	0.8	---	---	0
	point688	688	0.8	0.8	---	---	0
	point689	689	0.8	0.8	---	---	0
	point690	690	0.8	0.8	---	---	0
	point691	691	0.8	0.8	---	---	0
	point692	692	0.8	0.8	---	---	0
	point693	693	0.8	0.8	---	---	0
	point694	694	0.8	0.8	---	---	0
	point695	695	0.8	0.8	---	---	0
	point696	696	0.8	0.8	---	---	0
	point697	697	0.8	0.8	---	---	0
	point698	698	0.8	0.8	---	---	0
	point699	699	0.8	0.8	---	---	0
	point700	700	0.8	0.8	---	---	0
	point701	701	0.8	0.8	---	---	0
	point702	702	0.8	0.8	---	---	0
	point703	703	0.8	0.8	---	---	0
	point704	704	0.8	0.8	---	---	0
	point705	705	0.8	0.8	---	---	0
	point706	706	0.8	0.8	---	---	0

	point707	707	0.8	0.8	---	---	0
	point708	708	0.8	0.8	---	---	0
	point709	709	0.8	0.8	---	---	0
	point710	710	0.8	0.8	---	---	0
	point711	711	0.8	0.8	---	---	0
	point712	712	0.8	0.8	---	---	0
	point713	713	0.8	0.8	---	---	0
	point714	714	0.8	0.8	---	---	0
	point715	715	0.8	0.8	---	---	0
	point716	716	0.8	0.8	---	---	0
	point717	717	0.8	0.8	---	---	0
	point718	718	0.8	0.8	---	---	0
	point719	719	0.8	0.8	---	---	0
	point720	720	0.8	0.8	---	---	0
	point721	721	0.8	0.8	---	---	0
	point722	722	0.8	0.8	---	---	0
	point723	723	0.8	0.8	---	---	0
	point724	724	0.8	0.8	---	---	0
	point725	725	0.8	0.8	---	---	0
	point726	726	0.8	0.8	---	---	0
	point727	727	0.8	0.8	---	---	0
	point728	728	0.8	0.8	---	---	0
	point729	729	0.8	0.8	---	---	0
	point730	730	0.8	0.8	---	---	0
	point731	731	0.8	0.8	---	---	0
	point732	732	0.8	0.8	---	---	0
	point733	733	0.8	0.8	---	---	0
	point734	734	0.8	0.8	---	---	0
	point735	735	0.8	0.8	---	---	0
	point736	736	0.8	0.8	---	---	0
	point737	737	0.8	0.8	---	---	0
	point738	738	0.8	0.8	---	---	0
	point739	739	0.8	0.8	---	---	0
	point740	740	0.8	0.8	---	---	0

	point741	741	0.8	0.8	---	---	0
	point742	742	0.8	0.8	---	---	0
	point743	743	0.8	0.8	---	---	0
	point744	744	0.8	0.8	---	---	0
	point745	745	0.8	0.8	---	---	0
	point746	746	0.8	0.8	---	---	0
	point747	747	0.8	0.8	---	---	0
	point748	748	0.8	0.8	---	---	0
	point749	749	0.8	0.8	---	---	0
	point750	750	0.8	0.8	---	---	0
	point751	751	0.8	0.8	---	---	0
	point752	752	0.8	0.8	---	---	0
	point753	753	0.8	0.8	---	---	0
	point754	754	0.8	0.8	---	---	0
	point755	755	0.8	0.8	---	---	0
	point756	756	0.8	0.8	---	---	0
	point757	757	0.8	0.8	---	---	0
	point758	758	0.8	0.8	---	---	0
	point759	759	0.8	0.8	---	---	0
	point760	760	0.8	0.8	---	---	0
	point761	761	0.8	0.8	---	---	0
	point762	762	0.8	0.8	---	---	0
	point763	763	0.8	0.8	---	---	0
	point764	764	0.8	0.8	---	---	0
	point765	765	0.8	0.8	---	---	0
	point766	766	0.8	0.8	---	---	0
	point767	767	0.8	0.8	---	---	0
	point768	768	0.8	0.8	---	---	0
	point769	769	0.8	0.8	---	---	0
	point770	770	0.8	0.8	---	---	0
	point771	771	0.8	0.8	---	---	0
	point772	772	0.8	0.8	---	---	0
	point773	773	0.8	0.8	---	---	0
	point774	774	0.8	0.8	---	---	0

	point775	775	0.8	0.8	---	---	0
	point776	776	0.8	0.8	---	---	0
	point777	777	0.8	0.8	---	---	0
	point778	778	0.8	0.8	---	---	0
	point779	779	0.8	0.8	---	---	0
	point780	780	0.8	0.8	---	---	0
	point781	781	0.8	0.8	---	---	0
	point782	782	0.8	0.8	---	---	0
	point783	783	0.8	0.8	---	---	0
	point784	784	0.8	0.8	---	---	0
	point785	785	0.8	0.8	---	---	0
	point786	786	0.8	0.8	---	---	0
	point787	787	0.8	0.8	---	---	0
	point788	788	0.8	0.8	---	---	0
	point789	789	0.8	0.8	---	---	0
	point790	790	0.8	0.8	---	---	0
	point791	791	0.8	0.8	---	---	0
	point792	792	0.8	0.8	---	---	0
	point793	793	0.8	0.8	---	---	0
	point794	794	0.8	0.8	---	---	0
	point795	795	0.8	0.8	---	---	0
	point796	796	0.8	0.8	---	---	0
	point797	797	0.8	0.8	---	---	0
	point798	798	0.8	0.8	---	---	0
	point799	799	0.8	0.8	---	---	0
	point800	800	0.8	0.8	---	---	0
	point801	801	0.8	0.8	---	---	0
	point802	802	0.8	0.8	---	---	0
	point803	803	0.8	0.8	---	---	0
	point804	804	0.8	0.8	---	---	0
	point805	805	0.8	0.8	---	---	0
	point806	806	0.8	0.8	---	---	0
	point807	807	0.8	0.8	---	---	0
	point808	808	0.8	0.8	---	---	0

	point809	809	0.8	0.8	---	---	0
	point810	810	0.8	0.8	---	---	0
	point811	811	0.8	0.8	---	---	0
	point812	812	0.8	0.8	---	---	0
	point813	813	0.8	0.8	---	---	0
	point814	814	0.8	0.8	---	---	0
	point815	815	0.8	0.8	---	---	0
	point816	816	0.8	0.8	---	---	0
	point817	817	0.8	0.8	---	---	0
	point818	818	0.8	0.8	---	---	0
	point819	819	0.8	0.8	---	---	0
	point820	820	0.8	0.8	---	---	0
	point821	821	0.8	0.8	---	---	0
	point822	822	0.8	0.8	---	---	0
	point823	823	0.8	0.8	---	---	0
	point824	824	0.8	0.8	---	---	0
	point825	825	0.8	0.8	---	---	0
	point826	826	0.8	0.8	---	---	0
	point827	827	0.8	0.8	---	---	0
	point828	828	0.8	0.8	---	---	0
	point829	829	0.8	0.8	---	---	0
	point830	830	0.8	0.8	---	---	0
	point831	831	0.8	0.8	---	---	0
	point832	832	0.8	0.8	---	---	0
	point833	833	0.8	0.8	---	---	0
	point834	834	0.8	0.8	---	---	0
	point835	835	0.8	0.8	---	---	0
	point836	836	0.8	0.8	---	---	0
	point837	837	0.8	0.8	---	---	0
	point838	838	0.8	0.8	---	---	0
	point839	839	0.8	0.8	---	---	0
	point840	840	0.8	0.8	---	---	0
	point841	841	0.8	0.8	---	---	0
	point842	842	0.8	0.8	---	---	0

	point843	843	0.8	0.8	---	---	0
	point844	844	0.8	0.8	---	---	0
	point845	845	0.8	0.8	---	---	0
	point846	846	0.8	0.8	---	---	0
	point847	847	0.8	0.8	---	---	0
	point848	848	0.8	0.8	---	---	0
	point849	849	0.8	0.8	---	---	0
	point850	850	0.8	0.8	---	---	0
	point851	851	0.8	0.8	---	---	0
	point852	852	0.8	0.8	---	---	0
	point853	853	0.8	0.8	---	---	0
	point854	854	0.8	0.8	---	---	0
	point855	855	0.8	0.8	---	---	0
	point856	856	0.8	0.8	---	---	0
	point857	857	0.8	0.8	---	---	0
	point858	858	0.8	0.8	---	---	0
	point859	859	0.8	0.8	---	---	0
	point860	860	0.8	0.8	---	---	0
	point861	861	0.8	0.8	---	---	0
	point862	862	0.8	0.8	---	---	0
	point863	863	0.8	0.8	---	---	0
	point864	864	0.8	0.8	---	---	0
	point865	865	0.8	0.8	---	---	0
	point866	866	0.8	0.8	---	---	0
	point867	867	0.8	0.8	---	---	0
	point868	868	0.8	0.8	---	---	0
El Cortijo Barrier West 1	point1501	1501	0.8	0.8	---	---	0
	point1502	1502	0.8	0.8	---	---	0
	point1503	1503	0.8	0.8	---	---	0
	point1504	1504	0.8	0.8	---	---	0
	point1505	1505	0.8	0.8	---	---	0
	point1506	1506	0.8	0.8	---	---	0
	point1507	1507	0.8	0.8	---	---	0
	point1508	1508	0.8	0.8	---	---	0

	point1509	1509	0.8	0.8	---	---	0
	point1510	1510	0.8	0.8	---	---	0
	point1511	1511	0.8	0.8	---	---	0
	point1512	1512	0.8	0.8	---	---	0
	point1513	1513	0.8	0.8	---	---	0
	point1514	1514	0.8	0.8	---	---	0
	point1515	1515	0.8	0.8	---	---	0
	point1516	1516	0.8	0.8	---	---	0
	point1517	1517	0.8	0.8	---	---	0
	point1518	1518	0.8	0.8	---	---	0
	point1519	1519	0.8	0.8	---	---	0
	point1520	1520	0.8	0.8	---	---	0
	point1521	1521	0.8	0.8	---	---	0
	point1522	1522	0.8	0.8	---	---	0
	point1523	1523	0.8	0.8	---	---	0
	point1524	1524	0.8	0.8	---	---	0
	point1525	1525	0.8	0.8	---	---	0
	point1526	1526	0.8	0.8	---	---	0
	point1527	1527	0.8	0.8	---	---	0
	point1528	1528	0.8	0.8	---	---	0
	point1529	1529	0.8	0.8	---	---	0
	point1530	1530	0.8	0.8	---	---	0
	point1531	1531	0.8	0.8	---	---	0
	point1532	1532	0.8	0.8	---	---	0
	point1533	1533	0.8	0.8	---	---	0
	point1534	1534	0.8	0.8	---	---	0
	point1535	1535	0.8	0.8	---	---	0
	point1536	1536	0.8	0.8	---	---	0
	point1537	1537	0.8	0.8	---	---	0
	point1538	1538	0.8	0.8	---	---	0
	point1539	1539	0.8	0.8	---	---	0
	point1540	1540	0.8	0.8	---	---	0
	point1541	1541	0.8	0.8	---	---	0
	point1542	1542	0.8	0.8	---	---	0

	point1543	1543	0.8	0.8	---	---	0
	point1544	1544	0.8	0.8	---	---	0
	point1545	1545	0.8	0.8	---	---	0
	point1546	1546	0.8	0.8	---	---	0
	point1547	1547	0.8	0.8	---	---	0
	point1548	1548	0.8	0.8	---	---	0
	point1549	1549	0.8	0.8	---	---	0
	point1550	1550	0.8	0.8	---	---	0
	point1551	1551	0.8	0.8	---	---	0
	point1552	1552	0.8	0.8	---	---	0
	point1553	1553	0.8	0.8	---	---	0
	point1554	1554	0.8	0.8	---	---	0
	point1555	1555	0.8	0.8	---	---	0
	point1556	1556	0.8	0.8	---	---	0
	point1557	1557	0.8	0.8	---	---	0
	point1558	1558	0.8	0.8	---	---	0
	point1559	1559	0.8	0.8	---	---	0
	point1560	1560	0.8	0.8	---	---	0
	point1561	1561	0.8	0.8	---	---	0
	point1562	1562	0.8	0.8	---	---	0
	point1563	1563	0.8	0.8	---	---	0
	point1564	1564	0.8	0.8	---	---	0
	point1565	1565	0.8	0.8	---	---	0
	point1566	1566	0.8	0.8	---	---	0
	point1567	1567	0.8	0.8	---	---	0
	point1568	1568	0.8	0.8	---	---	0
	point1569	1569	0.8	0.8	---	---	0
	point1570	1570	0.8	0.8	---	---	0
	point1571	1571	0.8	0.8	---	---	0
	point1572	1572	0.8	0.8	---	---	0
	point1573	1573	0.8	0.8	---	---	0
	point1574	1574	0.8	0.8	---	---	0
	point1575	1575	0.8	0.8	---	---	0
	point1576	1576	0.8	0.8	---	---	0

	point1577	1577	0.8	0.8	---	---	0
	point1578	1578	0.8	0.8	---	---	0
	point1579	1579	0.8	0.8	---	---	0
	point1580	1580	0.8	0.8	---	---	0
	point1581	1581	0.8	0.8	---	---	0
	point1582	1582	0.8	0.8	---	---	0
	point1583	1583	0.8	0.8	---	---	0
	point1584	1584	0.8	0.8	---	---	0
	point1586	1586	0.8	0.8	---	---	0
	point1587	1587	0.8	0.8	---	---	0
	point1589	1589	0.8	0.8	---	---	0
	point1591	1591	0.8	0.8	---	---	0
	point1592	1592	0.8	0.8	---	---	0
	point1594	1594	0.8	0.8	---	---	0
	point1595	1595	0.8	0.8	---	---	0
	point1596	1596	0.8	0.8	---	---	0
	point1597	1597	0.8	0.8	---	---	0
	point1598	1598	0.8	0.8	---	---	0
	point1599	1599	0.8	0.8	---	---	0
	point1600	1600	0.8	0.8	---	---	0
	point1601	1601	0.8	0.8	---	---	0
	point1602	1602	0.8	0.8	---	---	0
	point1603	1603	0.8	0.8	---	---	0
	point1604	1604	0.8	0.8	---	---	0
	point1605	1605	0.8	0.8	---	---	0
	point1606	1606	0.8	0.8	---	---	0
	point1607	1607	0.8	0.8	---	---	0
	point1608	1608	0.8	0.8	---	---	0
	point1609	1609	0.8	0.8	---	---	0
	point1610	1610	0.8	0.8	---	---	0
	point1611	1611	0.8	0.8	---	---	0
	point1612	1612	0.8	0.8	---	---	0
	point1613	1613	0.8	0.8	---	---	0
	point1614	1614	0.8	0.8	---	---	0

	point1615	1615	0.8	0.8	---	---	0
	point1616	1616	0.8	0.8	---	---	0
	point1617	1617	0.8	0.8	---	---	0
	point1618	1618	0.8	0.8	---	---	0
El Cortijo Barrier West 2	point1620	1620	0.8	0.8	---	---	0
	point1621	1621	0.8	0.8	---	---	0
	point1622	1622	0.8	0.8	---	---	0
	point1623	1623	0.8	0.8	---	---	0
	point1624	1624	0.8	0.8	---	---	0
	point1625	1625	0.8	0.8	---	---	0
	point1626	1626	0.8	0.8	---	---	0
	point1627	1627	0.8	0.8	---	---	0
	point1628	1628	0.8	0.8	---	---	0
	point1629	1629	0.8	0.8	---	---	0
	point1630	1630	0.8	0.8	---	---	0
	point1631	1631	0.8	0.8	---	---	0
	point1632	1632	0.8	0.8	---	---	0
	point1633	1633	0.8	0.8	---	---	0
	point1634	1634	0.8	0.8	---	---	0
	point1635	1635	0.8	0.8	---	---	0
	point1636	1636	0.8	0.8	---	---	0
	point1637	1637	0.8	0.8	---	---	0
	point1638	1638	0.8	0.8	---	---	0
	point1639	1639	0.8	0.8	---	---	0
	point1640	1640	0.8	0.8	---	---	0
	point1641	1641	0.8	0.8	---	---	0
	point1642	1642	0.8	0.8	---	---	0
	point1643	1643	0.8	0.8	---	---	0
	point1644	1644	0.8	0.8	---	---	0
	point1645	1645	0.8	0.8	---	---	0
	point1646	1646	0.8	0.8	---	---	0
	point1647	1647	0.8	0.8	---	---	0
	point1648	1648	0.8	0.8	---	---	0
	point1649	1649	0.8	0.8	---	---	0

	point1650	1650	0.8	0.8	---	---	0
	point1651	1651	0.8	0.8	---	---	0
	point1652	1652	0.8	0.8	---	---	0
	point1653	1653	0.8	0.8	---	---	0
	point1654	1654	0.8	0.8	---	---	0
	point1655	1655	0.8	0.8	---	---	0
	point1656	1656	0.8	0.8	---	---	0
	point1657	1657	0.8	0.8	---	---	0
	point1658	1658	0.8	0.8	---	---	0
	point1659	1659	0.8	0.8	---	---	0
	point1660	1660	0.8	0.8	---	---	0
	point1661	1661	0.8	0.8	---	---	0
	point1662	1662	0.8	0.8	---	---	0
	point1663	1663	0.8	0.8	---	---	0
	point1664	1664	0.8	0.8	---	---	0
	point1665	1665	0.8	0.8	---	---	0
	point1666	1666	0.8	0.8	---	---	0
	point1667	1667	0.8	0.8	---	---	0
	point1668	1668	0.8	0.8	---	---	0
	point1669	1669	0.8	0.8	---	---	0
	point1670	1670	0.8	0.8	---	---	0
	point1671	1671	0.8	0.8	---	---	0
	point1672	1672	0.8	0.8	---	---	0
	point1673	1673	0.8	0.8	---	---	0
	point1674	1674	0.8	0.8	---	---	0
	point1675	1675	0.8	0.8	---	---	0
	point1676	1676	0.8	0.8	---	---	0
	point1677	1677	0.8	0.8	---	---	0
	point1678	1678	0.8	0.8	---	---	0
	point1679	1679	0.8	0.8	---	---	0
	point1680	1680	0.8	0.8	---	---	0
	point1681	1681	0.8	0.8	---	---	0
	point1682	1682	0.8	0.8	---	---	0
	point1683	1683	0.8	0.8	---	---	0

	point1684	1684	0.8	0.8	---	---	0
	point1685	1685	0.8	0.8	---	---	0
	point1686	1686	0.8	0.8	---	---	0
	point1687	1687	0.8	0.8	---	---	0
	point1688	1688	0.8	0.8	---	---	0
	point1689	1689	0.8	0.8	---	---	0
	point1690	1690	0.8	0.8	---	---	0
	point1691	1691	0.8	0.8	---	---	0
	point1692	1692	0.8	0.8	---	---	0
	point1693	1693	0.8	0.8	---	---	0
	point1694	1694	0.8	0.8	---	---	0
	point1695	1695	0.8	0.8	---	---	0
	point1696	1696	0.8	0.8	---	---	0
	point1697	1697	0.8	0.8	---	---	0
	point1698	1698	0.8	0.8	---	---	0
	point1699	1699	0.8	0.8	---	---	0
	point1700	1700	0.8	0.8	---	---	0
	point1701	1701	0.8	0.8	---	---	0
	point1702	1702	0.8	0.8	---	---	0
	point1703	1703	0.8	0.8	---	---	0
	point1704	1704	0.8	0.8	---	---	0
	point1705	1705	0.8	0.8	---	---	0
	point1706	1706	0.8	0.8	---	---	0
	point1707	1707	0.8	0.8	---	---	0
	point1708	1708	0.8	0.8	---	---	0
	point1709	1709	0.8	0.8	---	---	0
	point1710	1710	0.8	0.8	---	---	0
	point1711	1711	0.8	0.8	---	---	0
	point1712	1712	0.8	0.8	---	---	0
	point1713	1713	0.8	0.8	---	---	0
	point1714	1714	0.8	0.8	---	---	0
	point1715	1715	0.8	0.8	---	---	0
	point1716	1716	0.8	0.8	---	---	0
	point1717	1717	0.8	0.8	---	---	0

	point1718	1718	0.8	0.8	---	---	0
	point1719	1719	0.8	0.8	---	---	0
	point1720	1720	0.8	0.8	---	---	0
	point1721	1721	0.8	0.8	---	---	0
	point1722	1722	0.8	0.8	---	---	0
	point1723	1723	0.8	0.8	---	---	0
	point1724	1724	0.8	0.8	---	---	0
	point1725	1725	0.8	0.8	---	---	0
El Cortijo Barrier West 3	point1729	1729	0.8	0.8	---	---	0
El Cortijo Barrier East 1	point1731	1731	0.8	0.8	---	---	0
	point1732	1732	0.8	0.8	---	---	0
	point1733	1733	0.8	0.8	---	---	0
	point1734	1734	0.8	0.8	---	---	0
	point1735	1735	0.8	0.8	---	---	0
	point1736	1736	0.8	0.8	---	---	0
	point1737	1737	0.8	0.8	---	---	0
	point1738	1738	0.8	0.8	---	---	0
	point1739	1739	0.8	0.8	---	---	0
	point1740	1740	0.8	0.8	---	---	0
	point1741	1741	0.8	0.8	---	---	0
	point1742	1742	0.8	0.8	---	---	0
	point1743	1743	0.8	0.8	---	---	0
	point1744	1744	0.8	0.8	---	---	0
	point1745	1745	0.8	0.8	---	---	0
	point1746	1746	0.8	0.8	---	---	0
	point1747	1747	0.8	0.8	---	---	0
	point1749	1749	0.8	0.8	---	---	0
	point1750	1750	0.8	0.8	---	---	0
	point1753	1753	0.8	0.8	---	---	0
	point1754	1754	0.8	0.8	---	---	0
	point1756	1756	0.8	0.8	---	---	0
	point1757	1757	0.8	0.8	---	---	0
	point1758	1758	0.8	0.8	---	---	0
	point1759	1759	0.8	0.8	---	---	0

	point1760	1760	0.8	0.8	---	---	0
	point1761	1761	0.8	0.8	---	---	0
	point1762	1762	0.8	0.8	---	---	0
	point1763	1763	0.8	0.8	---	---	0
	point1764	1764	0.8	0.8	---	---	0
	point1765	1765	0.8	0.8	---	---	0
	point1766	1766	0.8	0.8	---	---	0
	point1767	1767	0.8	0.8	---	---	0
	point1768	1768	0.8	0.8	---	---	0
	point1769	1769	0.8	0.8	---	---	0
	point1770	1770	0.8	0.8	---	---	0
	point1771	1771	0.8	0.8	---	---	0
	point1772	1772	0.8	0.8	---	---	0
	point1773	1773	0.8	0.8	---	---	0
	point1774	1774	0.8	0.8	---	---	0
	point1775	1775	0.8	0.8	---	---	0
	point1776	1776	0.8	0.8	---	---	0
	point1777	1777	0.8	0.8	---	---	0
	point1778	1778	0.8	0.8	---	---	0
	point1779	1779	0.8	0.8	---	---	0
	point1780	1780	0.8	0.8	---	---	0
	point1781	1781	0.8	0.8	---	---	0
	point1782	1782	0.8	0.8	---	---	0
	point1783	1783	0.8	0.8	---	---	0
	point1784	1784	0.8	0.8	---	---	0
	point1785	1785	0.8	0.8	---	---	0
	point1786	1786	0.8	0.8	---	---	0
	point1787	1787	0.8	0.8	---	---	0
	point1788	1788	0.8	0.8	---	---	0
	point1789	1789	0.8	0.8	---	---	0
	point1790	1790	0.8	0.8	---	---	0
	point1791	1791	0.8	0.8	---	---	0
	point1792	1792	0.8	0.8	---	---	0
	point1793	1793	0.8	0.8	---	---	0

	point1794	1794	0.8	0.8	---	---	0
	point1795	1795	0.8	0.8	---	---	0
	point1796	1796	0.8	0.8	---	---	0
	point1797	1797	0.8	0.8	---	---	0
	point1798	1798	0.8	0.8	---	---	0
	point1799	1799	0.8	0.8	---	---	0
	point1800	1800	0.8	0.8	---	---	0
	point1801	1801	0.8	0.8	---	---	0
	point1802	1802	0.8	0.8	---	---	0
	point1803	1803	0.8	0.8	---	---	0
	point1804	1804	0.8	0.8	---	---	0
	point1805	1805	0.8	0.8	---	---	0
	point1806	1806	0.8	0.8	---	---	0
	point1807	1807	0.8	0.8	---	---	0
	point1808	1808	0.8	0.8	---	---	0
	point1809	1809	0.8	0.8	---	---	0
	point1810	1810	0.8	0.8	---	---	0
	point1811	1811	0.8	0.8	---	---	0
	point1812	1812	0.8	0.8	---	---	0
	point1813	1813	0.8	0.8	---	---	0
	point1814	1814	0.8	0.8	---	---	0
	point1815	1815	0.8	0.8	---	---	0
	point1816	1816	0.8	0.8	---	---	0
	point1817	1817	0.8	0.8	---	---	0
	point1818	1818	0.8	0.8	---	---	0
	point1819	1819	0.8	0.8	---	---	0
	point1820	1820	0.8	0.8	---	---	0
	point1821	1821	0.8	0.8	---	---	0
	point1822	1822	0.8	0.8	---	---	0
	point1823	1823	0.8	0.8	---	---	0
	point1824	1824	0.8	0.8	---	---	0
	point1825	1825	0.8	0.8	---	---	0
	point1826	1826	0.8	0.8	---	---	0
	point1827	1827	0.8	0.8	---	---	0

	point1828	1828	0.8	0.8	---	---	0
	point1829	1829	0.8	0.8	---	---	0
	point1830	1830	0.8	0.8	---	---	0
	point1831	1831	0.8	0.8	---	---	0
	point1832	1832	0.8	0.8	---	---	0
	point1833	1833	0.8	0.8	---	---	0
	point1834	1834	0.8	0.8	---	---	0
	point1835	1835	0.8	0.8	---	---	0
	point1836	1836	0.8	0.8	---	---	0
	point1837	1837	0.8	0.8	---	---	0
	point1838	1838	0.8	0.8	---	---	0
	point1839	1839	0.8	0.8	---	---	0
El Cortijo Barrier East 3	point1841	1841	0.8	0.8	---	---	0
	point1842	1842	0.8	0.8	---	---	0
	point1843	1843	0.8	0.8	---	---	0
	point1844	1844	0.8	0.8	---	---	0
	point1845	1845	0.8	0.8	---	---	0
	point1846	1846	0.8	0.8	---	---	0
	point1847	1847	0.8	0.8	---	---	0
	point1848	1848	0.8	0.8	---	---	0
	point1849	1849	0.8	0.8	---	---	0
	point1850	1850	0.8	0.8	---	---	0
	point1851	1851	0.8	0.8	---	---	0
	point1852	1852	0.8	0.8	---	---	0
	point1853	1853	0.8	0.8	---	---	0
	point1854	1854	0.8	0.8	---	---	0
	point1855	1855	0.8	0.8	---	---	0
	point1856	1856	0.8	0.8	---	---	0
	point1857	1857	0.8	0.8	---	---	0
	point1858	1858	0.8	0.8	---	---	0
	point1859	1859	0.8	0.8	---	---	0
	point1860	1860	0.8	0.8	---	---	0
	point1861	1861	0.8	0.8	---	---	0
	point1862	1862	0.8	0.8	---	---	0

	point1863	1863	0.8	0.8	---	---	0
	point1864	1864	0.8	0.8	---	---	0
	point1865	1865	0.8	0.8	---	---	0
	point1866	1866	0.8	0.8	---	---	0
	point1867	1867	0.8	0.8	---	---	0
	point1868	1868	0.8	0.8	---	---	0
	point1869	1869	0.8	0.8	---	---	0
	point1870	1870	0.8	0.8	---	---	0
	point1871	1871	0.8	0.8	---	---	0
	point1872	1872	0.8	0.8	---	---	0
	point1873	1873	0.8	0.8	---	---	0
	point1874	1874	0.8	0.8	---	---	0
	point1875	1875	0.8	0.8	---	---	0
	point1876	1876	0.8	0.8	---	---	0
	point1877	1877	0.8	0.8	---	---	0
	point1878	1878	0.8	0.8	---	---	0
	point1879	1879	0.8	0.8	---	---	0
	point1880	1880	0.8	0.8	---	---	0
	point1881	1881	0.8	0.8	---	---	0
	point1882	1882	0.8	0.8	---	---	0
	point1883	1883	0.8	0.8	---	---	0
	point1884	1884	0.8	0.8	---	---	0
	point1885	1885	0.8	0.8	---	---	0
	point1886	1886	0.8	0.8	---	---	0
	point1887	1887	0.8	0.8	---	---	0
	point1888	1888	0.8	0.8	---	---	0
	point1889	1889	0.8	0.8	---	---	0
	point1890	1890	0.8	0.8	---	---	0
	point1891	1891	0.8	0.8	---	---	0
	point1892	1892	0.8	0.8	---	---	0
	point1893	1893	0.8	0.8	---	---	0
	point1894	1894	0.8	0.8	---	---	0
	point1895	1895	0.8	0.8	---	---	0
	point1896	1896	0.8	0.8	---	---	0

	point1897	1897	0.8	0.8	---	---	0
	point1898	1898	0.8	0.8	---	---	0
	point1899	1899	0.8	0.8	---	---	0
	point1900	1900	0.8	0.8	---	---	0
	point1901	1901	0.8	0.8	---	---	0
	point1902	1902	0.8	0.8	---	---	0
	point1903	1903	0.8	0.8	---	---	0
	point1904	1904	0.8	0.8	---	---	0
	point1905	1905	0.8	0.8	---	---	0
	point1906	1906	0.8	0.8	---	---	0
	point1907	1907	0.8	0.8	---	---	0
	point1908	1908	0.8	0.8	---	---	0
	point1909	1909	0.8	0.8	---	---	0
	point1910	1910	0.8	0.8	---	---	0
	point1911	1911	0.8	0.8	---	---	0
	point1912	1912	0.8	0.8	---	---	0
	point1913	1913	0.8	0.8	---	---	0
	point1914	1914	0.8	0.8	---	---	0
	point1915	1915	0.8	0.8	---	---	0
	point1916	1916	0.8	0.8	---	---	0
	point1917	1917	0.8	0.8	---	---	0
	point1918	1918	0.8	0.8	---	---	0
	point1919	1919	0.8	0.8	---	---	0
	point1920	1920	0.8	0.8	---	---	0
	point1921	1921	0.8	0.8	---	---	0
	point1922	1922	0.8	0.8	---	---	0
	point1923	1923	0.8	0.8	---	---	0
	point1924	1924	0.8	0.8	---	---	0
	point1925	1925	0.8	0.8	---	---	0
	point1926	1926	0.8	0.8	---	---	0
	point1927	1927	0.8	0.8	---	---	0
	point1928	1928	0.8	0.8	---	---	0
	point1929	1929	0.8	0.8	---	---	0
	point1930	1930	0.8	0.8	---	---	0

	point1931	1931	0.8	0.8	---	---	0
	point1932	1932	0.8	0.8	---	---	0
	point1933	1933	0.8	0.8	---	---	0
	point1934	1934	0.8	0.8	---	---	0
	point1935	1935	0.8	0.8	---	---	0
	point1936	1936	0.8	0.8	---	---	0
	point1937	1937	0.8	0.8	---	---	0
	point1938	1938	0.8	0.8	---	---	0
	point1939	1939	0.8	0.8	---	---	0
	point1940	1940	0.8	0.8	---	---	0
	point1941	1941	0.8	0.8	---	---	0
	point1942	1942	0.8	0.8	---	---	0
El Cortijo Barrier East 2	point1944	1944	0.8	0.8	---	---	0

CMA 4 October 2021
Pedro Janer TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046
BARRIER DESIGN: INPUT HEIGHTS

Barriers

Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier - Amor St.	W	4.24	4.24	4.24	413	1753				701220
Barrier - Villa Rica	W	0.00	0.00	0.00	0	0				0
Barrier - Cerro Gordo	W	0.00	3.33	3.33	475	1580				631931
Barrier - Interamericana	W	5.45	5.45	5.45	581	3165				1265944
El Cortijo Barrier West 1	W	4.26	4.26	4.26	361	1539				615799
El Cortijo Barrier West 2	W	4.26	4.26	4.26	395	1682				672758
El Cortijo Barrier West 3	W	3.65	3.65	3.65	38	138				55334
El Cortijo Barrier East 1	W	4.26	4.26	4.26	345	1471				588373
El Cortijo Barrier East 3	W	4.26	4.26	4.26	374	1594				637476
El Cortijo Barrier East 2	W	4.26	4.26	4.26	38	161				64570
									Total Cost:	5233406

CMA
Pedro Janer

4 October 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: BARRIER DESIGN
PROJECT/CONTRACT: CMA 21095
RUN: PR-5 Extension - Year 2046
BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 20 deg C, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	LAeq1h
		dBA	dB	dB	dB				m	dBA
Amor St.	8	57.6	9.7	7	2.7	Barrier - Amor St.	point101	101	4.2	46.6
						Barrier - Amor St.	point151	151	4.2	39.4
						Barrier - Amor St.	point149	149	4.2	39.4
						Barrier - Amor St.	point150	150	4.2	39.4
						Barrier - Amor St.	point152	152	4.2	39.4
						Barrier - Amor St.	point153	153	4.2	39.4
						Barrier - Amor St.	point148	148	4.2	39.3
						Barrier - Amor St.	point154	154	4.2	39.3
						Barrier - Amor St.	point147	147	4.2	39.2
						Barrier - Amor St.	point155	155	4.2	39.2
Villa Rica	9	63.9	0.0	7	-7.0	Barrier - Villa Rica	point232	232	0.0	47.1
						Barrier - Villa Rica	point231	231	0.0	46.5
						Barrier - Villa Rica	point230	230	0.0	45.8
						Barrier - Villa Rica	point242	242	0.0	45.6
						Barrier - Villa Rica	point241	241	0.0	45.4
						Barrier - Villa Rica	point229	229	0.0	45.2
						Barrier - Villa Rica	point265	265	0.0	44.9
						Barrier - Villa Rica	point266	266	0.0	44.7
						Barrier - Villa Rica	point251	251	0.0	44.5
						Barrier - Villa Rica	point267	267	0.0	44.5

Interamericana	10	65.7	9.0	7	2.0	Barrier - Interamericana	point798	798	5.4	55.7
						Barrier - Interamericana	point799	799	5.4	55.7
						Barrier - Interamericana	point797	797	5.4	55.1
						Barrier - Interamericana	point800	800	5.4	55.0
						Barrier - Interamericana	point796	796	5.4	53.7
						Barrier - Interamericana	point801	801	5.4	53.6
						Barrier - Interamericana	point795	795	5.4	52.1
						Barrier - Interamericana	point802	802	5.4	52.0
						Barrier - Interamericana	point794	794	5.4	50.8
						Barrier - Interamericana	point803	803	5.4	50.7
Cerro Gordo Diamante St.	11	60.9	4.0	7	-3.0	Barrier - Cerro Gordo	point609	609	3.3	44.4
						Barrier - Cerro Gordo	point608	608	3.3	44.4
						Barrier - Cerro Gordo	point607	607	3.3	44.4
						Barrier - Cerro Gordo	point606	606	3.3	44.2
						Barrier - Cerro Gordo	point610	610	3.3	44.2
						Barrier - Cerro Gordo	point605	605	3.3	44.1
						Barrier - Cerro Gordo	point604	604	3.3	44.0
						Barrier - Cerro Gordo	point603	603	3.3	43.8
						Barrier - Cerro Gordo	point611	611	3.3	43.7
						Barrier - Cerro Gordo	point612	612	3.3	43.6
Cortijo 6 st.	12	56.1	9.0	7	2.0	El Cortijo Barrier West 3	point1729	1729	3.7	47.7
						El Cortijo Barrier West 2	point1716	1716	4.3	40.2
						El Cortijo Barrier West 2	point1715	1715	4.3	40.2
						El Cortijo Barrier West 2	point1719	1719	4.3	40.1
						El Cortijo Barrier West 2	point1720	1720	4.3	39.9
						El Cortijo Barrier West 2	point1714	1714	4.3	39.9
						El Cortijo Barrier West 2	point1721	1721	4.3	39.7
						El Cortijo Barrier West 2	point1713	1713	4.3	39.6
						El Cortijo Barrier West 2	point1712	1712	4.3	39.4
						El Cortijo Barrier West 2	point1722	1722	4.3	39.3
Cortijo 21 St.	13	56.3	7.9	7	0.9	El Cortijo Barrier East 1	point1819	1819	4.3	43.5
						El Cortijo Barrier East 1	point1818	1818	4.3	43.4
						El Cortijo Barrier East 1	point1820	1820	4.3	43.4
						El Cortijo Barrier East 1	point1817	1817	4.3	43.0
						El Cortijo Barrier East 1	point1821	1821	4.3	42.9
						El Cortijo Barrier East 1	point1816	1816	4.3	42.3

						El Cortijo Barrier East 1	point1822	1822	4.3	42.3
						El Cortijo Barrier East 2	point1944	1944	4.3	41.9
						El Cortijo Barrier East 1	point1815	1815	4.3	41.6
						El Cortijo Barrier East 1	point1823	1823	4.3	41.6
Sector Acevedo	16	60.1	0.0	7	-7.0	Barrier - Cerro Gordo	point353	353	0.0	47.5
						Barrier - Cerro Gordo	point354	354	0.0	47.4
						Barrier - Cerro Gordo	point352	352	0.0	47.3
						Barrier - Cerro Gordo	point355	355	0.0	47.2
						Barrier - Cerro Gordo	point356	356	0.0	47.0
						Barrier - Cerro Gordo	point351	351	0.0	46.9
						Barrier - Cerro Gordo	point357	357	0.0	46.7
						Barrier - Cerro Gordo	point350	350	0.0	46.2
						Barrier - Cerro Gordo	point358	358	0.0	46.1
						Barrier - Cerro Gordo	point349	349	0.0	45.5
Cerro Gordo 8 st.	17	61.7	8.7	7	1.7	Barrier - Cerro Gordo	point538	538	3.3	47.0
						Barrier - Cerro Gordo	point539	539	3.3	46.4
						Barrier - Cerro Gordo	point540	540	3.3	45.8
						Barrier - Cerro Gordo	point541	541	3.3	45.2
						Barrier - Cerro Gordo	point542	542	3.3	44.6
						Barrier - Cerro Gordo	point537	537	3.3	44.2
						Barrier - Cerro Gordo	point543	543	3.3	44.1
						Barrier - Cerro Gordo	point544	544	3.3	43.6
						Barrier - Cerro Gordo	point524	524	3.3	43.6
						Barrier - Cerro Gordo	point526	526	3.3	43.5
El Cortijo Street 21 North	20	53.9	2.2	7	-4.8	El Cortijo Barrier East 1	point1789	1789	4.3	43.0
						El Cortijo Barrier East 1	point1790	1790	4.3	43.0
						El Cortijo Barrier East 1	point1791	1791	4.3	42.3
						El Cortijo Barrier East 1	point1788	1788	4.3	41.3
						El Cortijo Barrier East 1	point1786	1786	4.3	41.1
						El Cortijo Barrier East 1	point1792	1792	4.3	41.0
						El Cortijo Barrier East 1	point1785	1785	4.3	40.2
						El Cortijo Barrier East 1	point1793	1793	4.3	40.0
						El Cortijo Barrier East 1	point1784	1784	4.3	39.1
						El Cortijo Barrier East 1	point1794	1794	4.3	39.1
El Cortijo Street 17	21	58.3	10.3	7	3.3	El Cortijo Barrier West 1	point1548	1548	4.3	47.9
						El Cortijo Barrier West 1	point1547	1547	4.3	47.7

						El Cortijo Barrier West 1	point1549	1549	4.3	47.4
						El Cortijo Barrier West 1	point1546	1546	4.3	46.8
						El Cortijo Barrier West 1	point1550	1550	4.3	45.9
						El Cortijo Barrier West 1	point1545	1545	4.3	45.1
						El Cortijo Barrier West 1	point1551	1551	4.3	44.5
						El Cortijo Barrier West 1	point1544	1544	4.3	43.9
						El Cortijo Barrier West 1	point1543	1543	4.3	42.8
						El Cortijo Barrier West 1	point1552	1552	4.3	42.4
El Cortijo Street 21 South	22	55.0	5.5	7	-1.5	El Cortijo Barrier East 3	point1881	1881	4.3	42.5
						El Cortijo Barrier East 3	point1880	1880	4.3	42.5
						El Cortijo Barrier East 3	point1882	1882	4.3	42.2
						El Cortijo Barrier East 3	point1879	1879	4.3	42.1
						El Cortijo Barrier East 3	point1883	1883	4.3	41.4
						El Cortijo Barrier East 3	point1878	1878	4.3	41.3
						El Cortijo Barrier East 3	point1884	1884	4.3	40.8
						El Cortijo Barrier East 3	point1877	1877	4.3	40.6
						El Cortijo Barrier East 3	point1886	1886	4.3	40.2
						El Cortijo Barrier East 3	point1876	1876	4.3	39.5
El Cortijo Street 14	23	56.8	7.9	7	0.9	El Cortijo Barrier West 2	point1671	1671	4.3	42.7
						El Cortijo Barrier West 2	point1688	1688	4.3	42.7
						El Cortijo Barrier West 2	point1672	1672	4.3	42.7
						El Cortijo Barrier West 2	point1670	1670	4.3	42.6
						El Cortijo Barrier West 2	point1673	1673	4.3	42.4
						El Cortijo Barrier West 2	point1669	1669	4.3	42.3
						El Cortijo Barrier West 2	point1668	1668	4.3	41.7
						El Cortijo Barrier West 2	point1675	1675	4.3	41.6
						El Cortijo Barrier West 2	point1676	1676	4.3	41.2
						El Cortijo Barrier West 2	point1667	1667	4.3	41.1
El Cortijo Street 9-B	24	59.7	6.3	7	-0.7	El Cortijo Barrier West 2	point1631	1631	4.3	42.8
						El Cortijo Barrier West 2	point1632	1632	4.3	42.7
						El Cortijo Barrier West 2	point1630	1630	4.3	42.7
						El Cortijo Barrier West 2	point1629	1629	4.3	42.3
						El Cortijo Barrier West 2	point1635	1635	4.3	42.2
						El Cortijo Barrier West 2	point1634	1634	4.3	42.0
						El Cortijo Barrier West 2	point1628	1628	4.3	41.9
						El Cortijo Barrier West 2	point1636	1636	4.3	41.5

						El Cortijo Barrier West 2	point1627	1627	4.3	41.4
						El Cortijo Barrier West 2	point1637	1637	4.3	40.9
Total Cost, All Barriers (including additional cost(s))					$5233406					

APPENDIX D

CALIBRATION CERTIFICATION

Brüel & Kjær
North America Inc.

The Bruel and Kjaer Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: http://www.bksv.com

ACCREDITED

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-475940-Y0L2Y2-901

CALIBRATION OF:

Microphone: Brüel & Kjær Type 4188 Serial No. 2951151

CUSTOMER:

CMA Architects & Engineers
1509 F.D. Roosevelt Avenue
Guaynabo, PR 00968

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	23	°C
	Air pressure:	98.676	kPa
	Relative Humidity:	41	%RH
Applied polarization voltage:	0 Vdc		

SPECIFICATIONS:

This document certifies that the instrument as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Bruel and Kjaer Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

The measurements have been performed with the assistance of Brüel & Kjær Microphone Calibration System B&K 9721 with application software WT9649 and WT9650 version 5.2 using calibration procedure: 4188-S-251-FF-01

RESULTS:

- [X] "As Received" Data: Within Acceptance Criteria
- [ ] "As Received" Data: Outside Acceptance Criteria
- [X] "Final" Data : Within Acceptance Criteria
- [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor k =2 providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effect of environmental conditions and any short term contribution from the device under calibration.

Date of Calibration: 19 October, 2020

Certificate issued: 19 October, 2020

Harold Williams
Calibration Technician

Quality Representative

Sensitivity

Nominal sensitivity:	-30 dB re. 1V/Pa	+/-	2 dB	
Sensitivity at calibration conditions:	-29.68 dB re. 1V/Pa	or	32.82 mV/Pa	
Sensitivity at reference conditions:	-29.73 dB re. 1V/Pa	or	32.61 mV/Pa	
Uncertainty:	+/- 0.11 dB			
Correction factor K at reference conditions:	3.73 dB			
Calibration Frequency:	251.19 Hz			

Reference Conditions:
Pressure: 101.3 kPa
Temperature: 23 °C
Relative Humidity: 50%

Traceable references

Type	Serial no	Cal. date	Due date	Calibrated by	Trace number
4180	2602440	2019-05-08	2021-05-31	DPLA	M2.10-1304-3.1

Condition "As Received":

GOOD

Comments:

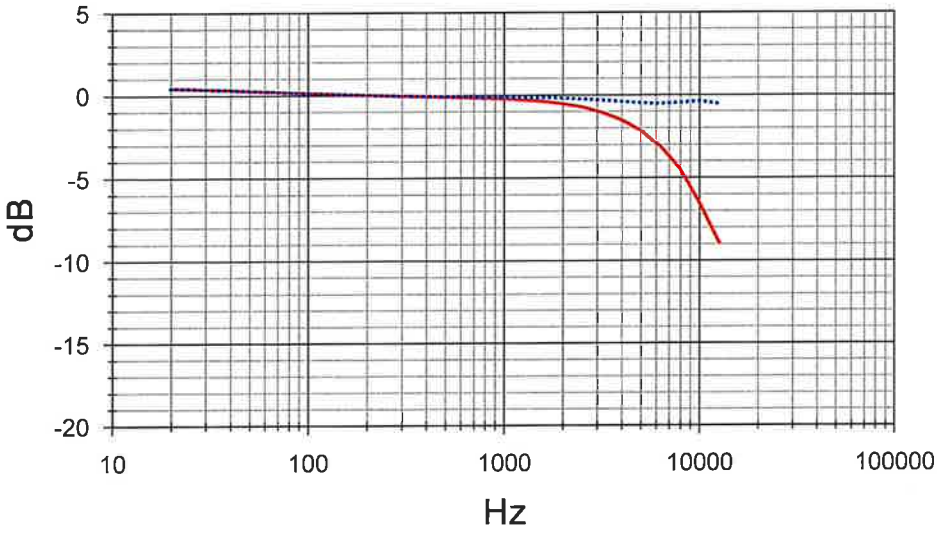
Normalized Frequency Response

Normalization Frequency: 251.19 Hz
Actuator Response is valid at Calibration Conditions
Applied Sound Field Correction: Free-field Correction with Grid at 0 degrees incidence

Frequency [Hz]	Actuator Response [dB]	Sound Field Response [dB]	Combined Uncertainty [dB]	Upper Tolerance [dB]	Lower Tolerance [dB]	Tolerance Exceeded
19.9526	0.45	0.45	0.36	1.00	-1.00	
25.1189	0.42	0.42	0.28	1.00	-1.00	
31.6228	0.37	0.37	0.20	1.00	-1.00	
39.8107	0.34	0.33	0.19	1.00	-1.00	
50.1187	0.28	0.28	0.17	1.00	-1.00	
63.0957	0.24	0.24	0.16	1.00	-1.00	
79.4328	0.19	0.19	0.16	1.00	-1.00	
100.000	0.15	0.15	0.16	1.00	-1.00	
125.893	0.11	0.10	0.16	1.00	-1.00	
158.489	0.06	0.06	0.16	1.00	-1.00	
199.526	0.03	0.03	0.16	1.00	-1.00	
251.189	0.00	0.00	0.02	1.00	-1.00	
316.228	-0.04	-0.03	0.16	1.00	-1.00	
398.107	-0.06	-0.04	0.16	1.00	-1.00	
501.187	-0.08	-0.06	0.16	1.00	-1.00	
630.957	-0.12	-0.07	0.16	1.00	-1.00	
794.328	-0.16	-0.09	0.16	1.00	-1.00	
1000.00	-0.20	-0.09	0.16	1.00	-1.00	
1258.93	-0.27	-0.11	0.16	1.00	-1.00	
1584.89	-0.35	-0.13	0.16	1.00	-1.00	
1995.26	-0.50	-0.17	0.17	1.00	-1.00	
2511.89	-0.70	-0.23	0.17	1.00	-1.00	
3162.28	-1.02	-0.30	0.18	1.00	-1.00	
3981.07	-1.48	-0.39	0.19	1.00	-1.00	
5011.87	-2.15	-0.47	0.19	1.00	-1.00	
6309.57	-3.09	-0.51	0.20	1.00	-1.00	
7943.28	-4.44	-0.44	0.21	1.00	-1.00	
10000.0	-6.57	-0.36	0.27	2.00	-2.00	
12589.3	-8.95	-0.52	0.34	2.00	-2.00	

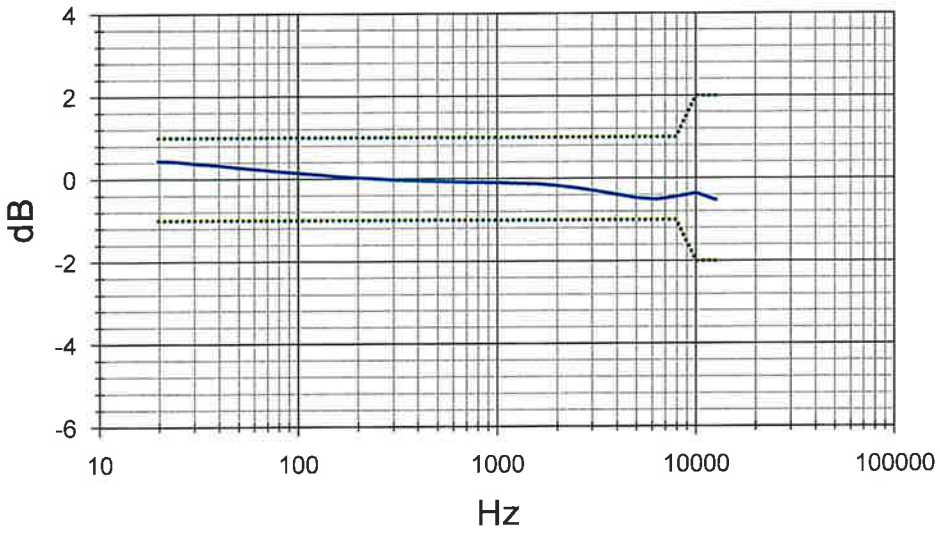
Measured Frequency Response

Solid curve: Actuator response Dotted curve: Sound field response
Applied Sound Field Correction: Free-field Correction with Grid at 0 degrees incidence



Result Response

Solid curve: Sound field response Dotted curves: Tolerance limits
Applied Sound Field Correction: Free-field Correction with Grid at 0 degrees incidence



Brüel & Kjær
North America Inc.

The Brüel & Kjær Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Phone 770-209-6947
Fax: 770-447-5623
Web site address: http://www.bkhome.com

ACCREDITED
Calibration Certificate Number 1568.01

CERTIFICATE OF CALIBRATION

Certificate No: CAS-475940-Y0L2Y2-301

CALIBRATION OF:

SLM Model/Serial Number:	2238-4188-BZ7125	No: 2320720
Microphone Model/Serial Number:	4188	No: 2951151
Description:	Sound Level Meter	
Certificate No:	CAS-475940-Y0L2Y2-301	

CLIENT:

CMA Architects & Engineers
1509 F. D. Roosevelt Avenue Suite 201
Guaynabo, PR 00968

CALIBRATION CONDITIONS:

Preconditioning:	4 hours at 23 ± 3 °C	
Environment conditions	Air temperature:	23.0 °C
	Air pressure:	98.6 kPa
	Relative Humidity:	42.0 %RH

SPECIFICATIONS:

This document certifies that the instrument as listed under "Model/Serial Number" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95%. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurement. The calibration of the listed instrumentation, was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and ISO 10012-1. For "as received" and/or "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation This Certificate and attached data pages shall not be reproduced, except in full, without the written approval of the Brüel and Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. This instrument has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

Brüel and Kjær Model 3630 Sound Level Meter Calibration System Software 7763 Version 8.1 - DB: 8.10

RESULTS:

As Received Condition	As Received Data	Final Data
_X_ Received in good condition	_X_ Within acceptance criteria	_X_ Within acceptance criteria
___ Damaged - See attached report	___ Outside acceptance criteria	___ Limited test - See attached details
	___ Inoperative	
	___ Data not taken	

Date of Calibration: 19 Oct. 2020

Certificate issued: 19 Oct. 2020

Kyle Chancey
Calibration Technician

John Attalla
Quality Representative

Summary

Visual inspection	Passed
Absolute Acoustical Sensitivity Level	Passed
Frequency Response Measured in Acoustic Coupler, FW A	Passed
Frequency Response Measured in Acoustic Coupler, FW C	Passed
Frequency Response Measured in Acoustic Coupler, FW Lin	Passed
Electrical Inherent Noise Level, FW A	Passed
Electrical Inherent Noise Level, FW C	Passed
Electrical Inherent Noise Level, FW Lin	Passed
Determining Electrical Level for LRef @1kHz	Passed
Frequency Response measured with electrical signal, FW A	Passed
Frequency Response measured with electrical signal, FW C	Passed
Frequency Response measured with electrical signal, FW LIN	Passed
Level Range Control, 1000 Hz	Passed
Linearity Range, IEC60651, 1000 Hz, SPL 1 dB steps - Detector 1	Passed
Linearity Range, IEC60651, 4000 Hz, SPL 10 dB steps - Detector 1	Passed
Linearity Range, IEC60804, Leq - Detector 1	Passed
Linearity Range, IEC60804, SEL - Detector 1	Passed
RMS Detector, Sine Burst, CF3 - Detector 1	Passed
RMS Detector, Sine Burst, CF5 - Detector 1	Passed
RMS Detector, Sine Burst, CF10 - Detector 1	Passed
Time Weighting, Difference in Reference Level Indication - Detector 1	Passed
Time Weighting, Response to Single Burst, 200 ms, F - Detector 1	Passed
Time Weighting, Response to Single Burst, 500 ms, S - Detector 1	Passed
Time Weighting, Response to Single Burst, 20 ms, I - Detector 1	Passed
Time Weighting, Response to Single Burst, 5 ms, I - Detector 1	Passed
Time Weighting, Response to Single Burst, 2 ms, I - Detector 1	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 100 Hz - Detector 1	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 20 Hz - Detector 1	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 2 Hz - Detector 1	Passed
Time averaging, Leq - SEL - Detector 1	Passed
Pulse Range, Leq - SEL - Detector 1	Passed
Overload Indication, Sine Signals, Inverse A	Passed
Overload Indication, 4kHz Tone burst	Passed
Taktmaximal	Passed
Linearity Range, IEC60651, 1000 Hz, SPL 1 dB steps - Detector 2	Passed
Linearity Range, IEC60651, 4000 Hz, SPL 10 dB steps - Detector 2	Passed
Linearity Range, IEC60804, Leq - Detector 2	Passed
RMS Detector, Sine Burst, CF3 - Detector 2	Passed
RMS Detector, Sine Burst, CF5 - Detector 2	Passed
RMS Detector, Sine Burst, CF10 - Detector 2	Passed
Time Weighting, Difference in Reference Level Indication - Detector 2	Passed
Time Weighting, Response to Single Burst, 200 ms, F - Detector 2	Passed
Time Weighting, Response to Single Burst, 500 ms, S - Detector 2	Passed
Time Weighting, Response to Single Burst, 20 ms, I - Detector 2	Passed
Time Weighting, Response to Single Burst, 5 ms, I - Detector 2	Passed
Time Weighting, Response to Single Burst, 2 ms, I - Detector 2	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 100 Hz - Detector 2	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 20 Hz - Detector 2	Passed
Time Weighting, Response to a Continuous Sequence of Bursts, 2 Hz - Detector 2	Passed
Time Weighting, Peak - Detector 2	Passed

Instruments

Category:	Type:	Manufacturer:	Serial No.:	Next Calibration Date:	Traceable to:
Voltmeter	DMM34970A	Keysight / Agilent	US37002538	31 Jul. 2021	457081
AmplifierDivider	3111 Output Module	Brüel & Kjær	2590603	31 Dec. 2020	CAS-455656-W1V0S4-701
Adaptor	WA0302A, 12 pF	Brüel & Kjær	2460917	31 Jan. 2021	436123
Calibrator	4226	Brüel & Kjær	3188086	31 Jan. 2021	CAS-429019-C3Y4L8-901
Generator	Pulse Generator	Brüel & Kjær	2608329	31 Dec. 2020	CAS-455656-W1V0S4-701

Visual inspection

The unit is visually inspected to check the suitability for calibration.

	Result
Visual inspection	OK

Absolute Acoustical Sensitivity Level

The response of the sound level meter to a sinusoidal sound pressure signal at the calibration frequency and at the calibration level of the sound level meter is registered.

	Coupler Pressure Lc	Mic. Correction C4226	Body Influence Cbi	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]
Ref. Conditions	94.14	0.20	0.00	93.94	94.0	-0.7	0.7	0.1	0.28

Frequency Response Measured in Acoustic Coupler, FW A

The response of the sound level meter to sinusoidal sound pressure signals at the calibration level at 1 kHz and at other frequencies is registered. From this the free field frequency response or the diffuse field frequency response is calculated. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. Expected response is calculated as Sound Pressure Level in the Acoustic Calibrator minus Free-Field-Correction or Random-Incident-Correction. The results are compared to the nominal frequency weighting.

	Coupler Pressure Lc	Mic. Correction C4226	Body Influence Cbi	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]
1000Hz <Ref>	94.14	0.20	0.00	93.94	94.0	-1.0	1.0	0.1	0.28
31.623Hz	94.19	0.00	0.00	54.85	55.6	-1.5	1.5	0.8	0.25
63.096Hz	94.20	0.00	0.00	68.06	68.4	-1.5	1.5	0.3	0.25
125.89Hz	94.18	0.00	0.10	78.04	78.3	-1.0	1.0	0.3	0.25
251.19Hz	94.17	0.00	0.20	85.43	85.6	-1.0	1.0	0.2	0.25
501.19Hz	94.16	0.00	0.20	90.82	90.9	-1.0	1.0	0.1	0.25
1995.3Hz	94.10	0.35	0.00	95.01	94.9	-1.0	1.0	-0.1	0.30
3981.1Hz	94.31	1.25	0.10	94.02	93.8	-1.0	1.0	-0.2	0.33
7943.3Hz	93.76	4.00	0.00	88.72	88.7	-3.0	1.5	-0.0	0.50
12589Hz	93.41	7.20	0.20	81.77	81.6	-6.0	3.0	-0.2	0.60

Frequency Response Measured in Acoustic Coupler, FW C

The response of the sound level meter to sinusoidal sound pressure signals at the calibration level at 1 kHz and at other frequencies is registered. From this the free field frequency response or the diffuse field frequency response is calculated. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. Expected response is calculated as Sound Pressure Level in the Acoustic Calibrator minus Free-Field-Correction or Random-Incident-Correction. The results are compared to the nominal frequency weighting.

	Coupler Pressure Lc	Mic. Correction C4226	Body Influence Cbi	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]
1000Hz <Ref>	94.14	0.20	0.00	93.94	94.0	-1.0	1.0	0.1	0.28
31.623Hz	94.19	0.00	0.00	91.25	91.7	-1.5	1.5	0.5	0.25
63.096Hz	94.20	0.00	0.00	93.46	93.7	-1.5	1.5	0.2	0.25
125.89Hz	94.18	0.00	0.10	93.94	94.1	-1.0	1.0	0.2	0.25
251.19Hz	94.17	0.00	0.20	94.03	94.2	-1.0	1.0	0.2	0.25
501.19Hz	94.16	0.00	0.20	94.02	94.1	-1.0	1.0	0.1	0.25
1995.3Hz	94.10	0.35	0.00	93.61	93.5	-1.0	1.0	-0.1	0.30
3981.1Hz	94.31	1.25	0.10	92.22	92.0	-1.0	1.0	-0.2	0.33
7943.3Hz	93.76	4.00	0.00	86.82	86.8	-3.0	1.5	-0.0	0.50
12589Hz	93.41	7.20	0.20	79.87	79.6	-6.0	3.0	-0.3	0.60

Frequency Response Measured in Acoustic Coupler, FW Lin

The response of the sound level meter to sinusoidal sound pressure signals at the calibration level at 1 kHz and at other frequencies is registered. From this the free field frequency response or the diffuse field frequency response is calculated. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. Expected response is calculated as Sound Pressure Level in the Acoustic Calibrator minus Free-Field-Correction or Random-Incident-Correction. The results are compared to the nominal frequency weighting.

	Coupler Pressure Lc	Mic. Correction C4226	Body Influence Cbi	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]
1000Hz <Ref>	94.14	0.20	0.00	93.94	94.0	-1.0	1.0	0.1	0.28
31.623Hz	94.19	0.00	0.00	94.25	94.6	-1.5	1.5	0.3	0.25
63.096Hz	94.20	0.00	0.00	94.26	94.5	-1.5	1.5	0.2	0.25
125.89Hz	94.18	0.00	0.10	94.14	94.3	-1.0	1.0	0.2	0.25
251.19Hz	94.17	0.00	0.20	94.03	94.2	-1.0	1.0	0.2	0.25
501.19Hz	94.16	0.00	0.20	94.02	94.1	-1.0	1.0	0.1	0.25
1995.3Hz	94.10	0.35	0.00	93.81	93.7	-1.0	1.0	-0.1	0.30
3981.1Hz	94.31	1.25	0.10	93.02	92.8	-1.0	1.0	-0.2	0.33
7943.3Hz	93.76	4.00	0.00	89.82	89.9	-3.0	1.5	0.1	0.50
12589Hz	93.41	7.20	0.20	86.07	86.2	-6.0	3.0	0.1	0.60

Electrical Inherent Noise Level, FW A

The connection from the electrical input adaptor to the generator is substituted with a shortcircuit and the reading of the sound level meter is registered. It is verified that the reading is sufficiently low so as to indicate that the inherent noise do not affect the linearity of the sound level meter.

	Max [dB SPL]	Measured [dB SPL]	Deviation [dB]	Uncertainty [dB]	
Noise	18.0	12.6	-5.4	1.00	*

Electrical Inherent Noise Level, FW C

The connection from the electrical input adaptor to the generator is substituted with a shortcircuit and the reading of the sound level meter is registered. It is verified that the reading is sufficiently low so as to indicate that the inherent noise do not affect the linearity of the sound level meter.

	Max [dB SPL]	Measured [dB SPL]	Deviation [dB]	Uncertainty [dB]	
Noise	20.0	16.4	-3.6	1.00	*

Electrical Inherent Noise Level, FW Lin

The connection from the electrical input adaptor to the generator is substituted with a shortcircuit and the reading of the sound level meter is registered. It is verified that the reading is sufficiently low so as to indicate that the inherent noise do not affect the linearity of the sound level meter.

	Max [dB SPL]	Measured [dB SPL]	Deviation [dB]	Uncertainty [dB]	
Noise	25.0	21.6	-3.4	1.00	*

Determining Electrical Level for LRef @1kHz

The response to an electrical input signal level corresponding to the expected response at a sound pressure level of 94 dB is registered. All electrical signals are set relative to this response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
Ref.	94.0	93.3	-2.0	2.0	-0.7	0.10

Frequency Response measured with electrical signal, FW A

The response of the sound level meter to sinusoidal voltage signals at 1 kHz and at other frequencies is registered. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. The results are compared to the nominal frequency weighting.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
1000Hz <Ref>	125.0	124.8	-1.0	1.0	-0.2	0.12
25.12Hz	80.1	80.5	-2.0	2.0	0.4	0.12
31.623Hz	85.4	85.8	-1.5	1.5	0.4	0.12
39.811Hz	90.2	90.5	-1.5	1.5	0.3	0.12
50.119Hz	94.6	94.9	-1.5	1.5	0.3	0.12
63.096Hz	98.6	98.8	-1.5	1.5	0.2	0.12
79.433Hz	102.3	102.6	-1.5	1.5	0.3	0.12
100Hz	105.7	105.8	-1.0	1.0	0.1	0.12
125.89Hz	108.7	108.9	-1.0	1.0	0.2	0.12
158.49Hz	111.4	111.6	-1.0	1.0	0.2	0.12
199.53Hz	113.9	114.0	-1.0	1.0	0.1	0.12
251.19Hz	116.2	116.3	-1.0	1.0	0.1	0.12
316.23Hz	118.2	118.3	-1.0	1.0	0.1	0.12
398.11Hz	120.0	120.1	-1.0	1.0	0.1	0.12
501.19Hz	121.6	121.6	-1.0	1.0	0.0	0.12
630.96Hz	122.9	123.0	-1.0	1.0	0.1	0.12
794.33Hz	124.0	124.0	-1.0	1.0	0.0	0.12
1258.9Hz	125.4	125.4	-1.0	1.0	0.0	0.12
1584.9Hz	125.8	125.8	-1.0	1.0	0.0	0.12
1995.3Hz	126.0	126.0	-1.0	1.0	0.0	0.12
2511.9Hz	126.1	126.1	-1.0	1.0	0.0	0.12
3162.3Hz	126.0	126.0	-1.0	1.0	0.0	0.12
3981.1Hz	125.8	125.8	-1.0	1.0	0.0	0.12
5011.9Hz	125.3	125.4	-1.5	1.5	0.1	0.12
6309.6Hz	124.7	124.7	-2.0	1.5	0.0	0.12
7943.3Hz	123.7	123.8	-3.0	1.5	0.1	0.12
10000Hz	122.3	122.4	-4.0	2.0	0.1	0.12
12589Hz	120.5	120.6	-6.0	3.0	0.1	0.12
15849Hz	118.2	118.3	-100.0	3.0	0.1	0.12
19953Hz	115.5	115.7	-100.0	3.0	0.2	0.12

Frequency Response measured with electrical signal, FW C

The response of the sound level meter to sinusoidal voltage signals at 1 kHz and at other frequencies is registered. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. The results are compared to the nominal frequency weighting.

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]
1000Hz <Ref>	125.0	124.8	-1.0	1.0	-0.2	0.12
25.12Hz	120.4	120.7	-2.0	2.0	0.3	0.12
31.623Hz	121.8	122.0	-1.5	1.5	0.2	0.12
39.811Hz	122.8	123.0	-1.5	1.5	0.2	0.12
50.119Hz	123.5	123.6	-1.5	1.5	0.1	0.12
63.096Hz	124.0	124.1	-1.5	1.5	0.1	0.12
79.433Hz	124.3	124.4	-1.5	1.5	0.1	0.12
100Hz	124.5	124.5	-1.0	1.0	0.0	0.12
125.89Hz	124.6	124.6	-1.0	1.0	0.0	0.12
158.49Hz	124.7	124.7	-1.0	1.0	0.0	0.12
199.53Hz	124.8	124.8	-1.0	1.0	0.0	0.12
251.19Hz	124.8	124.8	-1.0	1.0	0.0	0.12
316.23Hz	124.8	124.8	-1.0	1.0	0.0	0.12
398.11Hz	124.8	124.8	-1.0	1.0	0.0	0.12
501.19Hz	124.8	124.8	-1.0	1.0	0.0	0.12
630.96Hz	124.8	124.8	-1.0	1.0	0.0	0.12
794.33Hz	124.8	124.8	-1.0	1.0	0.0	0.12
1258.9Hz	124.8	124.8	-1.0	1.0	0.0	0.12
1584.9Hz	124.7	124.7	-1.0	1.0	0.0	0.12
1995.3Hz	124.6	124.6	-1.0	1.0	0.0	0.12
2511.9Hz	124.5	124.5	-1.0	1.0	0.0	0.12
3162.3Hz	124.3	124.3	-1.0	1.0	0.0	0.12
3981.1Hz	124.0	124.0	-1.0	1.0	0.0	0.12
5011.9Hz	123.5	123.5	-1.5	1.5	0.0	0.12
6309.6Hz	122.8	122.8	-2.0	1.5	0.0	0.12
7943.3Hz	121.8	121.8	-3.0	1.5	0.0	0.12
10000Hz	120.4	120.5	-4.0	2.0	0.1	0.12
12589Hz	118.6	118.6	-6.0	3.0	0.0	0.12
15849Hz	116.3	116.4	-100.0	3.0	0.1	0.12
19953Hz	113.6	113.7	-100.0	3.0	0.1	0.12

Frequency Response measured with electrical signal, FW LIN

The response of the sound level meter to sinusoidal voltage signals at 1 kHz and at other frequencies is registered. The frequency response is calculated for other frequencies than 1 kHz relative to the response at 1 kHz. The results are compared to the nominal frequency weighting.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
1000Hz <Ref>	125.0	124.8	-1.0	1.0	-0.2	0.12
25.12Hz	124.8	124.9	-2.0	2.0	0.1	0.12
31.623Hz	124.8	124.9	-1.5	1.5	0.1	0.12
39.811Hz	124.8	124.8	-1.5	1.5	0.0	0.12
50.119Hz	124.8	124.8	-1.5	1.5	0.0	0.12
63.096Hz	124.8	124.8	-1.5	1.5	0.0	0.12
79.433Hz	124.8	124.9	-1.5	1.5	0.1	0.12
100Hz	124.8	124.8	-1.0	1.0	0.0	0.12
125.89Hz	124.8	124.8	-1.0	1.0	0.0	0.12
158.49Hz	124.8	124.8	-1.0	1.0	0.0	0.12
199.53Hz	124.8	124.8	-1.0	1.0	0.0	0.12
251.19Hz	124.8	124.8	-1.0	1.0	0.0	0.12
316.23Hz	124.8	124.8	-1.0	1.0	0.0	0.12
398.11Hz	124.8	124.8	-1.0	1.0	0.0	0.12
501.19Hz	124.8	124.8	-1.0	1.0	0.0	0.12
630.96Hz	124.8	124.8	-1.0	1.0	0.0	0.12
794.33Hz	124.8	124.8	-1.0	1.0	0.0	0.12
1258.9Hz	124.8	124.8	-1.0	1.0	0.0	0.12
1584.9Hz	124.8	124.8	-1.0	1.0	0.0	0.12
1995.3Hz	124.8	124.8	-1.0	1.0	0.0	0.12
2511.9Hz	124.8	124.8	-1.0	1.0	0.0	0.12
3162.3Hz	124.8	124.8	-1.0	1.0	0.0	0.12
3981.1Hz	124.8	124.9	-1.0	1.0	0.1	0.12
5011.9Hz	124.8	124.9	-1.5	1.5	0.1	0.12
6309.6Hz	124.8	124.9	-2.0	1.5	0.1	0.12
7943.3Hz	124.8	125.0	-3.0	1.5	0.2	0.12
10000Hz	124.8	125.1	-4.0	2.0	0.3	0.12
12589Hz	124.8	125.1	-6.0	3.0	0.3	0.12
15849Hz	124.8	124.7	-100.0	3.0	-0.1	0.12
19953Hz	124.8	122.7	-100.0	3.0	-2.1	0.12

Level Range Control, 1000 Hz

The response of the sound level meter to a sinusoidal voltage signal is registered in each of the level ranges of the sound level meter. The relative response to the response in the reference level range is calculated for each level range, and the relative response is compared to the anticipated relative response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
Ref.	94.0	94.0	-1.0	1.0	0.0	0.12
Meas. in range 140	104.0	104.0	-0.5	0.5	0.0	0.12
Meas. in range 120	84.0	84.0	-0.5	0.5	0.0	0.12
Meas. in range 110	74.0	74.0	-0.5	0.5	0.0	0.12
Meas. in range 100	64.0	64.0	-0.5	0.5	0.0	0.12
Meas. in range 90	54.0	54.0	-0.5	0.5	0.0	0.12
Meas. in range 80	44.0	44.1	-0.5	0.5	0.1	0.12

Linearity Range, IEC60651, 1000 Hz, SPL 1 dB steps - Detector 1

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	94.0	-1.0	1.0	0.0	0.12
52 dB. Rel. Ref.	52.0	52.3	-0.7	0.7	0.3	0.12
53 dB. Rel. Ref.	53.0	53.2	-0.7	0.7	0.2	0.12
53 dB. Diff.	53.3	53.2	-0.2	0.2	-0.1	0.12
54 dB. Rel. Ref.	54.0	54.3	-0.7	0.7	0.3	0.12
54 dB. Diff.	54.2	54.3	-0.2	0.2	0.1	0.12
55 dB. Rel. Ref.	55.0	55.3	-0.7	0.7	0.3	0.12
55 dB. Diff.	55.3	55.3	-0.2	0.2	0.0	0.12
56 dB. Rel. Ref.	56.0	56.3	-0.7	0.7	0.3	0.12
56 dB. Diff.	56.3	56.3	-0.2	0.2	0.0	0.12
57 dB. Rel. Ref.	57.0	57.3	-0.7	0.7	0.3	0.12
57 dB. Diff.	57.3	57.3	-0.2	0.2	0.0	0.12
58 dB. Rel. Ref.	58.0	58.3	-0.7	0.7	0.3	0.12
58 dB. Diff.	58.3	58.3	-0.2	0.2	0.0	0.12
59 dB. Rel. Ref.	59.0	59.2	-0.7	0.7	0.2	0.12
59 dB. Diff.	59.3	59.2	-0.2	0.2	-0.1	0.12
60 dB. Rel. Ref.	60.0	60.2	-0.7	0.7	0.2	0.12
60 dB. Diff.	60.2	60.2	-0.2	0.2	0.0	0.12
61 dB. Rel. Ref.	61.0	61.2	-0.7	0.7	0.2	0.12
61 dB. Diff.	61.2	61.2	-0.2	0.2	0.0	0.12
62 dB. Rel. Ref.	62.0	62.2	-0.7	0.7	0.2	0.12
62 dB. Diff.	62.2	62.2	-0.2	0.2	0.0	0.12
63 dB. Rel. Ref.	63.0	63.2	-0.7	0.7	0.2	0.12
63 dB. Diff.	63.2	63.2	-0.2	0.2	0.0	0.12
64 dB. Rel. Ref.	64.0	64.2	-0.7	0.7	0.2	0.12
64 dB. Diff.	64.2	64.2	-0.2	0.2	0.0	0.12
65 dB. Rel. Ref.	65.0	65.2	-0.7	0.7	0.2	0.12
65 dB. Diff.	65.2	65.2	-0.2	0.2	0.0	0.12
66 dB. Rel. Ref.	66.0	66.2	-0.7	0.7	0.2	0.12
66 dB. Diff.	66.2	66.2	-0.2	0.2	0.0	0.12
67 dB. Rel. Ref.	67.0	67.2	-0.7	0.7	0.2	0.12
67 dB. Diff.	67.2	67.2	-0.2	0.2	0.0	0.12
68 dB. Rel. Ref.	68.0	68.1	-0.7	0.7	0.1	0.12
68 dB. Diff.	68.2	68.1	-0.2	0.2	-0.1	0.12
69 dB. Rel. Ref.	69.0	69.1	-0.7	0.7	0.1	0.12
69 dB. Diff.	69.1	69.1	-0.2	0.2	0.0	0.12
70 dB. Rel. Ref.	70.0	70.1	-0.7	0.7	0.1	0.12
70 dB. Diff.	70.1	70.1	-0.2	0.2	0.0	0.12
71 dB. Rel. Ref.	71.0	71.1	-0.7	0.7	0.1	0.12
71 dB. Diff.	71.1	71.1	-0.2	0.2	0.0	0.12
72 dB. Rel. Ref.	72.0	72.1	-0.7	0.7	0.1	0.12
72 dB. Diff.	72.1	72.1	-0.2	0.2	0.0	0.12
73 dB. Rel. Ref.	73.0	73.1	-0.7	0.7	0.1	0.12
73 dB. Diff.	73.1	73.1	-0.2	0.2	0.0	0.12
74 dB. Rel. Ref.	74.0	74.1	-0.7	0.7	0.1	0.12
74 dB. Diff.	74.1	74.1	-0.2	0.2	0.0	0.12
75 dB. Rel. Ref.	75.0	75.1	-0.7	0.7	0.1	0.12
75 dB. Diff.	75.1	75.1	-0.2	0.2	0.0	0.12

76 dB. Rel. Ref.	76.0	76.1	-0.7	0.7	0.1	0.12
76 dB. Diff.	76.1	76.1	-0.2	0.2	0.0	0.12
77 dB. Rel. Ref.	77.0	77.1	-0.7	0.7	0.1	0.12
77 dB. Diff.	77.1	77.1	-0.2	0.2	0.0	0.12
78 dB. Rel. Ref.	78.0	78.1	-0.7	0.7	0.1	0.12
78 dB. Diff.	78.1	78.1	-0.2	0.2	0.0	0.12
79 dB. Rel. Ref.	79.0	79.1	-0.7	0.7	0.1	0.12
79 dB. Diff.	79.1	79.1	-0.2	0.2	0.0	0.12
80 dB. Rel. Ref.	80.0	80.1	-0.7	0.7	0.1	0.12
80 dB. Diff.	80.1	80.1	-0.2	0.2	0.0	0.12
81 dB. Rel. Ref.	81.0	81.1	-0.7	0.7	0.1	0.12
81 dB. Diff.	81.1	81.1	-0.2	0.2	0.0	0.12
82 dB. Rel. Ref.	82.0	82.1	-0.7	0.7	0.1	0.12
82 dB. Diff.	82.1	82.1	-0.2	0.2	0.0	0.12
83 dB. Rel. Ref.	83.0	83.1	-0.7	0.7	0.1	0.12
83 dB. Diff.	83.1	83.1	-0.2	0.2	0.0	0.12
84 dB. Rel. Ref.	84.0	84.1	-0.7	0.7	0.1	0.12
84 dB. Diff.	84.1	84.1	-0.2	0.2	0.0	0.12
85 dB. Rel. Ref.	85.0	85.1	-0.7	0.7	0.1	0.12
85 dB. Diff.	85.1	85.1	-0.2	0.2	0.0	0.12
86 dB. Rel. Ref.	86.0	86.1	-0.7	0.7	0.1	0.12
86 dB. Diff.	86.1	86.1	-0.2	0.2	0.0	0.12
87 dB. Rel. Ref.	87.0	87.1	-0.7	0.7	0.1	0.12
87 dB. Diff.	87.1	87.1	-0.2	0.2	0.0	0.12
88 dB. Rel. Ref.	88.0	88.1	-0.7	0.7	0.1	0.12
88 dB. Diff.	88.1	88.1	-0.2	0.2	0.0	0.12
89 dB. Rel. Ref.	89.0	89.1	-0.7	0.7	0.1	0.12
89 dB. Diff.	89.1	89.1	-0.2	0.2	0.0	0.12
90 dB. Rel. Ref.	90.0	90.1	-0.7	0.7	0.1	0.12
90 dB. Diff.	90.1	90.1	-0.2	0.2	0.0	0.12
91 dB. Rel. Ref.	91.0	91.0	-0.7	0.7	0.0	0.12
91 dB. Diff.	91.1	91.0	-0.2	0.2	-0.1	0.12
92 dB. Rel. Ref.	92.0	92.0	-0.7	0.7	0.0	0.12
92 dB. Diff.	92.0	92.0	-0.2	0.2	0.0	0.12
93 dB. Rel. Ref.	93.0	93.0	-0.7	0.7	0.0	0.12
93 dB. Diff.	93.0	93.0	-0.2	0.2	0.0	0.12
95 dB. Rel. Ref.	95.0	95.0	-0.7	0.7	0.0	0.12
95 dB. Diff.	95.0	95.0	-0.2	0.2	0.0	0.12
96 dB. Rel. Ref.	96.0	96.0	-0.7	0.7	0.0	0.12
96 dB. Diff.	96.0	96.0	-0.2	0.2	0.0	0.12
97 dB. Rel. Ref.	97.0	97.0	-0.7	0.7	0.0	0.12
97 dB. Diff.	97.0	97.0	-0.2	0.2	0.0	0.12
98 dB. Rel. Ref.	98.0	98.0	-0.7	0.7	0.0	0.12
98 dB. Diff.	98.0	98.0	-0.2	0.2	0.0	0.12
99 dB. Rel. Ref.	99.0	99.0	-0.7	0.7	0.0	0.12
99 dB. Diff.	99.0	99.0	-0.2	0.2	0.0	0.12
100 dB. Rel. Ref.	100.0	100.0	-0.7	0.7	0.0	0.12
100 dB. Diff.	100.0	100.0	-0.2	0.2	0.0	0.12
101 dB. Rel. Ref.	101.0	101.0	-0.7	0.7	0.0	0.12
101 dB. Diff.	101.0	101.0	-0.2	0.2	0.0	0.12
102 dB. Rel. Ref.	102.0	102.0	-0.7	0.7	0.0	0.12
102 dB. Diff.	102.0	102.0	-0.2	0.2	0.0	0.12
103 dB. Rel. Ref.	103.0	103.0	-0.7	0.7	0.0	0.12
103 dB. Diff.	103.0	103.0	-0.2	0.2	0.0	0.12
104 dB. Rel. Ref.	104.0	104.0	-0.7	0.7	0.0	0.12
104 dB. Diff.	104.0	104.0	-0.2	0.2	0.0	0.12
105 dB. Rel. Ref.	105.0	105.0	-0.7	0.7	0.0	0.12
105 dB. Diff.	105.0	105.0	-0.2	0.2	0.0	0.12

106 dB. Rel. Ref.	106.0	106.0	-0.7	0.7	0.0	0.12
106 dB. Diff.	106.0	106.0	-0.2	0.2	0.0	0.12
107 dB. Rel. Ref.	107.0	107.0	-0.7	0.7	0.0	0.12
107 dB. Diff.	107.0	107.0	-0.2	0.2	0.0	0.12
108 dB. Rel. Ref.	108.0	108.0	-0.7	0.7	0.0	0.12
108 dB. Diff.	108.0	108.0	-0.2	0.2	0.0	0.12
109 dB. Rel. Ref.	109.0	109.0	-0.7	0.7	0.0	0.12
109 dB. Diff.	109.0	109.0	-0.2	0.2	0.0	0.12
110 dB. Rel. Ref.	110.0	110.0	-0.7	0.7	0.0	0.12
110 dB. Diff.	110.0	110.0	-0.2	0.2	0.0	0.12
111 dB. Rel. Ref.	111.0	111.0	-0.7	0.7	0.0	0.12
111 dB. Diff.	111.0	111.0	-0.2	0.2	0.0	0.12
112 dB. Rel. Ref.	112.0	112.0	-0.7	0.7	0.0	0.12
112 dB. Diff.	112.0	112.0	-0.2	0.2	0.0	0.12
113 dB. Rel. Ref.	113.0	112.9	-0.7	0.7	-0.1	0.12
113 dB. Diff.	113.0	112.9	-0.2	0.2	-0.1	0.12
114 dB. Rel. Ref.	114.0	113.9	-0.7	0.7	-0.1	0.12
114 dB. Diff.	113.9	113.9	-0.2	0.2	0.0	0.12
115 dB. Rel. Ref.	115.0	114.9	-0.7	0.7	-0.1	0.12
115 dB. Diff.	114.9	114.9	-0.2	0.2	0.0	0.12
116 dB. Rel. Ref.	116.0	115.9	-0.7	0.7	-0.1	0.12
116 dB. Diff.	115.9	115.9	-0.2	0.2	0.0	0.12
117 dB. Rel. Ref.	117.0	116.9	-0.7	0.7	-0.1	0.12
117 dB. Diff.	116.9	116.9	-0.2	0.2	0.0	0.12
118 dB. Rel. Ref.	118.0	117.9	-0.7	0.7	-0.1	0.12
118 dB. Diff.	117.9	117.9	-0.2	0.2	0.0	0.12
119 dB. Rel. Ref.	119.0	118.9	-0.7	0.7	-0.1	0.12
119 dB. Diff.	118.9	118.9	-0.2	0.2	0.0	0.12
120 dB. Rel. Ref.	120.0	119.9	-0.7	0.7	-0.1	0.12
120 dB. Diff.	119.9	119.9	-0.2	0.2	0.0	0.12
121 dB. Rel. Ref.	121.0	120.9	-0.7	0.7	-0.1	0.12
121 dB. Diff.	120.9	120.9	-0.2	0.2	0.0	0.12
122 dB. Rel. Ref.	122.0	121.9	-0.7	0.7	-0.1	0.12
122 dB. Diff.	121.9	121.9	-0.2	0.2	0.0	0.12
123 dB. Rel. Ref.	123.0	122.9	-0.7	0.7	-0.1	0.12
123 dB. Diff.	122.9	122.9	-0.2	0.2	0.0	0.12
124 dB. Rel. Ref.	124.0	123.8	-0.7	0.7	-0.2	0.12
124 dB. Diff.	123.9	123.8	-0.2	0.2	-0.1	0.12
125 dB. Rel. Ref.	125.0	124.8	-0.7	0.7	-0.2	0.12
125 dB. Diff.	124.8	124.8	-0.2	0.2	0.0	0.12
126 dB. Rel. Ref.	126.0	125.8	-0.7	0.7	-0.2	0.12
126 dB. Diff.	125.8	125.8	-0.2	0.2	0.0	0.12
127 dB. Rel. Ref.	127.0	126.8	-0.7	0.7	-0.2	0.12
127 dB. Diff.	126.8	126.8	-0.2	0.2	0.0	0.12
128 dB. Rel. Ref.	128.0	127.8	-0.7	0.7	-0.2	0.12
128 dB. Diff.	127.8	127.8	-0.2	0.2	0.0	0.12
129 dB. Rel. Ref.	129.0	128.8	-0.7	0.7	-0.2	0.12
129 dB. Diff.	128.8	128.8	-0.2	0.2	0.0	0.12
130 dB. Rel. Ref.	130.0	129.7	-0.7	0.7	-0.3	0.12
130 dB. Diff.	129.8	129.7	-0.2	0.2	-0.1	0.12

Linearity Range, IEC60651, 4000 Hz, SPL 10 dB steps - Detector 1

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	94.0	-1.0	1.0	0.0	0.12
52 dB. Rel. Ref.	52.0	52.3	-0.7	0.7	0.3	0.12
60 dB. Rel. Ref.	60.0	60.2	-0.7	0.7	0.2	0.12
60 dB. Diff.	60.3	60.2	-0.4	0.4	-0.1	0.12
70 dB. Rel. Ref.	70.0	70.1	-0.7	0.7	0.1	0.12
70 dB. Diff.	70.2	70.1	-0.4	0.4	-0.1	0.12
80 dB. Rel. Ref.	80.0	80.1	-0.7	0.7	0.1	0.12
80 dB. Diff.	80.1	80.1	-0.4	0.4	0.0	0.12
90 dB. Rel. Ref.	90.0	90.0	-0.7	0.7	0.0	0.12
90 dB. Diff.	90.1	90.0	-0.4	0.4	-0.1	0.12
100 dB. Rel. Ref.	100.0	100.0	-0.7	0.7	0.0	0.12
100 dB. Diff.	100.0	100.0	-0.4	0.4	0.0	0.12
110 dB. Rel. Ref.	110.0	109.9	-0.7	0.7	-0.1	0.12
110 dB. Diff.	110.0	109.9	-0.4	0.4	-0.1	0.12
120 dB. Rel. Ref.	120.0	119.9	-0.7	0.7	-0.1	0.12
120 dB. Diff.	119.9	119.9	-0.4	0.4	0.0	0.12
130 dB. Rel. Ref.	130.0	129.7	-0.7	0.7	-0.3	0.12
130 dB. Diff.	129.9	129.7	-0.4	0.4	-0.2	0.12

Linearity Range, IEC60804, Leq - Detector 1

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	93.9	-1.0	1.0	-0.1	0.15
52 dB. Rel. Ref.	51.9	52.1	-0.7	0.7	0.2	0.15
60 dB. Rel. Ref.	59.9	60.1	-0.7	0.7	0.2	0.15
70 dB. Rel. Ref.	69.9	70.1	-0.7	0.7	0.2	0.15
80 dB. Rel. Ref.	79.9	80.0	-0.7	0.7	0.1	0.15
90 dB. Rel. Ref.	89.9	90.0	-0.7	0.7	0.1	0.15
100 dB. Rel. Ref.	99.9	99.9	-0.7	0.7	0.0	0.15
110 dB. Rel. Ref.	109.9	109.9	-0.7	0.7	0.0	0.15
120 dB. Rel. Ref.	119.9	119.8	-0.7	0.7	-0.1	0.15
130 dB. Rel. Ref.	129.9	129.6	-0.7	0.7	-0.3	0.15

Linearity Range, IEC60804, SEL - Detector 1

The sound exposure level reading of the sound level meter when exposed to single 4 kHz tonebursts of 1 s duration is registered for various levels of the toneburst covering the reference level range and including a burst with a peak level of Vref + 2 dB corresponding to a sound exposure level of Lref. From this the response at other sound exposure levels than Lref is calculated relative to the response at Lref . The relative response is compared to the anticipated relative response.
The signal levels are defined relative to Lmin. The measurements are carried out with A frequency weightings.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
94 dB	94.0	93.9	-1.0	1.0	-0.1	0.15	*
54 dB. Rel. Ref.	53.9	54.2	-0.7	0.7	0.3	0.15	*
60 dB. Rel. Ref.	59.9	60.1	-0.7	0.7	0.2	0.15	*
70 dB. Rel. Ref.	69.9	70.1	-0.7	0.7	0.2	0.15	*
80 dB. Rel. Ref.	79.9	80.0	-0.7	0.7	0.1	0.15	*
90 dB. Rel. Ref.	89.9	90.0	-0.7	0.7	0.1	0.15	*
100 dB. Rel. Ref.	99.9	99.9	-0.7	0.7	0.0	0.15	*
110 dB. Rel. Ref.	109.9	109.8	-0.7	0.7	-0.1	0.15	*
120 dB. Rel. Ref.	119.9	119.8	-0.7	0.7	-0.1	0.15	*
130 dB. Rel. Ref.	129.9	129.6	-0.7	0.7	-0.3	0.15	*

RMS Detector, Sine Burst, CF3 - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	121.3	121.2	-0.5	0.5	-0.1	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	111.4	111.4	-0.5	0.5	0.0	0.25	*
Ref. 108 dB	108.0	107.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 108 dB	101.4	101.5	-0.5	0.5	0.1	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	91.5	91.6	-0.5	0.5	0.1	0.25	*
Ref. 88 dB	88.0	88.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 88 dB	81.5	81.5	-0.5	0.5	0.0	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	71.6	71.6	-0.5	0.5	0.0	0.25	*
Ref. 68 dB	68.0	68.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 68 dB	61.6	61.7	-0.5	0.5	0.1	0.25	*

RMS Detector, Sine Burst, CF5 - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	116.9	116.9	-1.0	1.0	0.0	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	107.0	106.8	-1.0	1.0	-0.2	0.25	*
Ref. 108 dB	108.0	107.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 108 dB	97.0	96.8	-1.0	1.0	-0.2	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	87.1	86.9	-1.0	1.0	-0.2	0.25	*
Ref. 88 dB	88.0	88.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 88 dB	77.1	77.3	-1.0	1.0	0.2	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	67.2	67.3	-1.0	1.0	0.1	0.25	*
Ref. 68 dB	68.0	68.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 68 dB	57.2	57.5	-1.0	1.0	0.3	0.25	*

RMS Detector, Sine Burst, CF10 - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	110.9	110.6	-1.5	1.5	-0.3	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	101.0	100.9	-1.5	1.5	-0.1	0.25	*
Ref. 108 dB	108.0	107.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 108 dB	91.0	91.2	-1.5	1.5	0.2	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	81.1	80.7	-1.5	1.5	-0.4	0.25	*
Ref. 88 dB	88.0	88.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 88 dB	71.1	70.9	-1.5	1.5	-0.2	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	61.2	60.9	-1.5	1.5	-0.3	0.25	*

Time Weighting, Difference in Reference Level Indication - Detector 1

The response of the sound level meter to a steady 1 kHz sinusoidal voltage signal at the reference level is registered for each timeweighting available in the sound level meter. The differences between the responses are calculated and compared to the maximum allowed differences.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. Fast	94.0	94.0	-1.0	1.0	0.0	0.11	
Meas. Slow	94.0	94.0	-0.1	0.1	0.0	0.11	*
Meas. Impulse	94.0	94.0	-0.1	0.1	0.0	0.11	*

Time Weighting, Response to Single Burst, 200 ms, F - Detector 1

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 126 dB	124.8	124.8	-1.0	1.0	0.0	0.20	*
Ref. 116 dB	116.0	115.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 116 dB	114.9	114.8	-1.0	1.0	-0.1	0.20	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	105.0	104.9	-1.0	1.0	-0.1	0.20	*
Ref. 96 dB	96.0	96.0	-1.0	1.0	0.0	0.11	
Burst Meas. 96 dB	95.0	95.0	-1.0	1.0	0.0	0.20	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	85.1	85.0	-1.0	1.0	-0.1	0.20	*
Ref. 76 dB	76.0	76.1	-1.0	1.0	0.1	0.11	
Burst Meas. 76 dB	75.1	75.1	-1.0	1.0	0.0	0.20	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	65.2	65.1	-1.0	1.0	-0.1	0.20	*
Ref. 56 dB	56.0	56.3	-1.0	1.0	0.3	0.11	
Burst Meas. 56 dB	55.3	55.3	-1.0	1.0	0.0	0.20	*

Time Weighting, Response to Single Burst, 500 ms, S - Detector 1

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 126 dB	121.7	121.7	-1.0	1.0	0.0	0.25	*
Ref. 116 dB	116.0	115.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 116 dB	111.8	111.8	-1.0	1.0	0.0	0.25	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	101.9	101.9	-1.0	1.0	0.0	0.25	*
Ref. 96 dB	96.0	96.0	-1.0	1.0	0.0	0.11	
Burst Meas. 96 dB	91.9	91.8	-1.0	1.0	-0.1	0.25	*
Ref. 86 dB	86.0	86.0	-1.0	1.0	0.0	0.11	
Burst Meas. 86 dB	81.9	81.9	-1.0	1.0	0.0	0.25	*
Ref. 76 dB	76.0	76.1	-1.0	1.0	0.1	0.11	
Burst Meas. 76 dB	72.0	71.9	-1.0	1.0	-0.1	0.25	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	62.1	62.1	-1.0	1.0	0.0	0.25	*
Ref. 56 dB	56.0	56.3	-1.0	1.0	0.3	0.11	
Burst Meas. 56 dB	52.2	52.3	-1.0	1.0	0.1	0.25	*

Time Weighting, Response to Single Burst, 20 ms, I - Detector 1

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	122.3	122.3	-1.5	1.5	0.0	0.35	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	112.4	112.2	-1.5	1.5	-0.2	0.35	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	102.4	102.2	-1.5	1.5	-0.2	0.35	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	92.5	92.6	-1.5	1.5	0.1	0.35	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	82.5	82.5	-1.5	1.5	0.0	0.35	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	72.6	72.7	-1.5	1.5	0.1	0.35	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	62.6	62.5	-1.5	1.5	-0.1	0.35	*

Time Weighting, Response to Single Burst, 5 ms, I - Detector 1

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	117.1	116.7	-2.0	2.0	-0.4	0.60	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	107.2	106.8	-2.0	2.0	-0.4	0.60	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	97.2	96.9	-2.0	2.0	-0.3	0.60	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	87.3	87.0	-2.0	2.0	-0.3	0.60	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	77.3	77.5	-2.0	2.0	0.2	0.60	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	67.4	67.2	-2.0	2.0	-0.2	0.60	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	57.4	57.3	-2.0	2.0	-0.1	0.60	*

Time Weighting, Response to Single Burst, 2 ms, I - Detector 1

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 126 dB	113.2	113.3	-2.0	2.0	0.1	0.60	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	103.4	103.5	-2.0	2.0	0.1	0.60	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	93.4	93.1	-2.0	2.0	-0.3	0.60	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	83.5	83.5	-2.0	2.0	0.0	0.60	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	73.5	73.6	-2.0	2.0	0.1	0.60	*
Ref. 76 dB	76.0	76.1	-1.0	1.0	0.1	0.11	
Burst Meas. 76 dB	63.5	63.2	-2.0	2.0	-0.3	0.60	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	53.6	53.3	-2.0	2.0	-0.3	0.60	*

Time Weighting, Response to a Continuous Sequence of Bursts, 100 Hz - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 130 dB	130.0	129.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 130 dB	127.1	127.0	-1.0	1.0	-0.1	0.25	*
Ref. 120 dB	120.0	119.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 120 dB	117.2	117.2	-1.0	1.0	0.0	0.25	*
Ref. 110 dB	110.0	110.0	-1.0	1.0	0.0	0.11	
Burst Meas. 110 dB	107.3	107.2	-1.0	1.0	-0.1	0.25	*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11	
Burst Meas. 100 dB	97.4	97.3	-1.0	1.0	-0.1	0.25	*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11	
Burst Meas. 90 dB	87.4	87.3	-1.0	1.0	-0.1	0.25	*
Ref. 80 dB	80.0	80.1	-1.0	1.0	0.1	0.11	
Burst Meas. 80 dB	77.4	77.3	-1.0	1.0	-0.1	0.25	*
Ref. 70 dB	70.0	70.2	-1.0	1.0	0.2	0.11	
Burst Meas. 70 dB	67.5	67.4	-1.0	1.0	-0.1	0.25	*
Ref. 60 dB	60.0	60.3	-1.0	1.0	0.3	0.11	
Burst Meas. 60 dB	57.6	57.5	-1.0	1.0	-0.1	0.25	*

Time Weighting, Response to a Continuous Sequence of Bursts, 20 Hz - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 130 dB	130.0	129.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 130 dB	122.2	122.0	-2.0	2.0	-0.2	0.45	*
Ref. 120 dB	120.0	119.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 120 dB	112.3	112.3	-2.0	2.0	0.0	0.45	*
Ref. 110 dB	110.0	110.0	-1.0	1.0	0.0	0.11	
Burst Meas. 110 dB	102.4	102.4	-2.0	2.0	0.0	0.45	*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11	
Burst Meas. 100 dB	92.5	92.4	-2.0	2.0	-0.1	0.45	*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11	
Burst Meas. 90 dB	82.5	82.2	-2.0	2.0	-0.3	0.45	*
Ref. 80 dB	80.0	80.1	-1.0	1.0	0.1	0.11	
Burst Meas. 80 dB	72.5	72.4	-2.0	2.0	-0.1	0.45	*
Ref. 70 dB	70.0	70.2	-1.0	1.0	0.2	0.11	
Burst Meas. 70 dB	62.6	62.5	-2.0	2.0	-0.1	0.45	*
Ref. 60 dB	60.0	60.3	-1.0	1.0	0.3	0.11	
Burst Meas. 60 dB	52.7	52.9	-2.0	2.0	0.2	0.45	*

Time Weighting, Response to a Continuous Sequence of Bursts, 2 Hz - Detector 1

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 130 dB	130.0	129.8	-1.0	1.0	-0.2	0.11	
Burst Meas. 130 dB	121.0	120.9	-2.0	2.0	-0.1	0.45	*
Ref. 120 dB	120.0	120.0	-1.0	1.0	0.0	0.11	
Burst Meas. 120 dB	111.2	111.1	-2.0	2.0	-0.1	0.45	*
Ref. 110 dB	110.0	110.0	-1.0	1.0	0.0	0.11	
Burst Meas. 110 dB	101.2	101.2	-2.0	2.0	0.0	0.45	*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11	
Burst Meas. 100 dB	91.3	91.4	-2.0	2.0	0.1	0.45	*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11	
Burst Meas. 90 dB	81.3	81.1	-2.0	2.0	-0.2	0.45	*
Ref. 80 dB	80.0	80.1	-1.0	1.0	0.1	0.11	
Burst Meas. 80 dB	71.3	71.2	-2.0	2.0	-0.1	0.45	*
Ref. 70 dB	70.0	70.2	-1.0	1.0	0.2	0.11	
Burst Meas. 70 dB	61.4	61.2	-2.0	2.0	-0.2	0.45	*
Ref. 60 dB	60.0	60.3	-1.0	1.0	0.3	0.11	
Burst Meas. 60 dB	51.5	51.7	-2.0	2.0	0.2	0.45	*

Time averaging, Leq - SEL - Detector 1

The response of the sound level meter to sequences of repeated 4 kHz tonebursts when measuring timeaverage sound level or sound exposure level is registered for various toneburst repetition frequencies and durations of the individual tonebursts. The peak level of the tonebursts is adjusted so that the timeaverage level is constant for all the signals. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. Cont.	70.0	70.1	-1.0	1.0	0.1	0.20	*
Leq 1/10	70.1	70.0	-0.5	0.5	-0.1	0.20	*
SEL 1/10	87.9	87.8	-0.5	0.5	-0.1	0.20	*
Leq 1/100	70.1	69.6	-0.5	0.5	-0.5	0.20	*
SEL 1/100	87.9	87.4	-0.5	0.5	-0.5	0.20	*
Leq 1/1000	70.1	69.6	-1.0	1.0	-0.5	0.20	*
SEL 1/1000	87.9	87.3	-1.0	1.0	-0.6	0.20	*
Leq 1/10000	70.1	69.5	-1.0	1.0	-0.6	0.20	*
SEL 1/10000	94.9	94.3	-1.0	1.0	-0.6	0.20	*

Pulse Range, Leq - SEL - Detector 1

The sound exposure level or timeaverage sound level reading of the sound level meter when exposed to single 4 kHz tonebursts superimposed on a low level steady 4 kHz signal is registered for various toneburst durations. The level of the low level signal is the minimum level of the reference range of the sound level meter, and the tonebursts are in phase with the low level signal. The toneburst responses are compared to their theoretical values calculated with the integration time used.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. Cont.	110.0	109.9	-1.0	1.0	-0.1	0.25	*
Leq 1msec	62.4	62.4	-2.2	2.2	0.0	0.25	*
SEL 1msec	80.2	80.2	-2.2	2.2	0.0	0.25	*
Leq 10msec	72.1	72.1	-1.7	1.7	0.0	0.25	*
SEL 10msec	89.9	89.9	-1.7	1.7	0.0	0.25	*
Leq 100msec	82.1	82.1	-1.7	1.7	0.0	0.25	*
SEL 100msec	99.9	99.8	-1.7	1.7	-0.1	0.25	*
Leq 1sec	92.1	92.1	-1.7	1.7	0.0	0.25	*
SEL 1sec	109.9	109.9	-1.7	1.7	0.0	0.25	*

Overload Indication, Sine Signals, Inverse A

The function of the overload detector of the sound level meter is verified with different voltage signals at levels around the limit of overload indication. A signal at a level corresponding to 5 dB below the maximum level of the sound level meter is applied starting at 1 kHz. The frequency of the signal is then lowered in 1/3-octave steps, and at the same time the level of the signal is increased so as to keep the same A-frequency-weighted level, until an overload is detected or the acceptance limits of the routine are exceeded.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
1000Hz <Ref>	135.0	134.8	-1.0	1.0	-0.2	0.31	
794.33Hz	134.8	134.8	-1.0	1.0	0.0	0.31	
630.96Hz	134.8	134.8	-1.0	1.0	0.0	0.31	
501.19Hz	134.8	134.8	-1.0	1.0	0.0	0.31	
398.11Hz	134.8	134.8	-1.0	1.0	0.0	0.31	
316.23Hz	134.8	134.8	-1.0	1.0	0.0	0.31	Overload

Overload Indication, 4kHz Tone burst

The function of the overload detector of the sound level meter is verified with different voltage signals at levels around the limit of overload indication. The applied signal is a 4-period 4 kHz tonebursts starting 5 dB below Lmax, the signal level is increased until an overload is detected or the acceptance limits of the routine are exceeded.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]		
Ref. 135 dB	105.0	104.6	-2.0	2.0	-0.4	0.31		*
136 dB	105.6	105.4	-1.0	1.0	-0.2	0.31		*
137 dB	106.6	106.3	-1.0	1.0	-0.3	0.31		*
138 dB	107.6	107.6	-1.0	1.0	0.0	0.31		*
139 dB	108.6	108.5	-1.0	1.0	-0.1	0.31		*
140 dB	109.6	109.2	-1.0	1.0	-0.4	0.31		*
141 dB	110.6	110.2	-1.0	1.0	-0.4	0.31		*
142 dB	111.6	111.7	-1.0	1.0	0.1	0.31	Overload	*

Taktmaximal

The response of the sound level meter to sequences of repeated tonebursts when measuring Taktmaximal is registered, using a frequency of 4 kHz and a duration of 200 msec. (according to DIN 45657)

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref.	128.0	127.7	-1.0	1.0	-0.3	0.08	*
LTm5	124.8	124.7	-0.5	0.5	-0.1	0.08	*

Linearity Range, IEC60651, 1000 Hz, SPL 1 dB steps - Detector 2

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	94.1	-1.0	1.0	0.1	0.12
52 dB. Rel. Ref.	52.1	52.4	-0.7	0.7	0.3	0.12
53 dB. Rel. Ref.	53.1	53.4	-0.7	0.7	0.3	0.12
53 dB. Diff.	53.4	53.4	-0.2	0.2	0.0	0.12
54 dB. Rel. Ref.	54.1	54.4	-0.7	0.7	0.3	0.12
54 dB. Diff.	54.4	54.4	-0.2	0.2	0.0	0.12
55 dB. Rel. Ref.	55.1	55.4	-0.7	0.7	0.3	0.12
55 dB. Diff.	55.4	55.4	-0.2	0.2	0.0	0.12
56 dB. Rel. Ref.	56.1	56.4	-0.7	0.7	0.3	0.12
56 dB. Diff.	56.4	56.4	-0.2	0.2	0.0	0.12
57 dB. Rel. Ref.	57.1	57.4	-0.7	0.7	0.3	0.12
57 dB. Diff.	57.4	57.4	-0.2	0.2	0.0	0.12
58 dB. Rel. Ref.	58.1	58.4	-0.7	0.7	0.3	0.12
58 dB. Diff.	58.4	58.4	-0.2	0.2	0.0	0.12
59 dB. Rel. Ref.	59.1	59.3	-0.7	0.7	0.2	0.12
59 dB. Diff.	59.4	59.3	-0.2	0.2	-0.1	0.12
60 dB. Rel. Ref.	60.1	60.3	-0.7	0.7	0.2	0.12
60 dB. Diff.	60.3	60.3	-0.2	0.2	0.0	0.12
61 dB. Rel. Ref.	61.1	61.3	-0.7	0.7	0.2	0.12
61 dB. Diff.	61.3	61.3	-0.2	0.2	0.0	0.12
62 dB. Rel. Ref.	62.1	62.3	-0.7	0.7	0.2	0.12
62 dB. Diff.	62.3	62.3	-0.2	0.2	0.0	0.12
63 dB. Rel. Ref.	63.1	63.3	-0.7	0.7	0.2	0.12
63 dB. Diff.	63.3	63.3	-0.2	0.2	0.0	0.12
64 dB. Rel. Ref.	64.1	64.3	-0.7	0.7	0.2	0.12
64 dB. Diff.	64.3	64.3	-0.2	0.2	0.0	0.12
65 dB. Rel. Ref.	65.1	65.3	-0.7	0.7	0.2	0.12
65 dB. Diff.	65.3	65.3	-0.2	0.2	0.0	0.12
66 dB. Rel. Ref.	66.1	66.3	-0.7	0.7	0.2	0.12
66 dB. Diff.	66.3	66.3	-0.2	0.2	0.0	0.12
67 dB. Rel. Ref.	67.1	67.2	-0.7	0.7	0.1	0.12
67 dB. Diff.	67.3	67.2	-0.2	0.2	-0.1	0.12
68 dB. Rel. Ref.	68.1	68.2	-0.7	0.7	0.1	0.12
68 dB. Diff.	68.2	68.2	-0.2	0.2	0.0	0.12
69 dB. Rel. Ref.	69.1	69.2	-0.7	0.7	0.1	0.12

69 dB. Diff.	69.2	69.2	-0.2	0.2	0.0	0.12
70 dB. Rel. Ref.	70.1	70.2	-0.7	0.7	0.1	0.12
70 dB. Diff.	70.2	70.2	-0.2	0.2	0.0	0.12
71 dB. Rel. Ref.	71.1	71.2	-0.7	0.7	0.1	0.12
71 dB. Diff.	71.2	71.2	-0.2	0.2	0.0	0.12
72 dB. Rel. Ref.	72.1	72.2	-0.7	0.7	0.1	0.12
72 dB. Diff.	72.2	72.2	-0.2	0.2	0.0	0.12
73 dB. Rel. Ref.	73.1	73.2	-0.7	0.7	0.1	0.12
73 dB. Diff.	73.2	73.2	-0.2	0.2	0.0	0.12
74 dB. Rel. Ref.	74.1	74.2	-0.7	0.7	0.1	0.12
74 dB. Diff.	74.2	74.2	-0.2	0.2	0.0	0.12
75 dB. Rel. Ref.	75.1	75.2	-0.7	0.7	0.1	0.12
75 dB. Diff.	75.2	75.2	-0.2	0.2	0.0	0.12
76 dB. Rel. Ref.	76.1	76.2	-0.7	0.7	0.1	0.12
76 dB. Diff.	76.2	76.2	-0.2	0.2	0.0	0.12
77 dB. Rel. Ref.	77.1	77.2	-0.7	0.7	0.1	0.12
77 dB. Diff.	77.2	77.2	-0.2	0.2	0.0	0.12
78 dB. Rel. Ref.	78.1	78.2	-0.7	0.7	0.1	0.12
78 dB. Diff.	78.2	78.2	-0.2	0.2	0.0	0.12
79 dB. Rel. Ref.	79.1	79.2	-0.7	0.7	0.1	0.12
79 dB. Diff.	79.2	79.2	-0.2	0.2	0.0	0.12
80 dB. Rel. Ref.	80.1	80.2	-0.7	0.7	0.1	0.12
80 dB. Diff.	80.2	80.2	-0.2	0.2	0.0	0.12
81 dB. Rel. Ref.	81.1	81.1	-0.7	0.7	0.0	0.12
81 dB. Diff.	81.2	81.1	-0.2	0.2	-0.1	0.12
82 dB. Rel. Ref.	82.1	82.1	-0.7	0.7	0.0	0.12
82 dB. Diff.	82.1	82.1	-0.2	0.2	0.0	0.12
83 dB. Rel. Ref.	83.1	83.1	-0.7	0.7	0.0	0.12
83 dB. Diff.	83.1	83.1	-0.2	0.2	0.0	0.12
84 dB. Rel. Ref.	84.1	84.1	-0.7	0.7	0.0	0.12
84 dB. Diff.	84.1	84.1	-0.2	0.2	0.0	0.12
85 dB. Rel. Ref.	85.1	85.1	-0.7	0.7	0.0	0.12
85 dB. Diff.	85.1	85.1	-0.2	0.2	0.0	0.12
86 dB. Rel. Ref.	86.1	86.1	-0.7	0.7	0.0	0.12
86 dB. Diff.	86.1	86.1	-0.2	0.2	0.0	0.12
87 dB. Rel. Ref.	87.1	87.1	-0.7	0.7	0.0	0.12
87 dB. Diff.	87.1	87.1	-0.2	0.2	0.0	0.12
88 dB. Rel. Ref.	88.1	88.1	-0.7	0.7	0.0	0.12
88 dB. Diff.	88.1	88.1	-0.2	0.2	0.0	0.12
89 dB. Rel. Ref.	89.1	89.1	-0.7	0.7	0.0	0.12
89 dB. Diff.	89.1	89.1	-0.2	0.2	0.0	0.12
90 dB. Rel. Ref.	90.1	90.1	-0.7	0.7	0.0	0.12
90 dB. Diff.	90.1	90.1	-0.2	0.2	0.0	0.12
91 dB. Rel. Ref.	91.1	91.1	-0.7	0.7	0.0	0.12
91 dB. Diff.	91.1	91.1	-0.2	0.2	0.0	0.12
92 dB. Rel. Ref.	92.1	92.1	-0.7	0.7	0.0	0.12
92 dB. Diff.	92.1	92.1	-0.2	0.2	0.0	0.12
93 dB. Rel. Ref.	93.1	93.1	-0.7	0.7	0.0	0.12
93 dB. Diff.	93.1	93.1	-0.2	0.2	0.0	0.12
95 dB. Rel. Ref.	95.1	95.1	-0.7	0.7	0.0	0.12
95 dB. Diff.	95.1	95.1	-0.2	0.2	0.0	0.12
96 dB. Rel. Ref.	96.1	96.1	-0.7	0.7	0.0	0.12
96 dB. Diff.	96.1	96.1	-0.2	0.2	0.0	0.12
97 dB. Rel. Ref.	97.1	97.1	-0.7	0.7	0.0	0.12
97 dB. Diff.	97.1	97.1	-0.2	0.2	0.0	0.12

98 dB. Rel. Ref.	98.1	98.1	-0.7	0.7	0.0	0.12
98 dB. Diff.	98.1	98.1	-0.2	0.2	0.0	0.12
99 dB. Rel. Ref.	99.1	99.1	-0.7	0.7	0.0	0.12
99 dB. Diff.	99.1	99.1	-0.2	0.2	0.0	0.12
100 dB. Rel. Ref.	100.1	100.1	-0.7	0.7	0.0	0.12
100 dB. Diff.	100.1	100.1	-0.2	0.2	0.0	0.12
101 dB. Rel. Ref.	101.1	101.1	-0.7	0.7	0.0	0.12
101 dB. Diff.	101.1	101.1	-0.2	0.2	0.0	0.12
102 dB. Rel. Ref.	102.1	102.1	-0.7	0.7	0.0	0.12
102 dB. Diff.	102.1	102.1	-0.2	0.2	0.0	0.12
103 dB. Rel. Ref.	103.1	103.1	-0.7	0.7	0.0	0.12
103 dB. Diff.	103.1	103.1	-0.2	0.2	0.0	0.12
104 dB. Rel. Ref.	104.1	104.0	-0.7	0.7	-0.1	0.12
104 dB. Diff.	104.1	104.0	-0.2	0.2	-0.1	0.12
105 dB. Rel. Ref.	105.1	105.0	-0.7	0.7	-0.1	0.12
105 dB. Diff.	105.0	105.0	-0.2	0.2	0.0	0.12
106 dB. Rel. Ref.	106.1	106.0	-0.7	0.7	-0.1	0.12
106 dB. Diff.	106.0	106.0	-0.2	0.2	0.0	0.12
107 dB. Rel. Ref.	107.1	107.0	-0.7	0.7	-0.1	0.12
107 dB. Diff.	107.0	107.0	-0.2	0.2	0.0	0.12
108 dB. Rel. Ref.	108.1	108.0	-0.7	0.7	-0.1	0.12
108 dB. Diff.	108.0	108.0	-0.2	0.2	0.0	0.12
109 dB. Rel. Ref.	109.1	109.0	-0.7	0.7	-0.1	0.12
109 dB. Diff.	109.0	109.0	-0.2	0.2	0.0	0.12
110 dB. Rel. Ref.	110.1	110.0	-0.7	0.7	-0.1	0.12
110 dB. Diff.	110.0	110.0	-0.2	0.2	0.0	0.12
111 dB. Rel. Ref.	111.1	111.0	-0.7	0.7	-0.1	0.12
111 dB. Diff.	111.0	111.0	-0.2	0.2	0.0	0.12
112 dB. Rel. Ref.	112.1	112.0	-0.7	0.7	-0.1	0.12
112 dB. Diff.	112.0	112.0	-0.2	0.2	0.0	0.12
113 dB. Rel. Ref.	113.1	113.0	-0.7	0.7	-0.1	0.12
113 dB. Diff.	113.0	113.0	-0.2	0.2	0.0	0.12
114 dB. Rel. Ref.	114.1	114.0	-0.7	0.7	-0.1	0.12
114 dB. Diff.	114.0	114.0	-0.2	0.2	0.0	0.12
115 dB. Rel. Ref.	115.1	115.0	-0.7	0.7	-0.1	0.12
115 dB. Diff.	115.0	115.0	-0.2	0.2	0.0	0.12
116 dB. Rel. Ref.	116.1	116.0	-0.7	0.7	-0.1	0.12
116 dB. Diff.	116.0	116.0	-0.2	0.2	0.0	0.12
117 dB. Rel. Ref.	117.1	117.0	-0.7	0.7	-0.1	0.12
117 dB. Diff.	117.0	117.0	-0.2	0.2	0.0	0.12
118 dB. Rel. Ref.	118.1	118.0	-0.7	0.7	-0.1	0.12
118 dB. Diff.	118.0	118.0	-0.2	0.2	0.0	0.12
119 dB. Rel. Ref.	119.1	119.0	-0.7	0.7	-0.1	0.12
119 dB. Diff.	119.0	119.0	-0.2	0.2	0.0	0.12
120 dB. Rel. Ref.	120.1	120.0	-0.7	0.7	-0.1	0.12
120 dB. Diff.	120.0	120.0	-0.2	0.2	0.0	0.12
121 dB. Rel. Ref.	121.1	121.0	-0.7	0.7	-0.1	0.12
121 dB. Diff.	121.0	121.0	-0.2	0.2	0.0	0.12
122 dB. Rel. Ref.	122.1	122.0	-0.7	0.7	-0.1	0.12
122 dB. Diff.	122.0	122.0	-0.2	0.2	0.0	0.12
123 dB. Rel. Ref.	123.1	122.9	-0.7	0.7	-0.2	0.12
123 dB. Diff.	123.0	122.9	-0.2	0.2	-0.1	0.12
124 dB. Rel. Ref.	124.1	123.9	-0.7	0.7	-0.2	0.12
124 dB. Diff.	123.9	123.9	-0.2	0.2	0.0	0.12
125 dB. Rel. Ref.	125.1	124.9	-0.7	0.7	-0.2	0.12

125 dB. Diff.	124.9	124.9	-0.2	0.2	0.0	0.12
126 dB. Rel. Ref.	126.1	125.9	-0.7	0.7	-0.2	0.12
126 dB. Diff.	125.9	125.9	-0.2	0.2	0.0	0.12
127 dB. Rel. Ref.	127.1	126.9	-0.7	0.7	-0.2	0.12
127 dB. Diff.	126.9	126.9	-0.2	0.2	0.0	0.12
128 dB. Rel. Ref.	128.1	127.9	-0.7	0.7	-0.2	0.12
128 dB. Diff.	127.9	127.9	-0.2	0.2	0.0	0.12
129 dB. Rel. Ref.	129.1	128.9	-0.7	0.7	-0.2	0.12
129 dB. Diff.	128.9	128.9	-0.2	0.2	0.0	0.12
130 dB. Rel. Ref.	130.1	129.8	-0.7	0.7	-0.3	0.12
130 dB. Diff.	129.9	129.8	-0.2	0.2	-0.1	0.12

Linearity Range, IEC60651, 4000 Hz, SPL 10 dB steps - Detector 2

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	94.1	-1.0	1.0	0.1	0.12
52 dB. Rel. Ref.	52.1	52.4	-0.7	0.7	0.3	0.12
60 dB. Rel. Ref.	60.1	60.3	-0.7	0.7	0.2	0.12
60 dB. Diff.	60.4	60.3	-0.4	0.4	-0.1	0.12
70 dB. Rel. Ref.	70.1	70.2	-0.7	0.7	0.1	0.12
70 dB. Diff.	70.3	70.2	-0.4	0.4	-0.1	0.12
80 dB. Rel. Ref.	80.1	80.1	-0.7	0.7	0.0	0.12
80 dB. Diff.	80.2	80.1	-0.4	0.4	-0.1	0.12
90 dB. Rel. Ref.	90.1	90.1	-0.7	0.7	0.0	0.12
90 dB. Diff.	90.1	90.1	-0.4	0.4	0.0	0.12
100 dB. Rel. Ref.	100.1	100.1	-0.7	0.7	0.0	0.12
100 dB. Diff.	100.1	100.1	-0.4	0.4	0.0	0.12
110 dB. Rel. Ref.	110.1	110.0	-0.7	0.7	-0.1	0.12
110 dB. Diff.	110.1	110.0	-0.4	0.4	-0.1	0.12
120 dB. Rel. Ref.	120.1	119.9	-0.7	0.7	-0.2	0.12
120 dB. Diff.	120.0	119.9	-0.4	0.4	-0.1	0.12
130 dB. Rel. Ref.	130.1	129.8	-0.7	0.7	-0.3	0.12
130 dB. Diff.	129.9	129.8	-0.4	0.4	-0.1	0.12

Linearity Range, IEC60804, Leq - Detector 2

The response of the sound level meter to sinusoidal voltage signals is registered for various levels covering the reference level range, including a level nominally corresponding to Lref at the measurement frequency. From this the response at the other levels is calculated relative to the response at the level corresponding to Lref. The relative response is compared to the anticipated relative response. For each level the difference between the responses at the level and at the previous level is also calculated in order to determine differential level linearity.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.0	94.0	-1.0	1.0	0.0	0.15
52 dB. Rel. Ref.	52.0	52.2	-0.7	0.7	0.2	0.15
60 dB. Rel. Ref.	60.0	60.2	-0.7	0.7	0.2	0.15
70 dB. Rel. Ref.	70.0	70.1	-0.7	0.7	0.1	0.15
80 dB. Rel. Ref.	80.0	80.1	-0.7	0.7	0.1	0.15
90 dB. Rel. Ref.	90.0	90.0	-0.7	0.7	0.0	0.15
100 dB. Rel. Ref.	100.0	100.0	-0.7	0.7	0.0	0.15
110 dB. Rel. Ref.	110.0	109.9	-0.7	0.7	-0.1	0.15
120 dB. Rel. Ref.	120.0	119.9	-0.7	0.7	-0.1	0.15
130 dB. Rel. Ref.	130.0	129.8	-0.7	0.7	-0.2	0.15

RMS Detector, Sine Burst, CF3 - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	121.3	121.3	-0.5	0.5	0.0	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	111.4	111.5	-0.5	0.5	0.1	0.25	*
Ref. 108 dB	108.0	108.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 108 dB	101.5	101.5	-0.5	0.5	0.0	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	91.5	91.6	-0.5	0.5	0.1	0.25	*
Ref. 88 dB	88.0	88.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 88 dB	81.6	81.6	-0.5	0.5	0.0	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	71.6	71.7	-0.5	0.5	0.1	0.25	*
Ref. 68 dB	68.0	68.2	-1.0	1.0	0.2	0.25	*
Burst Meas. 68 dB	61.7	61.7	-0.5	0.5	0.0	0.25	*

RMS Detector, Sine Burst, CF5 - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	116.9	116.8	-1.0	1.0	-0.1	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	107.0	106.9	-1.0	1.0	-0.1	0.25	*
Ref. 108 dB	108.0	108.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 108 dB	97.1	97.4	-1.0	1.0	0.3	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	87.1	87.3	-1.0	1.0	0.2	0.25	*
Ref. 88 dB	88.0	88.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 88 dB	77.2	77.4	-1.0	1.0	0.2	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	67.2	67.6	-1.0	1.0	0.4	0.25	*
Ref. 68 dB	68.0	68.2	-1.0	1.0	0.2	0.25	*
Burst Meas. 68 dB	57.3	57.2	-1.0	1.0	-0.1	0.25	*

RMS Detector, Sine Burst, CF10 - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst durations of the individual tonebursts. The peak level is held constant for all the signals and the repetition frequency is 40 Hz i.e. different crest factors. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 128 dB	128.0	127.8	-1.0	1.0	-0.2	0.25	*
Burst Meas. 128 dB	110.9	111.0	-1.5	1.5	0.1	0.25	*
Ref. 118 dB	118.0	117.9	-1.0	1.0	-0.1	0.25	*
Burst Meas. 118 dB	101.0	100.9	-1.5	1.5	-0.1	0.25	*
Ref. 108 dB	108.0	108.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 108 dB	91.1	91.0	-1.5	1.5	-0.1	0.25	*
Ref. 98 dB	98.0	98.0	-1.0	1.0	0.0	0.25	*
Burst Meas. 98 dB	81.1	81.2	-1.5	1.5	0.1	0.25	*
Ref. 88 dB	88.0	88.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 88 dB	71.2	71.2	-1.5	1.5	0.0	0.25	*
Ref. 78 dB	78.0	78.1	-1.0	1.0	0.1	0.25	*
Burst Meas. 78 dB	61.2	61.6	-1.5	1.5	0.4	0.25	*

Time Weighting, Difference in Reference Level Indication - Detector 2

The response of the sound level meter to a steady 1 kHz sinusoidal voltage signal at the reference level is registered for each timeweighting available in the sound level meter. The differences between the responses are calculated and compared to the maximum allowed differences.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. Fast	94.0	94.1	-1.0	1.0	0.1	0.11	
Meas. Slow	94.1	94.0	-0.1	0.1	-0.1	0.11	*
Meas. Impulse	94.1	94.1	-0.1	0.1	0.0	0.11	*

Time Weighting, Response to Single Burst, 200 ms, F - Detector 2

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	124.9	124.8	-1.0	1.0	-0.1	0.20	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	115.0	115.0	-1.0	1.0	0.0	0.20	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	105.0	105.0	-1.0	1.0	0.0	0.20	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	95.1	95.0	-1.0	1.0	-0.1	0.20	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	85.1	85.0	-1.0	1.0	-0.1	0.20	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	75.2	75.1	-1.0	1.0	-0.1	0.20	*
Ref. 66 dB	66.0	66.3	-1.0	1.0	0.3	0.11	
Burst Meas. 66 dB	65.3	65.2	-1.0	1.0	-0.1	0.20	*
Ref. 56 dB	56.0	56.4	-1.0	1.0	0.4	0.11	
Burst Meas. 56 dB	55.4	55.4	-1.0	1.0	0.0	0.20	*

Time Weighting, Response to Single Burst, 500 ms, S - Detector 2

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	121.8	121.8	-1.0	1.0	0.0	0.25	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	111.9	111.8	-1.0	1.0	-0.1	0.25	*
Ref. 106 dB	106.0	106.0	-1.0	1.0	0.0	0.11	
Burst Meas. 106 dB	101.9	101.9	-1.0	1.0	0.0	0.25	*
Ref. 96 dB	96.0	96.0	-1.0	1.0	0.0	0.11	
Burst Meas. 96 dB	91.9	92.0	-1.0	1.0	0.1	0.25	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	82.0	82.0	-1.0	1.0	0.0	0.25	*
Ref. 76 dB	76.0	76.1	-1.0	1.0	0.1	0.11	
Burst Meas. 76 dB	72.0	72.0	-1.0	1.0	0.0	0.25	*
Ref. 66 dB	66.0	66.2	-1.0	1.0	0.2	0.11	
Burst Meas. 66 dB	62.1	62.1	-1.0	1.0	0.0	0.25	*
Ref. 56 dB	56.0	56.4	-1.0	1.0	0.4	0.11	
Burst Meas. 56 dB	52.3	52.4	-1.0	1.0	0.1	0.25	*

Time Weighting, Response to Single Burst, 20 ms, I - Detector 2

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	122.3	122.2	-1.5	1.5	-0.1	0.35	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	112.4	112.1	-1.5	1.5	-0.3	0.35	*
Ref. 106 dB	106.0	106.1	-1.0	1.0	0.1	0.11	
Burst Meas. 106 dB	102.5	102.2	-1.5	1.5	-0.3	0.35	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	92.5	92.1	-1.5	1.5	-0.4	0.35	*
Ref. 86 dB	86.0	86.2	-1.0	1.0	0.2	0.11	
Burst Meas. 86 dB	82.6	82.3	-1.5	1.5	-0.3	0.35	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	72.6	72.4	-1.5	1.5	-0.2	0.35	*
Ref. 66 dB	66.0	66.3	-1.0	1.0	0.3	0.11	
Burst Meas. 66 dB	62.7	62.6	-1.5	1.5	-0.1	0.35	*

Time Weighting, Response to Single Burst, 5 ms, I - Detector 2

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	125.9	-1.0	1.0	-0.1	0.11	
Burst Meas. 126 dB	117.1	116.6	-2.0	2.0	-0.5	0.60	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	107.2	107.3	-2.0	2.0	0.1	0.60	*
Ref. 106 dB	106.0	106.1	-1.0	1.0	0.1	0.11	
Burst Meas. 106 dB	97.3	97.2	-2.0	2.0	-0.1	0.60	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	87.3	87.2	-2.0	2.0	-0.1	0.60	*
Ref. 86 dB	86.0	86.2	-1.0	1.0	0.2	0.11	
Burst Meas. 86 dB	77.4	77.1	-2.0	2.0	-0.3	0.60	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	67.4	67.5	-2.0	2.0	0.1	0.60	*
Ref. 66 dB	66.0	66.3	-1.0	1.0	0.3	0.11	
Burst Meas. 66 dB	57.5	57.2	-2.0	2.0	-0.3	0.60	*

Time Weighting, Response to Single Burst, 2 ms, I - Detector 2

The maximum reading of the sound level meter when exposed to single tonebursts is registered for various burst durations. The toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same frequency and peak voltage as the tonebursts.
The response of the Sound Level Meter to a single burst is tested and compared to the anticipated response.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 126 dB	126.0	126.0	-1.0	1.0	0.0	0.11	
Burst Meas. 126 dB	113.4	113.3	-2.0	2.0	-0.1	0.60	*
Ref. 116 dB	116.0	116.0	-1.0	1.0	0.0	0.11	
Burst Meas. 116 dB	103.4	103.3	-2.0	2.0	-0.1	0.60	*
Ref. 106 dB	106.0	106.1	-1.0	1.0	0.1	0.11	
Burst Meas. 106 dB	93.5	92.9	-2.0	2.0	-0.6	0.60	*
Ref. 96 dB	96.0	96.1	-1.0	1.0	0.1	0.11	
Burst Meas. 96 dB	83.5	83.5	-2.0	2.0	0.0	0.60	*
Ref. 86 dB	86.0	86.1	-1.0	1.0	0.1	0.11	
Burst Meas. 86 dB	73.5	73.0	-2.0	2.0	-0.5	0.60	*
Ref. 76 dB	76.0	76.2	-1.0	1.0	0.2	0.11	
Burst Meas. 76 dB	63.6	63.7	-2.0	2.0	0.1	0.60	*
Ref. 66 dB	66.0	66.3	-1.0	1.0	0.3	0.11	
Burst Meas. 66 dB	53.7	53.2	-2.0	2.0	-0.5	0.60	*

Time Weighting, Response to a Continuous Sequence of Bursts, 100 Hz - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 130 dB	130.0	129.9	-1.0	1.0	-0.1	0.11	Overload
Burst Meas. 130 dB	127.2	127.1	-1.0	1.0	-0.1	0.25	*
Ref. 120 dB	120.0	120.0	-1.0	1.0	0.0	0.11	
Burst Meas. 120 dB	117.3	117.3	-1.0	1.0	0.0	0.25	*
Ref. 110 dB	110.0	110.1	-1.0	1.0	0.1	0.11	
Burst Meas. 110 dB	107.4	107.3	-1.0	1.0	-0.1	0.25	*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11	
Burst Meas. 100 dB	97.4	97.4	-1.0	1.0	0.0	0.25	*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11	
Burst Meas. 90 dB	87.4	87.4	-1.0	1.0	0.0	0.25	*
Ref. 80 dB	80.0	80.2	-1.0	1.0	0.2	0.11	
Burst Meas. 80 dB	77.5	77.4	-1.0	1.0	-0.1	0.25	*
Ref. 70 dB	70.0	70.3	-1.0	1.0	0.3	0.11	
Burst Meas. 70 dB	67.6	67.5	-1.0	1.0	-0.1	0.25	*
Ref. 60 dB	60.0	60.4	-1.0	1.0	0.4	0.11	
Burst Meas. 60 dB	57.7	57.7	-1.0	1.0	0.0	0.25	*

Time Weighting, Response to a Continuous Sequence of Bursts, 20 Hz - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. 130 dB	130.0	129.9	-1.0	1.0	-0.1	0.11	Overload
Burst Meas. 130 dB	122.3	122.2	-2.0	2.0	-0.1	0.45	*
Ref. 120 dB	120.0	120.0	-1.0	1.0	0.0	0.11	
Burst Meas. 120 dB	112.4	111.9	-2.0	2.0	-0.5	0.45	*
Ref. 110 dB	110.0	110.1	-1.0	1.0	0.1	0.11	
Burst Meas. 110 dB	102.5	102.5	-2.0	2.0	0.0	0.45	*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11	
Burst Meas. 100 dB	92.5	92.5	-2.0	2.0	0.0	0.45	*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11	
Burst Meas. 90 dB	82.5	82.5	-2.0	2.0	0.0	0.45	*
Ref. 80 dB	80.0	80.2	-1.0	1.0	0.2	0.11	
Burst Meas. 80 dB	72.6	72.6	-2.0	2.0	0.0	0.45	*
Ref. 70 dB	70.0	70.3	-1.0	1.0	0.3	0.11	
Burst Meas. 70 dB	62.7	62.4	-2.0	2.0	-0.3	0.45	*
Ref. 60 dB	60.0	60.4	-1.0	1.0	0.4	0.11	
Burst Meas. 60 dB	52.8	52.8	-2.0	2.0	0.0	0.45	*

Time Weighting, Response to a Continuous Sequence of Bursts, 2 Hz - Detector 2

The response of the sound level meter to sequences of repeated tonebursts when measuring timeweighted sound level is registered for various toneburst repetition frequencies. The peak level of the tonebursts is held constant for all the signals, and the toneburst response of the sound level meter is calculated as the maximum reading relative to the response of the sound level meter to a steady sinusoidal signal with the same peak voltage as the tonebursts. The responses are compared to the anticipated responses.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]		
Ref. 130 dB	130.0	129.9	-1.0	1.0	-0.1	0.11	Overload	
Burst Meas. 130 dB	121.1	120.7	-2.0	2.0	-0.4	0.45		*
Ref. 120 dB	120.0	120.0	-1.0	1.0	0.0	0.11		
Burst Meas. 120 dB	111.2	110.8	-2.0	2.0	-0.4	0.45		*
Ref. 110 dB	110.0	110.1	-1.0	1.0	0.1	0.11		
Burst Meas. 110 dB	101.3	101.1	-2.0	2.0	-0.2	0.45		*
Ref. 100 dB	100.0	100.1	-1.0	1.0	0.1	0.11		
Burst Meas. 100 dB	91.3	91.5	-2.0	2.0	0.2	0.45		*
Ref. 90 dB	90.0	90.1	-1.0	1.0	0.1	0.11		
Burst Meas. 90 dB	81.3	81.4	-2.0	2.0	0.1	0.45		*
Ref. 80 dB	80.0	80.2	-1.0	1.0	0.2	0.11		
Burst Meas. 80 dB	71.4	71.2	-2.0	2.0	-0.2	0.45		*
Ref. 70 dB	70.0	70.3	-1.0	1.0	0.3	0.11		
Burst Meas. 70 dB	61.5	61.3	-2.0	2.0	-0.2	0.45		*
Ref. 60 dB	60.0	60.4	-1.0	1.0	0.4	0.11		
Burst Meas. 60 dB	51.6	51.8	-2.0	2.0	0.2	0.45		*

Time Weighting, Peak - Detector 2

The peak level indication of the sound level meter when exposed to rectangular pulses of different duration is registered. The peak level indicated for a rectangular pulse of short duration is compared to the peak level indicated for a rectangular pulse of duration 10 ms. The measurements are carried out with both positive and negative going pulses. The peak level of the signal is 1 dB below the upper limit of the reference range.

	Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]	
Ref. POS	129.0	129.8	-2.0	2.0	0.8	0.09	*
Meas. POS	129.8	129.8	-2.0	2.0	0.0	0.09	*
Ref. NEG	129.0	130.0	-2.0	2.0	1.0	0.09	*
Meas. NEG	130.0	130.0	-2.0	2.0	0.0	0.09	*

Brüel & Kjær
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Web site address: http://www.bksv.com

ACCREDITED

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-475940-Y0L2Y2-302

Calibration Of:

Model Number : 2238 Filter Serial Number: 2320720

Customer:

CMA Architects & Engineers
1509 F.D. Roosevelt Avenue Suite 201
Guaynabo, PR 00968

CALIBRATION CONDITIONS:

Environment conditions	Air temperature :	23.0	°C
	Air pressure:	98.6	kPa
	Relative Humidity:	43.0	% RH

SPECIFICATIONS:

This document certifies that the instrument as listed under "Model Number" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed instrumentation was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Bruel and Kjaer Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The Instrumentation has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants

PROCEDURE:

The calibration was performed according to procedure number : 170576 ver.1.21

RESULTS:

"As Received" Physical Condition: Acceptable for Calibration

"As Received" Data: "As Received" = "Final Data" "Final Data": Within Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k=2$ providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effect of environmental conditions and any short term contribution from the device under calibration.

Date of Calibration: 19 October 2020

Certificate issued: 19 October 2020

Kyle Chancey

Calibration Technician

Quality Representative

The Brüel & Kjær Calibration Laboratory

RESULTS:

Test software: 170576 ver.1.21 Type: ZT0328 Serial No.: 2320720 Date: 19.10.2020
2238 software: BZ7125 Version: 1,1,0

NOTE: Measurements marked with an asterisk (*) are outside our scope of accreditation.
NOTE: Measurements marked with a G has reduced acceptlimits (Guardbanding).

Parameters	Unit	Max.	Min.	Measured		Expan. Unc.
Visual Inspection						
- Switches, Connectors, Indicators & etc.				OK	*	none

Reference Attenuation:
Calculated attenuation Aref is based on measured input level and output level. Input levels are measured by means of the DMM. Output levels are measured by means of DMM or B&K 2238 using digital readout.

Measuring	Input	Unit	Max.	Min.	Measured	Expan. Unc.
Attenuation to Aux 1	120 dBuV	dBuV	6.20	5.80	6.07	0.02
Attenuation measured by 2238	90 dBuV	dBSPL	-3.70	-4.30	-3.84	0.07

1/3 Octave Filter Relative Attenuation:
Attenuation values are calculated from Vin, Vout and Aref. Input levels are measured by means of the DMM. If expected output level are less than 50mVrms, the output levels are measured by means of the 2238 itself, else the output levels are measured by means of the DMM.
In each filterband the Reference Passband Attenuation i.e. the minimum attenuation of the filterband and variation of attenuation around the centerfrequency are calculated.

20Hz 1/3 octave:

Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
3.70	126 dBuV	2238	dB		70.00	> 78.83		0.50
6.53	-	-	dB		61.00	66.74		0.50
10.60	-	-	dB		42.00	47.34		0.50
15.41	-	Aux1	dB		17.50	22.42		0.09
I: 17.78	120 dBuV	-	dB	4.70	2.40	3.51		0.12
G: 18.35	-	-	dB	1.20	-0.30	0.73		0.09
E: 18.90	-	-	dB	0.60	-0.30	0.08		0.09
C: 19.43	-	-	dB	0.40	-0.30	0.05		0.07
A: 19.95	-	-	dB	0.30	-0.30	0.04		0.07
B: 20.48	-	-	dB	0.40	-0.30	0.05		0.07
D: 21.06	-	-	dB	0.60	-0.30	0.14		0.07
F: 21.70	-	-	dB	1.20	-0.30	0.89		0.08
H: 22.39	-	-	dB	4.70	2.40	3.85		0.12
25.83	126 dBuV	-	dB		17.50	22.63		0.07
37.55	-	2238	dB		42.00	47.19		0.50
60.93	-	-	dB		61.00	65.40		0.50
107.57	-	-	dB		70.00	> 78.92		0.50
Min(A,B,C,D,E,F,G)			dB			0.04		
Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

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25Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	4.66	126 dBuV	2238	dB		70.00	> 78.83		0.50
	8.23	-	-	dB		61.00	65.85		0.50
	13.35	-	-	dB		42.00	47.09		0.50
	19.41	-	Aux1	dB		17.50	22.33		0.09
I:	22.39	120 dBuV	-	dB	4.70	2.40	3.44		0.12
G:	23.10	-	-	dB	1.20	-0.30	0.71		0.08
E:	23.79	-	-	dB	0.60	-0.30	0.07		0.07
C:	24.47	-	-	dB	0.40	-0.30	0.03		0.07
A:	25.12	-	-	dB	0.30	-0.30	0.03		0.07
B:	25.79	-	-	dB	0.40	-0.30	0.04		0.07
D:	26.52	-	-	dB	0.60	-0.30	0.10		0.07
F:	27.32	-	-	dB	1.20	-0.30	0.85		0.08
H:	28.18	-	-	dB	4.70	2.40	3.78		0.12
	32.51	126 dBuV	-	dB		17.50	22.55		0.07
	47.27	-	2238	dB		42.00	47.19		0.50
	76.70	-	-	dB		61.00	65.37		0.50
	135.42	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.21	0.00	0.01	G	0.10

31.5Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	5.86	126 dBuV	2238	dB		70.00	> 78.83		0.50
	10.36	-	-	dB		61.00	65.45		0.50
	16.81	-	-	dB		42.00	46.89		0.50
	24.43	-	Aux1	dB		17.50	22.22		0.07
I:	28.18	120 dBuV	-	dB	4.70	2.40	3.37		0.12
G:	29.08	-	-	dB	1.20	-0.30	0.67		0.08
E:	29.95	-	-	dB	0.60	-0.30	0.05		0.07
C:	30.80	-	-	dB	0.40	-0.30	0.01		0.07
A:	31.62	-	-	dB	0.30	-0.30	0.02		0.07
B:	32.47	-	-	dB	0.40	-0.30	0.02		0.07
D:	33.39	-	-	dB	0.60	-0.30	0.09		0.07
F:	34.39	-	-	dB	1.20	-0.30	0.85		0.08
H:	35.48	-	-	dB	4.70	2.40	3.80		0.12
	40.93	126 dBuV	-	dB		17.50	22.55		0.07
	59.51	-	2238	dB		42.00	47.18		0.50
	96.56	-	-	dB		61.00	65.37		0.50
	170.49	-	-	dB		70.00	> 78.90		0.50
	Min(A,B,C,D,E,F,G)			dB			0.01		
	Max(A,B,C) - Min(A,B,C)			dB	0.21	0.00	0.01	G	0.10

40Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	7.38	126 dBuV	2238	dB		70.00	> 78.84		0.50
	13.04	-	-	dB		61.00	65.49		0.50
	21.16	-	-	dB		42.00	47.07		0.50
	30.76	-	Aux1	dB		17.50	22.35		0.07
I:	35.48	120 dBuV	-	dB	4.70	2.40	3.41		0.12
G:	36.61	-	-	dB	1.20	-0.30	0.65		0.08
E:	37.71	-	-	dB	0.60	-0.30	0.02		0.07
C:	38.78	-	-	dB	0.40	-0.30	-0.01		0.07
A:	39.81	-	-	dB	0.30	-0.30	-0.00		0.07
B:	40.87	-	-	dB	0.40	-0.30	0.00		0.07
D:	42.03	-	-	dB	0.60	-0.30	0.08		0.07
F:	43.29	-	-	dB	1.20	-0.30	0.89		0.08
H:	44.67	-	-	dB	4.70	2.40	3.94		0.12
	51.53	126 dBuV	-	dB		17.50	22.75		0.07
	74.91	-	2238	dB		42.00	47.38		0.50
	121.57	-	-	dB		61.00	65.58		0.50
	214.63	-	-	dB		70.00	> 78.85		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.01		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

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50Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	9.30	126 dBuV	2238	dB		70.00	> 78.86		0.50
	16.41	-	-	dB		61.00	65.35		0.50
	26.63	-	-	dB		42.00	47.06		0.50
	38.72	-	Aux1	dB		17.50	22.28		0.07
I:	44.67	120 dBuV	-	dB	4.70	2.40	3.36		0.12
G:	46.09	-	-	dB	1.20	-0.30	0.64		0.08
E:	47.47	-	-	dB	0.60	-0.30	0.02		0.07
C:	48.82	-	-	dB	0.40	-0.30	-0.02		0.07
A:	50.12	-	-	dB	0.30	-0.30	-0.01		0.07
B:	51.46	-	-	dB	0.40	-0.30	-0.01		0.07
D:	52.91	-	-	dB	0.60	-0.30	0.06		0.07
F:	54.50	-	-	dB	1.20	-0.30	0.86		0.08
H:	56.23	-	-	dB	4.70	2.40	3.89		0.12
	64.87	126 dBuV	-	dB		17.50	22.68		0.07
	94.31	-	2238	dB		42.00	47.29		0.50
	153.05	-	-	dB		61.00	65.46		0.50
	270.20	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

63Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	11.70	126 dBuV	2238	dB		70.00	> 78.83		0.50
	20.66	-	-	dB		61.00	65.28		0.50
	33.53	-	-	dB		42.00	46.98		0.50
	48.75	-	Aux1	dB		17.50	22.20		0.07
I:	56.23	120 dBuV	-	dB	4.70	2.40	3.29		0.12
G:	58.02	-	-	dB	1.20	-0.30	0.61		0.08
E:	59.76	-	-	dB	0.60	-0.30	0.02		0.07
C:	61.46	-	-	dB	0.40	-0.30	-0.02		0.07
A:	63.10	-	-	dB	0.30	-0.30	-0.02		0.07
B:	64.78	-	-	dB	0.40	-0.30	-0.01		0.07
D:	66.61	-	-	dB	0.60	-0.30	0.06		0.07
F:	68.61	-	-	dB	1.20	-0.30	0.87		0.08
H:	70.79	-	-	dB	4.70	2.40	3.92		0.12
	81.67	126 dBuV	-	dB		17.50	22.68		0.07
	118.73	-	2238	dB		42.00	47.27		0.50
	192.67	-	-	dB		61.00	65.47		0.50
	340.16	-	-	dB		70.00	> 78.89		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

80Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	14.73	126 dBuV	2238	dB		70.00	> 78.87		0.50
	26.01	-	-	dB		61.00	65.24		0.50
	42.21	-	-	dB		42.00	47.06		0.50
	61.37	-	Aux1	dB		17.50	22.13		0.07
I:	70.79	120 dBuV	-	dB	4.70	2.40	3.26		0.12
G:	73.04	-	-	dB	1.20	-0.30	0.61		0.08
E:	75.24	-	-	dB	0.60	-0.30	0.02		0.07
C:	77.37	-	-	dB	0.40	-0.30	-0.02		0.07
A:	79.43	-	-	dB	0.30	-0.30	-0.02		0.07
B:	81.55	-	-	dB	0.40	-0.30	-0.02		0.07
D:	83.86	-	-	dB	0.60	-0.30	0.04		0.07
F:	86.38	-	-	dB	1.20	-0.30	0.84		0.08
H:	89.13	-	-	dB	4.70	2.40	3.88		0.12
	102.82	126 dBuV	-	dB		17.50	22.62		0.07
	149.47	-	2238	dB		42.00	47.17		0.50
	242.56	-	-	dB		61.00	65.35		0.50
	428.24	-	-	dB		70.00	> 78.85		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

100Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	18.55	126 dBuV	2238	dB		70.00	> 78.86		0.50
	32.75	-	-	dB		61.00	65.35		0.50
	53.14	-	-	dB		42.00	47.07		0.50
	77.26	-	Aux1	dB		17.50	22.32		0.07
I:	89.13	120 dBuV	-	dB	4.70	2.40	3.46		0.12
G:	91.96	-	-	dB	1.20	-0.30	0.66		0.08
E:	94.72	-	-	dB	0.60	-0.30	0.00		0.07
C:	97.40	-	-	dB	0.40	-0.30	-0.04		0.07
A:	100.00	-	-	dB	0.30	-0.30	-0.03		0.07
B:	102.67	-	-	dB	0.40	-0.30	-0.02		0.07
D:	105.58	-	-	dB	0.60	-0.30	0.05		0.07
F:	108.75	-	-	dB	1.20	-0.30	0.78		0.08
H:	112.20	-	-	dB	4.70	2.40	3.68		0.12
	129.44	126 dBuV	-	dB		17.50	22.46		0.07
	188.17	-	2238	dB		42.00	47.07		0.50
	305.37	-	-	dB		61.00	65.35		0.50
	539.13	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

125Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	23.35	126 dBuV	2238	dB		70.00	> 78.88		0.50
	41.23	-	-	dB		61.00	65.28		0.50
	66.90	-	-	dB		42.00	46.98		0.50
	97.26	-	Aux1	dB		17.50	22.25		0.07
I:	112.20	120 dBuV	-	dB	4.70	2.40	3.43		0.12
G:	115.77	-	-	dB	1.20	-0.30	0.66		0.08
E:	119.24	-	-	dB	0.60	-0.30	0.01		0.07
C:	122.62	-	-	dB	0.40	-0.30	-0.04		0.07
A:	125.89	-	-	dB	0.30	-0.30	-0.03		0.07
B:	129.25	-	-	dB	0.40	-0.30	-0.03		0.07
D:	132.91	-	-	dB	0.60	-0.30	0.04		0.07
F:	136.90	-	-	dB	1.20	-0.30	0.75		0.08
H:	141.25	-	-	dB	4.70	2.40	3.63		0.12
	162.95	126 dBuV	-	dB		17.50	22.40		0.07
	236.90	-	2238	dB		42.00	47.10		0.50
	384.43	-	-	dB		61.00	65.27		0.50
	678.72	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

160Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	29.39	126 dBuV	2238	dB		70.00	> 78.85		0.50
	51.90	-	-	dB		61.00	65.28		0.50
	84.23	-	-	dB		42.00	46.97		0.50
	122.44	-	Aux1	dB		17.50	22.18		0.07
I:	141.25	120 dBuV	-	dB	4.70	2.40	3.37		0.12
G:	145.74	-	-	dB	1.20	-0.30	0.64		0.08
E:	150.12	-	-	dB	0.60	-0.30	0.01		0.07
C:	154.37	-	-	dB	0.40	-0.30	-0.03		0.07
A:	158.49	-	-	dB	0.30	-0.30	-0.02		0.07
B:	162.72	-	-	dB	0.40	-0.30	-0.02		0.07
D:	167.33	-	-	dB	0.60	-0.30	0.05		0.07
F:	172.35	-	-	dB	1.20	-0.30	0.78		0.08
H:	177.83	-	-	dB	4.70	2.40	3.67		0.12
	205.14	126 dBuV	-	dB		17.50	22.40		0.07
	298.23	-	2238	dB		42.00	47.03		0.50
	483.97	-	-	dB		61.00	65.30		0.50
	854.46	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

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200Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	37.00	126 dBuV	2238	dB		70.00	> 78.90		0.50
	65.34	-	-	dB		61.00	65.06		0.50
	106.03	-	-	dB		42.00	46.99		0.50
	154.15	-	Aux1	dB		17.50	22.12		0.07
I:	177.83	120 dBuV	-	dB	4.70	2.40	3.34		0.12
G:	183.48	-	-	dB	1.20	-0.30	0.64		0.08
E:	188.99	-	-	dB	0.60	-0.30	0.01		0.07
C:	194.34	-	-	dB	0.40	-0.30	-0.03		0.07
A:	199.53	-	-	dB	0.30	-0.30	-0.03		0.07
B:	204.85	-	-	dB	0.40	-0.30	-0.03		0.07
D:	210.65	-	-	dB	0.60	-0.30	0.03		0.07
F:	216.98	-	-	dB	1.20	-0.30	0.75		0.08
H:	223.87	-	-	dB	4.70	2.40	3.62		0.12
	258.26	126 dBuV	-	dB		17.50	22.34		0.07
	375.45	-	2238	dB		42.00	46.99		0.50
	609.28	-	-	dB		61.00	65.20		0.50
	1075.70	-	-	dB		70.00	> 78.90		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

250Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	46.59	126 dBuV	2238	dB		70.00	> 78.87		0.50
	82.26	-	-	dB		61.00	65.37		0.50
	133.49	-	-	dB		42.00	47.09		0.50
	194.06	-	Aux1	dB		17.50	22.46		0.07
I:	223.87	120 dBuV	-	dB	4.70	2.40	3.66		0.12
G:	230.99	-	-	dB	1.20	-0.30	0.76		0.08
E:	237.92	-	-	dB	0.60	-0.30	0.03		0.07
C:	244.66	-	-	dB	0.40	-0.30	-0.03		0.07
A:	251.19	-	-	dB	0.30	-0.30	-0.03		0.07
B:	257.89	-	-	dB	0.40	-0.30	-0.01		0.07
D:	265.19	-	-	dB	0.60	-0.30	0.05		0.07
F:	273.16	-	-	dB	1.20	-0.30	0.74		0.08
H:	281.84	-	-	dB	4.70	2.40	3.54		0.12
	325.13	126 dBuV	-	dB		17.50	22.35		0.07
	472.67	-	2238	dB		42.00	47.10		0.50
	767.04	-	-	dB		61.00	65.27		0.50
	1354.22	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

315Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	58.65	126 dBuV	2238	dB		70.00	> 78.86		0.50
	103.56	-	-	dB		61.00	65.28		0.50
	168.05	-	-	dB		42.00	47.09		0.50
	244.31	-	Aux1	dB		17.50	22.40		0.07
I:	281.84	120 dBuV	-	dB	4.70	2.40	3.62		0.12
G:	290.80	-	-	dB	1.20	-0.30	0.75		0.08
E:	299.53	-	-	dB	0.60	-0.30	0.03		0.07
C:	308.01	-	-	dB	0.40	-0.30	-0.03		0.07
A:	316.23	-	-	dB	0.30	-0.30	-0.03		0.07
B:	324.66	-	-	dB	0.40	-0.30	-0.03		0.07
D:	333.86	-	-	dB	0.60	-0.30	0.03		0.07
F:	343.89	-	-	dB	1.20	-0.30	0.71		0.08
H:	354.81	-	-	dB	4.70	2.40	3.49		0.12
	409.32	126 dBuV	-	dB		17.50	22.29		0.07
	595.06	-	2238	dB		42.00	47.08		0.50
	965.65	-	-	dB		61.00	65.27		0.50
	1704.86	-	-	dB		70.00	> 78.91		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

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400Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	73.83	126 dBuV	2238	dB		70.00	> 78.89		0.50
	130.37	-	-	dB		61.00	65.29		0.50
	211.57	-	-	dB		42.00	47.07		0.50
	307.57	-	Aux1	dB		17.50	22.33		0.07
I:	354.81	120 dBuV	-	dB	4.70	2.40	3.57		0.12
G:	366.09	-	-	dB	1.20	-0.30	0.74		0.08
E:	377.08	-	-	dB	0.60	-0.30	0.04		0.07
C:	387.76	-	-	dB	0.40	-0.30	-0.02		0.07
A:	398.11	-	-	dB	0.30	-0.30	-0.02		0.07
B:	408.72	-	-	dB	0.40	-0.30	-0.01		0.07
D:	420.30	-	-	dB	0.60	-0.30	0.06		0.07
F:	432.93	-	-	dB	1.20	-0.30	0.75		0.08
H:	446.68	-	-	dB	4.70	2.40	3.54		0.12
	515.30	126 dBuV	-	dB		17.50	22.30		0.07
	749.13	-	2238	dB		42.00	46.98		0.50
	1215.68	-	-	dB		61.00	65.19		0.50
	2146.30	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

500Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	14.73	126 dBuV	2238	dB		70.00	> 78.89		0.50
	164.13	-	-	dB		61.00	65.15		0.50
	266.35	-	-	dB		42.00	46.96		0.50
	387.20	-	Aux1	dB		17.50	22.27		0.07
I:	446.68	120 dBuV	-	dB	4.70	2.40	3.53		0.12
G:	460.88	-	-	dB	1.20	-0.30	0.74		0.08
E:	474.72	-	-	dB	0.60	-0.30	0.05		0.07
C:	488.17	-	-	dB	0.40	-0.30	-0.02		0.07
A:	501.19	-	-	dB	0.30	-0.30	-0.02		0.07
B:	514.55	-	-	dB	0.40	-0.30	-0.02		0.07
D:	529.13	-	-	dB	0.60	-0.30	0.04		0.07
F:	545.02	-	-	dB	1.20	-0.30	0.72		0.08
H:	562.34	-	-	dB	4.70	2.40	3.49		0.12
	648.72	126 dBuV	-	dB		17.50	22.24		0.07
	943.10	-	2238	dB		42.00	46.99		0.50
	1530.45	-	-	dB		61.00	65.17		0.50
	2702.03	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

630Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	117.02	126 dBuV	2238	dB		70.00	> 78.84		0.50
	206.63	-	-	dB		61.00	65.68		0.50
	335.31	-	-	dB		42.00	47.48		0.50
	487.46	-	Aux1	dB		17.50	22.77		0.07
I:	562.34	120 dBuV	-	dB	4.70	2.40	3.87		0.12
G:	580.22	-	-	dB	1.20	-0.30	0.86		0.08
E:	597.64	-	-	dB	0.60	-0.30	0.10		0.07
C:	614.57	-	-	dB	0.40	-0.30	0.03		0.07
A:	630.96	-	-	dB	0.30	-0.30	0.01		0.07
B:	647.78	-	-	dB	0.40	-0.30	-0.01		0.07
D:	666.13	-	-	dB	0.60	-0.30	0.02		0.07
F:	686.14	-	-	dB	1.20	-0.30	0.65		0.08
H:	707.95	-	-	dB	4.70	2.40	3.47		0.12
	816.69	126 dBuV	-	dB		17.50	22.48		0.07
	1187.29	-	2238	dB		42.00	47.27		0.50
	1926.72	-	-	dB		61.00	65.58		0.50
	3401.65	-	-	dB		70.00	> 78.89		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.01		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.03	G	0.10

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800Hz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	147.32	126 dBuV	2238	dB		70.00	> 78.87		0.50
	260.13	-	-	dB		61.00	65.74		0.50
	422.13	-	-	dB		42.00	47.36		0.50
	613.67	-	Aux1	dB		17.50	22.70		0.07
I:	707.95	120 dBuV	-	dB	4.70	2.40	3.82		0.12
G:	730.45	-	-	dB	1.20	-0.30	0.86		0.08
E:	752.38	-	-	dB	0.60	-0.30	0.12		0.07
C:	773.69	-	-	dB	0.40	-0.30	0.05		0.07
A:	794.33	-	-	dB	0.30	-0.30	0.03		0.07
B:	815.51	-	-	dB	0.40	-0.30	0.02		0.07
D:	838.61	-	-	dB	0.60	-0.30	0.05		0.07
F:	863.80	-	-	dB	1.20	-0.30	0.70		0.08
H:	891.25	-	-	dB	4.70	2.40	3.53		0.12
	1028.15	126 dBuV	-	dB		17.50	22.48		0.07
	1494.71	-	2238	dB		42.00	47.27		0.50
	2425.60	-	-	dB		61.00	65.46		0.50
	4282.42	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.03	G	0.10

1kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	185.46	126 dBuV	2238	dB		70.00	> 78.86		0.50
	327.48	-	-	dB		61.00	65.85		0.50
	531.43	-	-	dB		42.00	47.57		0.50
	772.57	-	Aux1	dB		17.50	22.82		0.07
I:	891.25	120 dBuV	-	dB	4.70	2.40	3.83		0.12
G:	919.58	-	-	dB	1.20	-0.30	0.82		0.08
E:	947.19	-	-	dB	0.60	-0.30	0.07		0.07
C:	974.02	-	-	dB	0.40	-0.30	0.01		0.07
A:	1000.00	-	-	dB	0.30	-0.30	-0.00		0.07
B:	1026.67	-	-	dB	0.40	-0.30	-0.02		0.07
D:	1055.75	-	-	dB	0.60	-0.30	0.02		0.07
F:	1087.46	-	-	dB	1.20	-0.30	0.71		0.08
H:	1122.02	-	-	dB	4.70	2.40	3.66		0.12
	1294.37	126 dBuV	-	dB		17.50	22.70		0.07
	1881.73	-	2238	dB		42.00	47.48		0.50
	3053.65	-	-	dB		61.00	65.65		0.50
	5391.25	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.03	G	0.10

1.25kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	233.48	126 dBuV	2238	dB		70.00	> 78.88		0.50
	412.27	-	-	dB		61.00	65.78		0.50
	669.03	-	-	dB		42.00	47.47		0.50
	972.61	-	Aux1	dB		17.50	22.77		0.07
I:	1122.02	120 dBuV	-	dB	4.70	2.40	3.78		0.12
G:	1157.68	-	-	dB	1.20	-0.30	0.79		0.08
E:	1192.44	-	-	dB	0.60	-0.30	0.06		0.07
C:	1226.22	-	-	dB	0.40	-0.30	-0.00		0.07
A:	1258.93	-	-	dB	0.30	-0.30	-0.01		0.07
B:	1292.50	-	-	dB	0.40	-0.30	-0.04		0.07
D:	1329.11	-	-	dB	0.60	-0.30	-0.01		0.07
F:	1369.03	-	-	dB	1.20	-0.30	0.67		0.08
H:	1412.54	-	-	dB	4.70	2.40	3.60		0.12
	1629.52	126 dBuV	-	dB		17.50	22.68		0.07
	2368.96	-	2238	dB		42.00	47.52		0.50
	3844.32	-	-	dB		61.00	65.77		0.50
	6787.18	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.04	G	0.10

1.6kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	293.93	126 dBuV	2238	dB		70.00	> 78.85		0.50
	519.02	-	-	dB		61.00	65.88		0.50
	842.26	-	-	dB		42.00	47.47		0.50
	1224.44	-	Aux1	dB		17.50	22.69		0.07
I:	1412.54	120 dBuV	-	dB	4.70	2.40	3.73		0.12
G:	1457.44	-	-	dB	1.20	-0.30	0.80		0.08
E:	1501.19	-	-	dB	0.60	-0.30	0.08		0.07
C:	1543.72	-	-	dB	0.40	-0.30	0.02		0.07
A:	1584.89	-	-	dB	0.30	-0.30	0.01		0.07
B:	1627.16	-	-	dB	0.40	-0.30	-0.01		0.07
D:	1673.25	-	-	dB	0.60	-0.30	0.02		0.07
F:	1723.51	-	-	dB	1.20	-0.30	0.72		0.08
H:	1778.28	-	-	dB	4.70	2.40	3.66		0.12
	2051.44	126 dBuV	-	dB		17.50	22.66		0.07
	2982.34	-	2238	dB		42.00	47.43		0.50
	4839.71	-	-	dB		61.00	65.70		0.50
	8544.56	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.01		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.03	G	0.10

2kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	370.04	126 dBuV	2238	dB		70.00	> 78.90		0.50
	653.41	-	-	dB		61.00	65.76		0.50
	1060.34	-	-	dB		42.00	47.38		0.50
	1541.48	-	Aux1	dB		17.50	22.67		0.07
I:	1778.28	120 dBuV	-	dB	4.70	2.40	3.69		0.12
G:	1834.80	-	-	dB	1.20	-0.30	0.78		0.08
E:	1889.89	-	-	dB	0.60	-0.30	0.08		0.07
C:	1943.43	-	-	dB	0.40	-0.30	0.03		0.07
A:	1995.26	-	-	dB	0.30	-0.30	0.01		0.07
B:	2048.48	-	-	dB	0.40	-0.30	-0.01		0.07
D:	2106.50	-	-	dB	0.60	-0.30	0.01		0.07
F:	2169.77	-	-	dB	1.20	-0.30	0.68		0.08
H:	2238.72	-	-	dB	4.70	2.40	3.62		0.12
	2582.61	126 dBuV	-	dB		17.50	22.70		0.07
	3754.54	-	2238	dB		42.00	47.59		0.50
	6092.83	-	-	dB		61.00	65.90		0.50
	10756.96	-	-	dB		70.00	> 78.90		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.01		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.04	G	0.10

2.5kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	465.85	126 dBuV	2238	dB		70.00	> 78.87		0.50
	822.59	-	-	dB		61.00	65.87		0.50
	1334.89	-	-	dB		42.00	47.49		0.50
	1940.61	-	Aux1	dB		17.50	22.78		0.07
I:	2238.72	120 dBuV	-	dB	4.70	2.40	3.80		0.12
G:	2309.88	-	-	dB	1.20	-0.30	0.75		0.08
E:	2379.23	-	-	dB	0.60	-0.30	0.00		0.07
C:	2446.63	-	-	dB	0.40	-0.30	-0.05		0.07
A:	2511.89	-	-	dB	0.30	-0.30	-0.05		0.07
B:	2578.88	-	-	dB	0.40	-0.30	-0.06		0.07
D:	2651.92	-	-	dB	0.60	-0.30	-0.04		0.07
F:	2731.58	-	-	dB	1.20	-0.30	0.58		0.08
H:	2818.39	-	-	dB	4.70	2.40	3.41		0.12
	3251.31	126 dBuV	-	dB		17.50	22.51		0.07
	4726.69	-	2238	dB		42.00	47.39		0.50
	7670.42	-	-	dB		61.00	65.67		0.50
	13542.21	-	-	dB		70.00	> 78.85		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.06		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

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3.15kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	586.48	126 dBuV	2238	dB		70.00	> 78.86		0.50
	1035.58	-	-	dB		61.00	65.78		0.50
	1680.53	-	-	dB		42.00	47.50		0.50
	2443.08	-	Aux1	dB		17.50	22.81		0.07
I:	2818.38	120 dBuV	-	dB	4.70	2.40	3.77		0.12
G:	2907.97	-	-	dB	1.20	-0.30	0.74		0.08
E:	2995.28	-	-	dB	0.60	-0.30	0.02		0.07
C:	3080.12	-	-	dB	0.40	-0.30	-0.01		0.07
A:	3162.28	-	-	dB	0.30	-0.30	-0.01		0.07
B:	3246.62	-	-	dB	0.40	-0.30	-0.02		0.07
D:	3338.57	-	-	dB	0.60	-0.30	-0.02		0.07
F:	3438.85	-	-	dB	1.20	-0.30	0.57		0.08
H:	3548.14	-	-	dB	4.70	2.40	3.40		0.12
	4093.16	126 dBuV	-	dB		17.50	22.66		0.07
	5950.55	-	2238	dB		42.00	47.68		0.50
	9656.49	-	-	dB		61.00	66.17		0.50
	17048.63	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

4kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	738.33	126 dBuV	2238	dB		70.00	> 78.88		0.50
	1303.72	-	-	dB		61.00	65.80		0.50
	2115.66	-	-	dB		42.00	47.38		0.50
	3075.66	-	Aux1	dB		17.50	22.68		0.07
I:	3548.13	120 dBuV	-	dB	4.70	2.40	3.70		0.12
G:	3660.91	-	-	dB	1.20	-0.30	0.73		0.08
E:	3770.83	-	-	dB	0.60	-0.30	0.02		0.07
C:	3877.64	-	-	dB	0.40	-0.30	-0.03		0.07
A:	3981.07	-	-	dB	0.30	-0.30	-0.02		0.07
B:	4087.25	-	-	dB	0.40	-0.30	-0.04		0.07
D:	4203.02	-	-	dB	0.60	-0.30	-0.02		0.07
F:	4329.26	-	-	dB	1.20	-0.30	0.60		0.08
H:	4466.84	-	-	dB	4.70	2.40	3.43		0.12
	5152.98	126 dBuV	-	dB		17.50	22.54		0.07
	7491.30	-	2238	dB		42.00	47.58		0.50
	12156.80	-	-	dB		61.00	66.07		0.50
	21462.95	-	-	dB		70.00	> 78.83		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

5kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	929.50	126 dBuV	2238	dB		70.00	> 78.89		0.50
	1641.29	-	-	dB		61.00	65.76		0.50
	2663.46	-	-	dB		42.00	47.46		0.50
	3872.02	-	Aux1	dB		17.50	22.82		0.07
I:	4466.83	120 dBuV	-	dB	4.70	2.40	3.75		0.12
G:	4608.82	-	-	dB	1.20	-0.30	0.77		0.08
E:	4747.20	-	-	dB	0.60	-0.30	0.11		0.07
C:	4881.66	-	-	dB	0.40	-0.30	0.10		0.07
A:	5011.87	-	-	dB	0.30	-0.30	0.11		0.07
B:	5145.54	-	-	dB	0.40	-0.30	0.09		0.07
D:	5291.28	-	-	dB	0.60	-0.30	0.09		0.07
F:	5450.21	-	-	dB	1.20	-0.30	0.66		0.08
H:	5623.42	-	-	dB	4.70	2.40	3.50		0.12
	6487.22	126 dBuV	-	dB		17.50	22.84		0.07
	9430.99	-	2238	dB		42.00	47.99		0.50
	15304.50	-	-	dB		61.00	66.76		0.50
	27020.26	-	-	dB		70.00	> 78.84		0.50
	Min(A,B,C,D,E,F,G)			dB			0.09		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

6.3kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	1170.17	126 dBuV	2238	dB		70.00	> 78.85		0.50
	2066.26	-	-	dB		61.00	65.89		0.50
	3353.10	-	-	dB		42.00	47.58		0.50
	4874.59	-	Aux1	dB		17.50	22.94		0.07
I:	5623.41	120 dBuV	-	dB	4.70	2.40	3.77		0.12
G:	5802.16	-	-	dB	1.20	-0.30	0.65		0.08
E:	5976.36	-	-	dB	0.60	-0.30	-0.08		0.07
C:	6145.65	-	-	dB	0.40	-0.30	-0.10		0.07
A:	6309.57	-	-	dB	0.30	-0.30	-0.09		0.07
B:	6477.85	-	-	dB	0.40	-0.30	-0.10		0.07
D:	6661.33	-	-	dB	0.60	-0.30	-0.09		0.07
F:	6861.41	-	-	dB	1.20	-0.30	0.47		0.08
H:	7079.47	-	-	dB	4.70	2.40	3.31		0.12
	8166.92	126 dBuV	-	dB		17.50	22.71		0.07
	11872.91	-	2238	dB		42.00	47.95		0.50
	19267.23	-	-	dB		61.00	66.86		0.50
	34016.49	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.10		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

8kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	1473.16	126 dBuV	2238	dB		70.00	> 78.88		0.50
	2601.27	-	-	dB		61.00	65.95		0.50
	4221.30	-	-	dB		42.00	47.77		0.50
	6136.74	-	Aux1	dB		17.50	23.22		0.07
I:	7079.45	120 dBuV	-	dB	4.70	2.40	3.83		0.12
G:	7304.48	-	-	dB	1.20	-0.30	0.66		0.08
E:	7523.80	-	-	dB	0.60	-0.30	0.01		0.07
C:	7736.92	-	-	dB	0.40	-0.30	0.04		0.07
A:	7943.28	-	-	dB	0.30	-0.30	0.06		0.07
B:	8155.13	-	-	dB	0.40	-0.30	0.04		0.07
D:	8386.12	-	-	dB	0.60	-0.30	-0.00		0.07
F:	8638.00	-	-	dB	1.20	-0.30	0.46		0.08
H:	8912.52	-	-	dB	4.70	2.40	3.32		0.12
	10281.55	126 dBuV	-	dB		17.50	23.06		0.07
	14947.11	-	2238	dB		42.00	48.36		0.50
	24256.00	-	-	dB		61.00	66.75		0.50
	42824.22	-	-	dB		70.00	> 78.84		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.00		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

10kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	1854.60	126 dBuV	2238	dB		70.00	> 78.87		0.50
	3274.80	-	-	dB		61.00	65.96		0.50
	5314.30	-	-	dB		42.00	47.57		0.50
	7725.70	-	Aux1	dB		17.50	22.97		0.07
I:	8912.50	120 dBuV	-	dB	4.70	2.40	3.74		0.12
G:	9195.80	-	-	dB	1.20	-0.30	0.67		0.08
E:	9471.90	-	-	dB	0.60	-0.30	0.00		0.07
C:	9740.20	-	-	dB	0.40	-0.30	0.00		0.07
A:	10000.00	-	-	dB	0.30	-0.30	0.03		0.07
B:	10266.70	-	-	dB	0.40	-0.30	0.02		0.07
D:	10557.50	-	-	dB	0.60	-0.30	0.02		0.07
F:	10874.60	-	-	dB	1.20	-0.30	0.56		0.08
H:	11220.20	-	-	dB	4.70	2.40	3.41		0.12
	12943.70	126 dBuV	-	dB		17.50	22.89		0.07
	18817.30	-	2238	dB		42.00	48.27		0.50
	30536.50	-	-	dB		61.00	66.32		0.50
	53912.50	-	-	dB		70.00	> 78.85		0.50
	Min(A,B,C,D,E,F,G)			dB			0.00		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

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12.5kHz 1/3 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	2334.80	126 dBuV	2238	dB		70.00	> 78.89		0.50
	4122.73	-	-	dB		61.00	66.08		0.50
	6690.31	-	-	dB		42.00	47.98		0.50
	9726.08	-	Aux1	dB		17.50	23.35		0.07
I:	11220.17	120 dBuV	-	dB	4.70	2.40	3.69		0.12
G:	11576.83	-	-	dB	1.20	-0.30	0.53		0.08
E:	11924.42	-	-	dB	0.60	-0.30	-0.04		0.07
C:	12262.19	-	-	dB	0.40	-0.30	0.02		0.07
A:	12589.25	-	-	dB	0.30	-0.30	0.04		0.07
B:	12925.01	-	-	dB	0.40	-0.30	0.02		0.07
D:	13291.11	-	-	dB	0.60	-0.30	-0.07		0.07
F:	13690.31	-	-	dB	1.20	-0.30	0.30		0.08
H:	14125.39	-	-	dB	4.70	2.40	3.17		0.12
	16295.15	126 dBuV	-	dB		17.50	23.13		0.07
	23689.58	-	2238	dB		42.00	48.47		0.50
	38443.18	-	-	dB		61.00	66.34		0.50
	67871.82	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.07		
	Max(A,B,C) - Min(A,B,C)			dB	0.21	0.00	0.03	G	0.10

1/1 Octave Filter Relative Attenuation:
Attenuation values are calculated from Vin, Vout and Aref. Input levels are measured by means of the DMM. If expected output level are less than 50mVrms, the output levels are measured by means of the 2238 itself, else the output levels are measured by means of the DMM.
In each filterband the Reference Passband Attenuation i.e. the minimum attenuation of the filterband and variation of attenuation around the centerfrequency are calculated.

31.5Hz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	2.00	126 dBuV	2238	dB		70.00	> 78.84		0.50
	3.98	-	-	dB		61.00	70.73		0.50
	7.94	-	-	dB		42.00	45.24		0.50
	15.85	-	Aux1	dB		17.50	20.83		0.09
I:	22.39	120 dBuV	-	dB	4.70	2.40	3.57		0.12
G:	24.41	-	-	dB	1.20	-0.30	0.81		0.08
E:	26.61	-	-	dB	0.60	-0.30	0.05		0.07
C:	29.01	-	-	dB	0.40	-0.30	-0.02		0.07
A:	31.62	-	-	dB	0.30	-0.30	-0.02		0.07
B:	34.47	-	-	dB	0.40	-0.30	-0.02		0.07
D:	37.58	-	-	dB	0.60	-0.30	0.05		0.07
F:	40.97	-	-	dB	1.20	-0.30	0.86		0.08
H:	44.67	-	-	dB	4.70	2.40	3.70		0.12
	63.10	126 dBuV	-	dB		17.50	20.89		0.07
	125.89	-	2238	dB		42.00	44.66		0.50
	251.19	-	-	dB		61.00	63.85		0.50
	501.19	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.21	0.00	0.00	G	0.10

63Hz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	3.98	126 dBuV	2238	dB		70.00	> 78.83		0.50
	7.94	-	-	dB		61.00	64.54		0.50
	15.85	-	-	dB		42.00	44.59		0.50
	31.62	-	Aux1	dB		17.50	20.81		0.07
I:	44.67	120 dBuV	-	dB	4.70	2.40	3.55		0.12
G:	48.70	-	-	dB	1.20	-0.30	0.78		0.08
E:	53.09	-	-	dB	0.60	-0.30	0.03		0.07
C:	57.88	-	-	dB	0.40	-0.30	-0.04		0.07
A:	63.10	-	-	dB	0.30	-0.30	-0.04		0.07
B:	68.79	-	-	dB	0.40	-0.30	-0.04		0.07
D:	74.99	-	-	dB	0.60	-0.30	0.04		0.07
F:	81.75	-	-	dB	1.20	-0.30	0.88		0.08
H:	89.13	-	-	dB	4.70	2.40	3.76		0.12
	125.89	126 dBuV	-	dB		17.50	20.99		0.07
	251.19	-	2238	dB		42.00	44.75		0.50
	501.19	-	-	dB		61.00	63.88		0.50
	1000.00	-	-	dB		70.00	> 78.89		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

125Hz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	7.94	126 dBuV	2238	dB		70.00	> 78.84		0.50
	15.85	-	-	dB		61.00	63.69		0.50
	31.62	-	-	dB		61.00	44.48		0.50
	63.10	-	Aux1	dB		17.50	20.76		0.07
I:	89.13	120 dBuV	-	dB	4.70	2.40	3.55		0.12
G:	97.16	-	-	dB	1.20	-0.30	0.78		0.08
E:	105.93	-	-	dB	0.60	-0.30	0.02		0.07
C:	115.48	-	-	dB	0.40	-0.30	-0.05		0.07
A:	125.89	-	-	dB	0.30	-0.30	-0.04		0.07
B:	137.25	-	-	dB	0.40	-0.30	-0.04		0.07
D:	149.62	-	-	dB	0.60	-0.30	0.03		0.07
F:	163.12	-	-	dB	1.20	-0.30	0.82		0.08
H:	177.83	-	-	dB	4.70	2.40	3.62		0.12
	251.19	126 dBuV	-	dB		17.50	20.81		0.07
	501.19	-	2238	dB		42.00	44.58		0.50
	1000.00	-	-	dB		61.00	63.69		0.50
	1995.26	-	-	dB		70.00	> 78.86		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.05		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

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250Hz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	15.85	126 dBuV	2238	dB		70.00	> 78.89		0.50
	31.62	-	-	dB		61.00	63.78		0.50
	63.10	-	-	dB		42.00	44.67		0.50
	125.89	-	Aux1	dB		17.50	20.88		0.07
I:	177.83	120 dBuV	-	dB	4.70	2.40	3.66		0.12
G:	193.86	-	-	dB	1.20	-0.30	0.84		0.08
E:	211.35	-	-	dB	0.60	-0.30	0.03		0.07
C:	230.41	-	-	dB	0.40	-0.30	-0.05		0.07
A:	251.19	-	-	dB	0.30	-0.30	-0.04		0.07
B:	273.84	-	-	dB	0.40	-0.30	-0.04		0.07
D:	298.54	-	-	dB	0.60	-0.30	0.04		0.07
F:	325.46	-	-	dB	1.20	-0.30	0.84		0.08
H:	354.81	-	-	dB	4.70	2.40	3.63		0.12
	501.19	126 dBuV	-	dB		17.50	20.84		0.07
	1000.00	-	2238	dB		42.00	44.59		0.50
	1995.26	-	-	dB		61.00	63.76		0.50
	3981.07	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.05		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

500Hz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	31.62	126 dBuV	2238	dB		70.00	> 78.87		0.50
	63.09	-	-	dB		61.00	63.67		0.50
	125.89	-	-	dB		42.00	44.56		0.50
	251.19	-	Aux1	dB		17.50	20.70		0.07
I:	354.82	120 dBuV	-	dB	4.70	2.40	3.55		0.12
G:	386.81	-	-	dB	1.20	-0.30	0.81		0.08
E:	421.70	-	-	dB	0.60	-0.30	0.03		0.07
C:	459.73	-	-	dB	0.40	-0.30	-0.04		0.07
A:	501.19	-	-	dB	0.30	-0.30	-0.04		0.07
B:	546.38	-	-	dB	0.40	-0.30	-0.04		0.07
D:	595.66	-	-	dB	0.60	-0.30	0.04		0.07
F:	649.38	-	-	dB	1.20	-0.30	0.81		0.08
H:	707.95	-	-	dB	4.70	2.40	3.56		0.12
	1000.00	126 dBuV	-	dB		17.50	20.70		0.07
	1995.26	-	2238	dB		42.00	44.46		0.50
	3981.07	-	-	dB		61.00	63.57		0.50
	7943.28	-	-	dB		70.00	> 78.90		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.04		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.00	G	0.10

1kHz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	63.10	126 dBuV	2238	dB		70.00	> 78.87		0.50
	125.89	-	-	dB		61.00	64.26		0.50
	251.19	-	-	dB		42.00	45.05		0.50
	501.19	-	Aux1	dB		17.50	21.24		0.07
I:	707.95	120 dBuV	-	dB	4.70	2.40	3.88		0.12
G:	771.79	-	-	dB	1.20	-0.30	0.95		0.08
E:	841.40	-	-	dB	0.60	-0.30	0.11		0.07
C:	917.28	-	-	dB	0.40	-0.30	0.03		0.07
A:	1000.00	-	-	dB	0.30	-0.30	0.03		0.07
B:	1090.18	-	-	dB	0.40	-0.30	0.03		0.07
D:	1188.50	-	-	dB	0.60	-0.30	0.11		0.07
F:	1295.69	-	-	dB	1.20	-0.30	0.93		0.08
H:	1412.54	-	-	dB	4.70	2.40	3.85		0.12
	1995.26	126 dBuV	-	dB		17.50	21.20		0.07
	3981.07	-	2238	dB		42.00	45.07		0.50
	7943.28	-	-	dB		61.00	64.10		0.50
	15848.93	-	-	dB		70.00	> 78.88		0.50
	Min(A,B,C,D,E,F,G)			dB			0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

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2kHz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	125.90	126 dBuV	2238	dB		70.00	> 78.86		0.50
	251.18	-	-	dB		61.00	64.15		0.50
	501.19	-	-	dB		42.00	44.88		0.50
	1000.01	-	Aux1	dB		17.50	21.07		0.07
I:	1412.55	120 dBuV	-	dB	4.70	2.40	3.75		0.12
G:	1539.92	-	-	dB	1.20	-0.30	0.90		0.08
E:	1678.81	-	-	dB	0.60	-0.30	0.09		0.07
C:	1830.21	-	-	dB	0.40	-0.30	0.02		0.07
A:	1995.26	-	-	dB	0.30	-0.30	0.02		0.07
B:	2175.20	-	-	dB	0.40	-0.30	0.02		0.07
D:	2371.37	-	-	dB	0.60	-0.30	0.08		0.07
F:	2585.24	-	-	dB	1.20	-0.30	0.89		0.08
H:	2818.39	-	-	dB	4.70	2.40	3.76		0.12
	3981.07	126 dBuV	-	dB		17.50	21.10		0.07
	7943.28	-	2238	dB		42.00	45.00		0.50
	15848.93	-	-	dB		61.00	64.78		0.50
	31622.77	-	-	dB		70.00	> 78.87		0.50
	Min(A,B,C,D,E,F,G)			dB			0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.01	G	0.10

4kHz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	251.21	126 dBuV	2238	dB		70.00	> 78.85		0.50
	501.18	-	-	dB		61.00	64.08		0.50
	1000.01	-	-	dB		42.00	44.79		0.50
	1995.27	-	Aux1	dB		17.50	21.03		0.07
I:	2818.40	120 dBuV	-	dB	4.70	2.40	3.73		0.12
G:	3072.55	-	-	dB	1.20	-0.30	0.88		0.08
E:	3349.67	-	-	dB	0.60	-0.30	0.09		0.07
C:	3651.76	-	-	dB	0.40	-0.30	0.03		0.07
A:	3981.07	-	-	dB	0.30	-0.30	0.04		0.07
B:	4340.08	-	-	dB	0.40	-0.30	0.05		0.07
D:	4731.50	-	-	dB	0.60	-0.30	0.13		0.07
F:	5158.23	-	-	dB	1.20	-0.30	0.93		0.08
H:	5623.42	-	-	dB	4.70	2.40	3.76		0.12
	7943.27	126 dBuV	-	dB		17.50	21.11		0.07
	15848.93	-	2238	dB		42.00	45.38		0.50
	31622.77	-	-	dB		61.00	64.67		0.50
	63095.73	-	-	dB		70.00	> 78.84		0.50
	Min(A,B,C,D,E,F,G)			dB			0.03		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.02	G	0.10

8kHz 1/1 octave:

	Frequency	Input Level	Output	Unit	Max.	Min.	Measured		Expan. Unc.
	501.22	126 dBuV	2238	dB		70.00	> 78.88		0.50
	999.98	-	-	dB		61.00	64.10		0.50
	1995.27	-	-	dB		42.00	44.96		0.50
	3981.09	-	Aux1	dB		17.50	21.12		0.07
I:	5623.45	120 dBuV	-	dB	4.70	2.40	3.69		0.12
G:	6130.55	-	-	dB	1.20	-0.30	0.78		0.08
E:	6683.48	-	-	dB	0.60	-0.30	0.01		0.07
C:	7286.21	-	-	dB	0.40	-0.30	-0.02		0.07
A:	7943.28	-	-	dB	0.30	-0.30	0.01		0.07
B:	8659.61	-	-	dB	0.40	-0.30	0.03		0.07
D:	9440.59	-	-	dB	0.60	-0.30	0.12		0.07
F:	10292.03	-	-	dB	1.20	-0.30	0.90		0.08
H:	11220.20	-	-	dB	4.70	2.40	3.78		0.12
	15848.91	126 dBuV	-	dB		17.50	21.39		0.07
	31622.76	-	2238	dB		42.00	45.77		0.50
	63095.72	-	-	dB		61.00	67.74		0.50
	125892.53	-	-	dB		70.00	> 78.82		0.50
	Min(A,B,C,D,E,F,G)			dB			-0.02		
	Max(A,B,C) - Min(A,B,C)			dB	0.22	0.00	0.06	G	0.10

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Variation of Reference Passband Attenuation:
The variation of reference passband attenuation is calculated as the difference between the minimum and the maximum of Reference Passband Attenuation of the filter set.

Measurement	Unit	Max.	Measured	Expan. Unc.
Max-Min on 1/3 octave filter set	dB	0.30	0.20	0.03
Max-Min on 1/1 octave filter set	dB	0.30	0.08	0.03

Reference Standards:

Model	Serial Number	Trace Number	Cal Due	Interval (mo)
HP 3458A	2823A15764	454176	30Apr21	12
BK 115161	10	22-515388	30Nov20	24

Brüel & Kjær
North America Inc.

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ACCREDITED

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-475940-Y0L2Y2-401

CALIBRATION OF:

Calibrator:	Brüel & Kjær	Type 4231 IEC Class: 1		Serial No.:	2313932

CUSTOMER:

CMA Architects & Engineers LLP
1509 F.D. Roosevelt Avenue
Guaynabo, PR 00968

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	23.1	°C
	Air pressure:	98.604	kPa
	Relative Humidity:	42.6	%RH

SPECIFICATIONS:

This document certifies that the acoustic calibrator as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Bruel and Kjaer Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants. The acoustic calibrator has been calibrated in accordance with the requirements as specified in IEC60942.

PROCEDURE:

The measurements have been performed with the assistance of Brüel & Kjær acoustic calibrator calibration application Software version 2.3.4 Type 7794 using calibration procedure 4231 Complete

RESULTS:

- [X] "As Received" Data: Within Acceptance Criteria
- [ ] "As Received" Data: Outside Acceptance Criteria
- [X] "Final" Data : Within Acceptance Criteria
- [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the calibrator under calibration.

Date of Calibration: October 19, 2020

Certificate issued: October 19, 2020

Meshaun Hobbs

Calibration Technician

Harold Williams

Quality Representative

Sound Pressure Levels

All stated values are valid at environmental reference conditions

Nominal Level [dB]	Accept Limit Lower [dB]	Accept Limit Upper [dB]	Measured Level [dB]	Measurement Uncertainty [dB]
94	93.80	94.20	94.00	0.12
114	113.80	114.20	114.02	0.12

Frequency

Nominal Frequency [Hz]	Accept Limit Lower [Hz]	Accept Limit Upper [Hz]	Measured Frequency [Hz]	Measurement Uncertainty [Hz]
1000	999.00	1001.00	999.97	0.10

Total Distortion*

Distortion mode: [X] **TD*** [ ] **THD***

Calibration Level [dB]*	Accept Limit [%]*	Measured Distortion [%]*	Measurement Uncertainty [%]*
94	1.00	0.79	0.13
114	1.00	0.18	0.13

Environmental Reference Conditions:

Pressure: 101.3 kPa, Temperature: 23 °C, Relative Humidity: 50%

Instrument List

Type	Description	Serial no	Cal. date	Due date	Calibrated by	Trace number
3560	PULSE Analyzer	2723320	2019-10-17	2020-10-31	JCA	CAS-413598-Q8W9Z2-101
9545	Transfer Microphone	3	2019-10-16	2020-10-31	MH	CAS-413598-Q8W9Z2-401
4228	Reference Sound Source	1618502	2019-04-05	2021-04-30	W.Shipman	CAS-375162-C8J4Z3-705

During the calibration the calibrator has been loaded by the load volume of the Transfer Microphone. The load volumes for a number of different types of Transfer Microphones are listed in the table below.
For Brüel & Kjær Pistonphones types 4220 and 4228 the result of the SPL calibration has been corrected to be valid for a load volume of 1333 mm^3 . For all other types the result is valid with the actual load volume.

Transfer Microphone Type	Fulfils standard IEC 61094-1 LS	Fulfils standard IEC 61094-4 WS	Load Volume 1" (1/2" mic including DP-0776)	Load Volume 1/2"
4180	yes	yes	1126 mm^3	43 mm^3
4192	-	yes	1273 mm^3	190 mm^3
9545	-	-	1333 mm^3	-

Condition "As Received":

Good

Comments