3513 Atlantic Avenue Rezoning

*Revised Environmental Assessment Statement

3513 Atlantic Avenue
Brooklyn, NY

CEQR #18DCP180K

**Following certification of this proposal and the issuance of the original EAS dated March 8, 2019 and the Negative Declaration dated March 11, 2019, the original EAS has been revised to reflect a correction relating to the allowable use groups (Use Groups 6, 7, 8, 9, and 14) permitted within the proposed rezoning area. Lot 1 (Projected Development Site 2) in the proposed rezoning area is development with a Use Group 16 automotive sales use; this use would remain non-conforming in the future with the proposed rezoning from R6 to R6/C2-4. This Revised EAS, dated March 22, 2019, is reflective of this information.*

The Revised Negative Declaration supersedes the Negative Declaration issued on March 11, 2019 and reflect the corrections made in this Revised EAS. The conclusions of the original EAS, which found that no significant adverse impacts would result from the proposed actions, remain unchanged.

City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) SHORT FORM

FOR UNLISTED ACTIONS ONLY • *Please fill out and submit to the appropriate agency* (see instructions)

Part I: GENERAL INFORMATION

1. *Does the Action Exceed Any Type I Threshold in 6 NYCRR Part 617.4 or 43 RCNY §6-15(A) (Executive Order 91 of 1977, as amended)?* ☐ YES ☒ NO

If "yes," **STOP** and **complete the FULL EAS FORM**.

2. *Project Name* 3513 Atlantic Avenue

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
#18DCP180K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
#190222ZMK	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY			NAME OF APPLICANT		
NYC Department of City Planning			Leemilt's Petroleum Inc.		
NAME OF LEAD AGENCY CONTACT PERSON			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON		
Olga Abinader			Hiram A. Rothkrug, EPDSCO		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 55 Water Mill Road		
CITY New York	STATE NY	ZIP 10271	CITY Great Neck	STATE NY	ZIP 11021
TELEPHONE 212-720-3493	EMAIL oabinad@planning.nyc.gov		TELEPHONE 718-343-0026	EMAIL hrothkrug@epdsco.com	

5. *Project Description*

The applicant, Lemilts Petroleum Inc., seeks a zoning map amendment (Zoning Sectional Map 18a) that would include three adjacent lots (Block 4151, Lots 1, 54 and 107) in the East New York section of Brooklyn, Community District 5 (the "Rezoning Area"). The proposed zoning map amendment would rezone the Rezoning Area from an R5 zoning district to an R5 with a C2-4 zoning overlay. The proposed rezoning would facilitate the development of a one-story commercial building on Lot 54. (Lot 107 is not considered a potential development site and is not included in the analysis.)

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 5	STREET ADDRESS 3513 Atlantic Avenue
TAX BLOCK(S) AND LOT(S) Block 4151, Lots 1, 54 and 107		ZIP CODE 11208
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Atlantic Avenue between Grant Avenue and Nichols Avenue		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R5		ZONING SECTIONAL MAP NUMBER 18a

6. *Required Actions or Approvals* (check all that apply)

***City Planning Commission*:** ☒ YES ☐ NO ☒ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

☐ CITY MAP AMENDMENT	☐ ZONING CERTIFICATION	☐ CONCESSION
☒ ZONING MAP AMENDMENT	☐ ZONING AUTHORIZATION	☐ UDAAP
☐ ZONING TEXT AMENDMENT	☐ ACQUISITION—REAL PROPERTY	☐ REVOCABLE CONSENT
☐ SITE SELECTION—PUBLIC FACILITY	☐ DISPOSITION—REAL PROPERTY	☐ FRANCHISE
☐ HOUSING PLAN & PROJECT	☐ OTHER, explain:	

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Board of Standards and Appeals*:** ☐ YES ☒ NO

☐ VARIANCE (use)

☐ VARIANCE (bulk)

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO If "yes," specify:

Other City Approvals Subject to CEQR (check all that apply)

☐ LEGISLATION
☐ RULEMAKING
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ 384(b)(4) APPROVAL
☐ OTHER, explain:

☐ FUNDING OF CONSTRUCTION, specify:
☐ POLICY OR PLAN, specify:
☐ FUNDING OF PROGRAMS, specify:
☐ PERMITS, specify:

Other City Approvals Not Subject to CEQR (check all that apply)

☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC)
☐ LANDMARKS PRESERVATION COMMISSION APPROVAL
☐ OTHER, explain:

***State or Federal Actions/Approvals/Funding*:** ☐ YES ☒ NO If "yes," specify:

7. *Site Description:* *The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.*

***Graphics*:** *The following graphics must be attached and each box must be checked off before the EAS is complete. Each map must clearly depict the boundaries of the directly affected area or areas and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.*

☒ SITE LOCATION MAP ☒ ZONING MAP ☒ SANBORN OR OTHER LAND USE MAP
☒ TAX MAP ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)
☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 18,760 (Lot 54) + 4,670 (Lot 1) = 23,430 + 625 (Lot 107) = 24,055

Waterbody area (sq. ft) and type: 0

Roads, buildings, and other paved surfaces (sq. ft.):

Other, describe (sq. ft.): 0

8. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 24,133

NUMBER OF BUILDINGS: 2

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 19,323 and 4,810

HEIGHT OF EACH BUILDING (ft.): 30 max

NUMBER OF STORIES OF EACH BUILDING: 1

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO

If "yes," specify: The total square feet owned or controlled by the applicant: 18,760

The total square feet not owned or controlled by the applicant: 4,670 and 625

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO

If "yes," indicate the estimated area and volume dimensions of subsurface permanent and temporary disturbance (if known):

AREA OF TEMPORARY DISTURBANCE: 0 sq. ft. (width x length)

VOLUME OF DISTURBANCE: 210,870 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 23,430 sq. ft. (width x length)

Description of Proposed Uses (please complete the following information as appropriate)

	Residential	***Commercial***	***Community Facility***	***Industrial/Manufacturing***
Size (in gross sq. ft.)		19,323 and 4,810		
Type (*e.g.,* retail, office, school)	0 units	Retail		

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 0 NUMBER OF ADDITIONAL WORKERS: 50

Provide a brief explanation of how these numbers were determined: 3 employee per 1,000 sf of retail (70 total - 20 existing)

Does the proposed project create new open space? ☐ YES ☒ NO If "yes," specify size of project-created open space: sq. ft.

Has a No-Action scenario been defined for this project that differs from the existing condition? ☐ YES ☒ NO

If "yes," see Chapter 2, "Establishing the Analysis Framework" and describe briefly:

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2021

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 18

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☒ YES ☐ NO IF MULTIPLE PHASES, HOW MANY?

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

10. *Predominant Land Use in the Vicinity of the Project* (check all that apply)

☒ RESIDENTIAL ☐ MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☐ OTHER, specify:

Part II: TECHNICAL ANALYSIS

INSTRUCTIONS: For each of the analysis categories listed in this section, assess the proposed project's impacts based on the thresholds and criteria presented in the CEQR Technical Manual. Check each box that applies.

- If the proposed project can be demonstrated not to meet or exceed the threshold, check the "no" box.
- If the proposed project will meet or exceed the threshold, or if this cannot be determined, check the "yes" box.
- For each "yes" response, provide additional analyses (and, if needed, attach supporting information) based on guidance in the CEQR Technical Manual to determine whether the potential for significant impacts exists. Please note that a "yes" answer does not mean that an EIS must be prepared—it means that more information may be required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to provide additional information to support the Short EAS Form. For example, if a question is answered "no," an agency may request a short explanation for this response.

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☒	☐
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☐	☒
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach.		
(e) Is the project a large, publicly sponsored project?	☐	☒
○ If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of 200 or more residential units?	☐	☒
○ Generate a net increase of 200,000 or more square feet of commercial space?	☐	☒
○ Directly displace more than 500 residents?	☐	☒
○ Directly displace more than 100 employees?	☐	☒
○ Affect conditions in a specific industry?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
○ **Child Care Centers:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the proposed project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☒	☐
○ If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees?	☐	☒
(c) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
○ If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees?	☐	☐
(d) If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☐	☒

	YES	NO
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☐	☒
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☐	☒
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☐	☒
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Attached		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☒	☐
○ If "yes," complete the Jamaica Bay Watershed Form, and submit according to its instructions. See Attached		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☐	☒
(b) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☐	☒
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	☒	☐
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☒	☐
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☒	☐
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☒	☐
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: See Section 12	☐	☒
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13?	☐	☒
(d) Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	☐	☒

	YES	NO
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 3,950		
○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 5,219,968		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☐	☒
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☐
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☒	☐
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☒
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See Section 17	☐	☒
(c) Does the proposed project involve multiple buildings on the project site?	☐	☒
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☐
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☐	☒
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☐	☒
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality;	☐	☒

	YES	NO
Hazardous Materials; Noise?		
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary.		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☐	☒
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	☐	☒
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☒	☐
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☐	☒
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☐	☒
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination.		

20. *APPLICANT'S CERTIFICATION*

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of the pertinent books and records and/or after inquiry of persons who have personal knowledge of such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

APPLICANT/REPRESENTATIVE NAME	DATE
Kathleen M Feeney	1/6/19

SIGNATURE Type text here

PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.

Part III: DETERMINATION OF SIGNIFICANCE (To Be Completed by Lead Agency)

INSTRUCTIONS: In completing Part III, the lead agency should consult 6 NYCRR 617.7 and 43 RCNY § 6-06 (Executive Order 91 or 1977, as amended), which contain the State and City criteria for determining significance.

1. For each of the impact categories listed below, consider whether the project may have a significant adverse effect on the environment, taking into account its (a) location; (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude.

IMPACT CATEGORY	Potentially Significant Adverse Impact: YES	NO
Land Use, Zoning, and Public Policy	☐	☒
Socioeconomic Conditions	☐	☒
Community Facilities and Services	☐	☒
Open Space	☐	☒
Shadows	☐	☒
Historic and Cultural Resources	☐	☒
Urban Design/Visual Resources	☐	☒
Natural Resources	☐	☒
Hazardous Materials	☐	☒
Water and Sewer Infrastructure	☐	☒
Solid Waste and Sanitation Services	☐	☒
Energy	☐	☒
Transportation	☐	☒
Air Quality	☐	☒
Greenhouse Gas Emissions	☐	☒
Noise	☐	☒
Public Health	☐	☒
Neighborhood Character	☐	☒
Construction	☐	☒

2. Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ YES ☒ NO

If there are such impacts, attach an explanation stating whether, as a result of them, the project may have a significant impact on the environment.

3. Check determination to be issued by the lead agency:

☐ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).

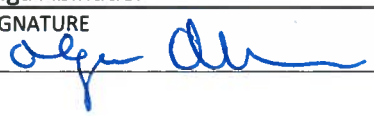
☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. The CND is prepared as a separate document and is subject to the requirements of 6 NYCRR Part 617.

☒ **Negative Declaration:** If the lead agency has determined that the project would not result in potentially significant adverse environmental impacts, then the lead agency issues a *Negative Declaration*. The *Negative Declaration* may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page.

4. ***LEAD AGENCY'S CERTIFICATION***

TITLE	LEAD AGENCY
Acting Director, Environmental Assessment and Review Division	Department of City Planning, acting on behalf of the City Planning Commission
NAME	**DATE**
Olga Abinader	3/22/2019

SIGNATURE



REVISED NEGATIVE DECLARATION (Use of this form is optional)

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6 NYCRR, Part 617, State Environmental Quality Review, the Department of City Planning, acting on behalf of the City Planning Commission assumed the role of lead agency for the environmental review of the proposed project. Based on a review of information about the project contained in this environmental assessment statement and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed project would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on information contained in this EAS, which finds that the proposed project and related actions sought before the City Planning Commission would have no significant effect on the quality of the environment. Reasons supporting this Determination are noted below.

1. Hazardous Materials, Air Quality, and Noise

An (E) designation (E-529) for hazardous materials, air quality, and noise has been incorporated into the proposed actions. Refer to Appendix 1:(E) Designation", attached to this Determination of Significance, for a list of sites affected by the (E) designation and applicable (E) designation requirements. The analyses conducted for hazardous materials, air quality, and noise conclude that with the (E) Designation requirements in place, the proposed actions would not result in significant adverse impacts to hazardous materials, air quality, or noise.

2. Land Use, Zoning and Public Policy

The EAS includes a Land Use, Zoning, and Public Policy section. The proposed rezoning from R5 to R5/C2-4 district would facilitate the redevelopment of a commercial building (Use Groups 6, 7, 8, 9, & 14) on Lots 54 and 1 where existing commercial uses are non-conforming. This rezoning would bring the existing commercial use on the applicant owned Lot 54 into conformance with zoning. The existing affected area is developed with predominantly low-density residential uses with two-story row homes, detached and semi-detached homes and mixed-use buildings with residential and commercial uses. The analysis concludes that no significant adverse impacts related to Land Use, Zoning and Public Policy would result from the proposed actions.

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Revised Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA).

TITLE	LEAD AGENCY
Acting Director, Environmental Assessment and Review Division	Department of City Planning, acting on behalf of the City Planning Commission
NAME	DATE
Olga Abinader	3/22/2019
SIGNATURE	

TITLE	
Chair, Department of City Planning	
NAME	DATE
Marisa Lago	3/22/2019
SIGNATURE	

*Following certification of this proposal and the issuance of the original EAS dated March 8, 2019 and the Negative Declaration dated March 11, 2019, the original EAS has been revised to reflect a correction relating to the allowable use groups (Use Groups 6, 7, 8, 9 and 14) permitted within the proposed rezoning area. Lot 1 (Projected Development Site 2) in the proposed rezoning area is developed with a Use Group 16 automotive sales use; this use would remain non-conforming in the future with the proposed rezoning from R6 to R6/C2-4. A Revised EAS, dated March 22, 2019, is reflective of this information.

This Revised Negative Declaration supersedes the Negative Declaration issued on March 11, 2019 and reflects the corrections made in the Revised EAS. The conclusions of the original EAS, which found that no significant adverse impacts would result from the proposed actions, remain unchanged.

Determination of Significance Appendix: (E) Designation

An (E) Designation **(E-529)** related to hazardous materials, air quality and noise will be assigned to Projected Development Site 1 (Block 4151, Lot 54) and Projected Site 2 (Block 4151, Lot 1) in order to preclude significant adverse impacts, as noted below.

Hazardous Materials:

The (E) Designation requirements for hazardous materials are as follows:

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol

A written report with findings and a summary of the data must he submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

If remediation is indicated from test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

A construction-related health and safety plan should be submitted to OER and would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil, groundwater and/or soil vapor. This plan would be submitted to OER prior to implementation.

Air Quality:

The (E) Designation requirements for air quality are as follows:

Block 4151, Lots 54 (Projected Development Site 1):
Any new commercial development on the above-referenced property must ensure that the stack is located at the building's highest tier and at a minimum of 33 feet above the grade to avoid any potential significant adverse air quality impacts.

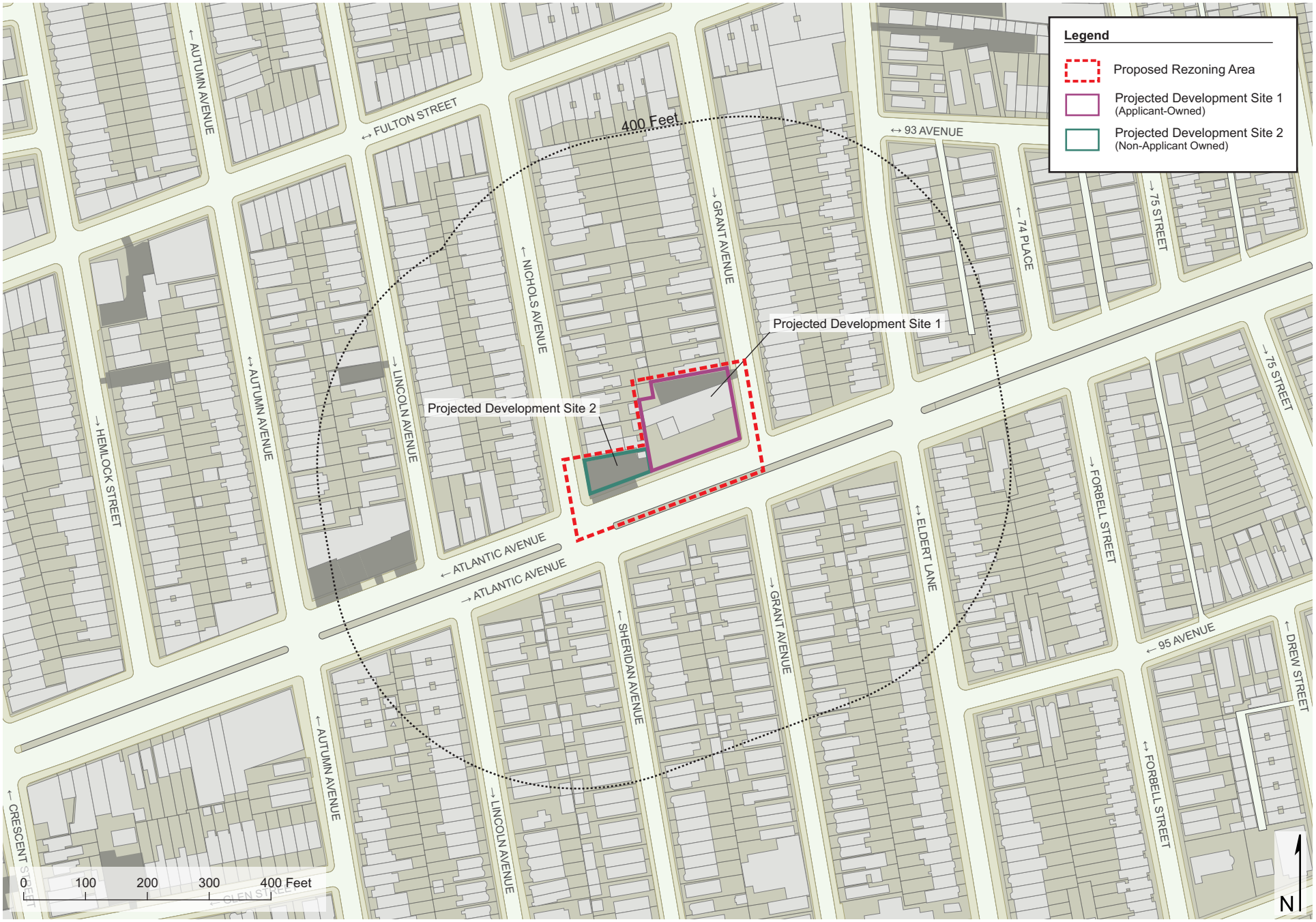
Block 4151, Lots 1 (Projected Development Site 2):
Any new commercial development on the above-referenced property must ensure that the stack is located at the building's highest tier and at a minimum of 33 feet above the grade to avoid any potential significant adverse air quality impacts.

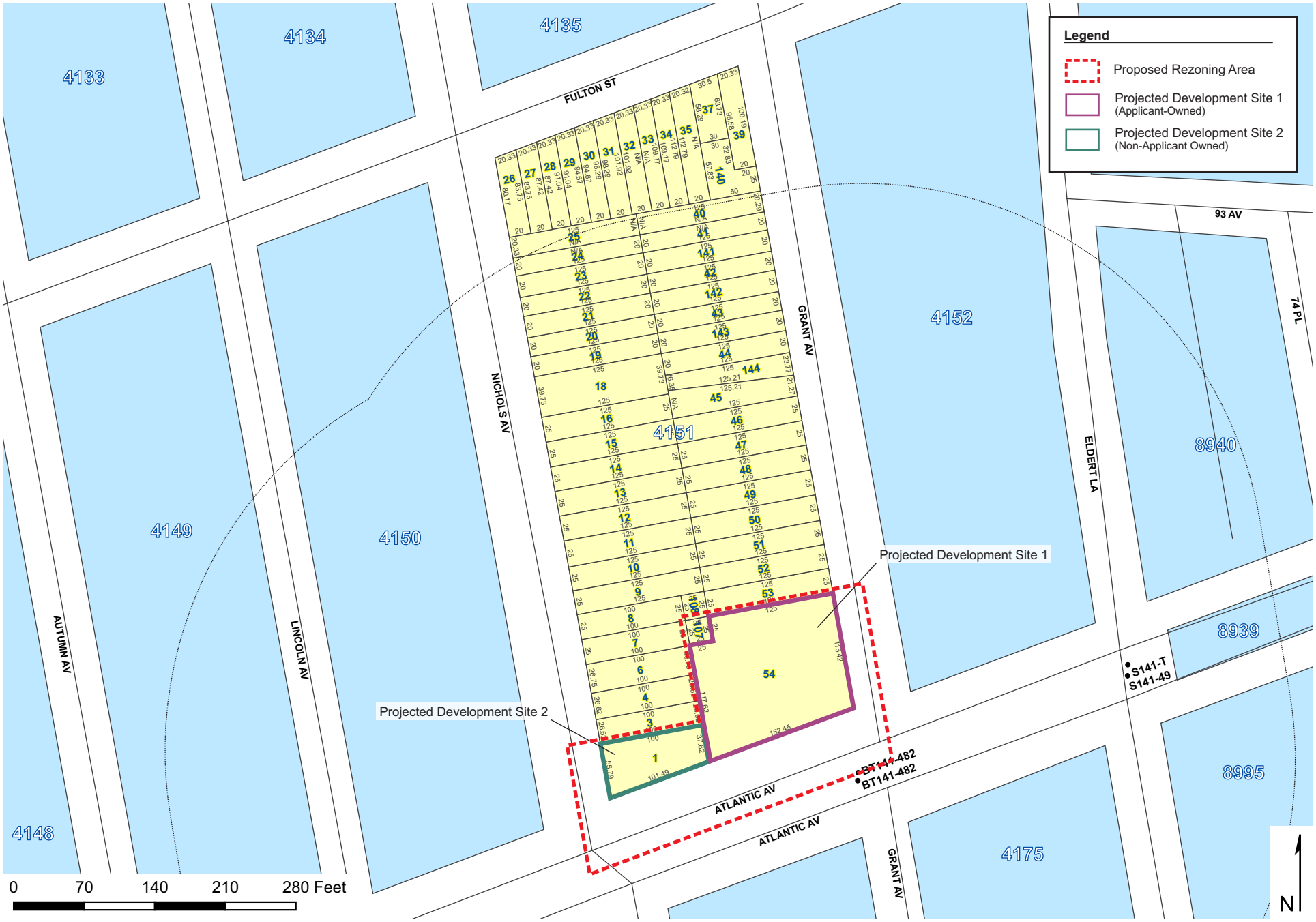
Noise:

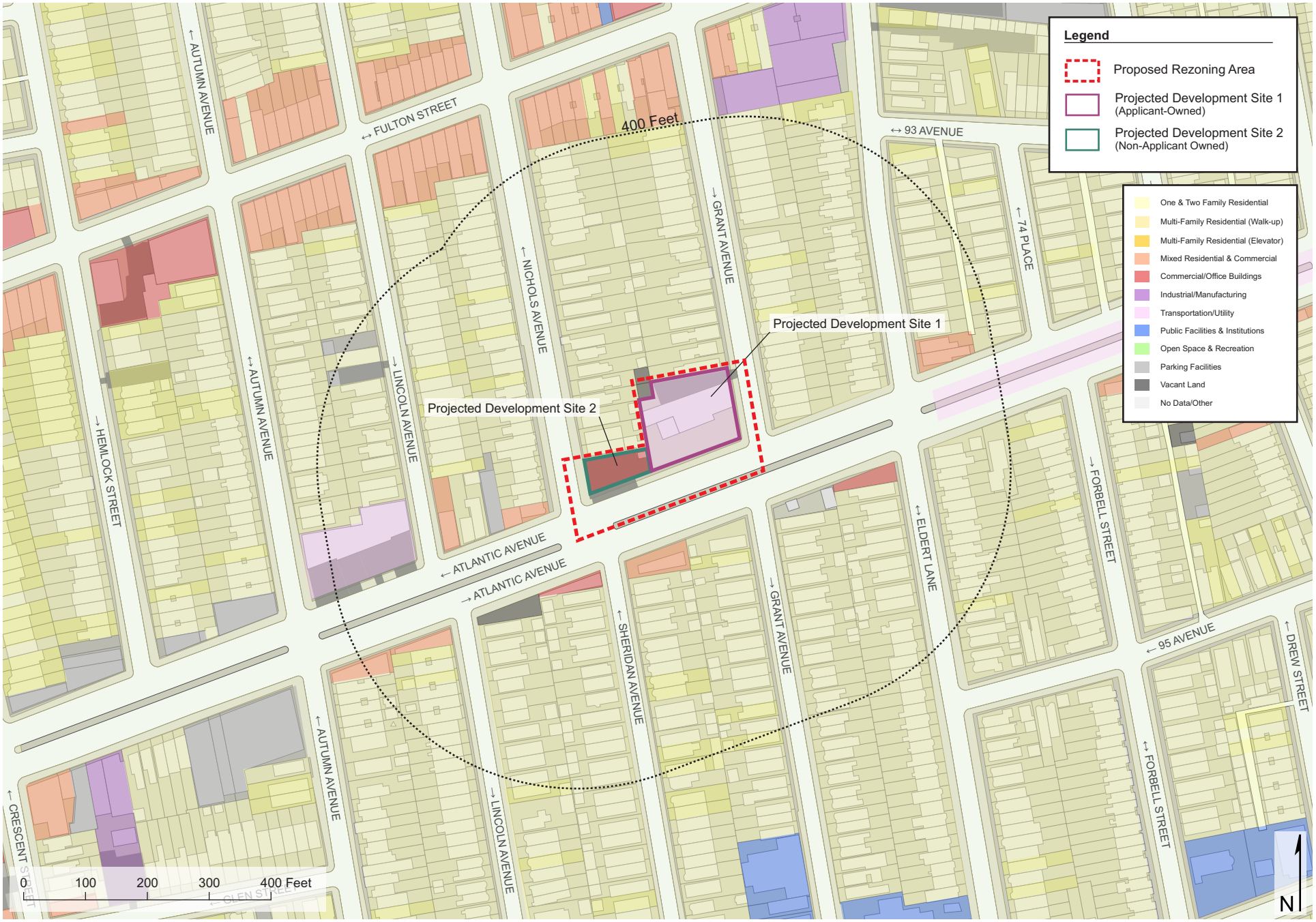
The (E) Designation requirements for noise are as follows:

Block 4151, Lot 54 (Projected Development Site 1):
In order to ensure an acceptable interior noise environment, future commercial uses must provide a closed-window condition with a minimum of 23 dBA window/wall attenuation on all building's facades in order to maintain an interior noise level of 50 dBA for commercial uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Block 4151, Lot 1 (Projected Development Site 2):
In order to ensure an acceptable interior noise environment, future commercial uses must provide a closed-window condition with a minimum of 23 dBA window/wall attenuation on all building's facades in order to maintain an interior noise level of 50 dBA for commercial uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

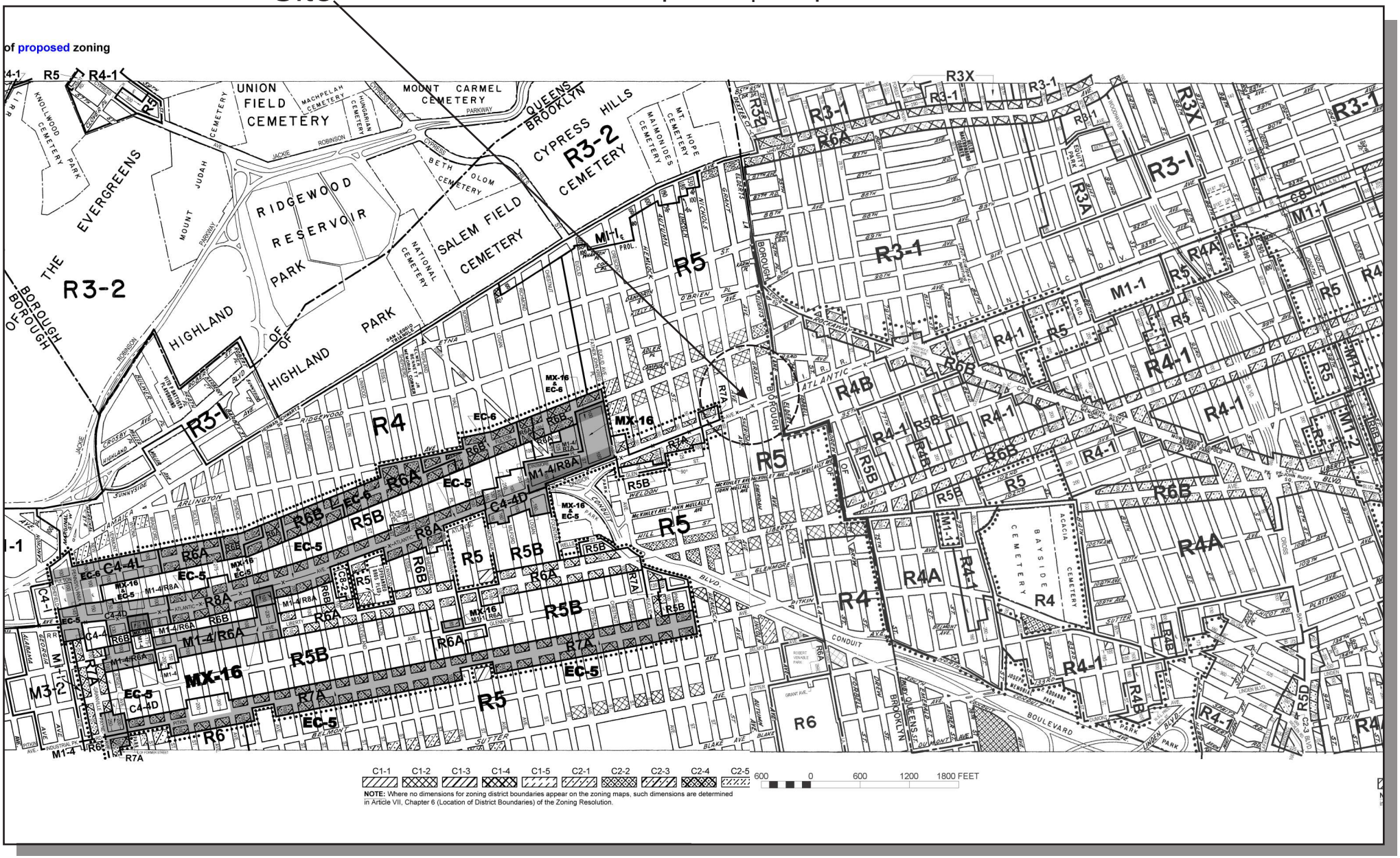

Legend
Proposed Rezoning Area
Projected Development Site 1
(Applicant-Owned)
Projected Development Site 2
(Non-Applicant Owned)
400 Feet
Projected Development Site 1
Projected Development Site 2
↔ FULTON STREET
↔ 93 AVENUE
← AUTUMN AVENUE
→ GRANT AVENUE
← NICHOLS AVENUE
← 74 PLACE
→ 75 STREET
→ LINCOLN AVENUE
→ HEMLOCK STREET
← ATLANTIC AVENUE
→ ATLANTIC AVENUE
↔ ELDERT LANE
→ FORBELL STREET
← 95 AVENUE
← SHERIDAN AVENUE
← DREW STREET
← CRESCENT STREET
0 100 200 300 400 Feet
N

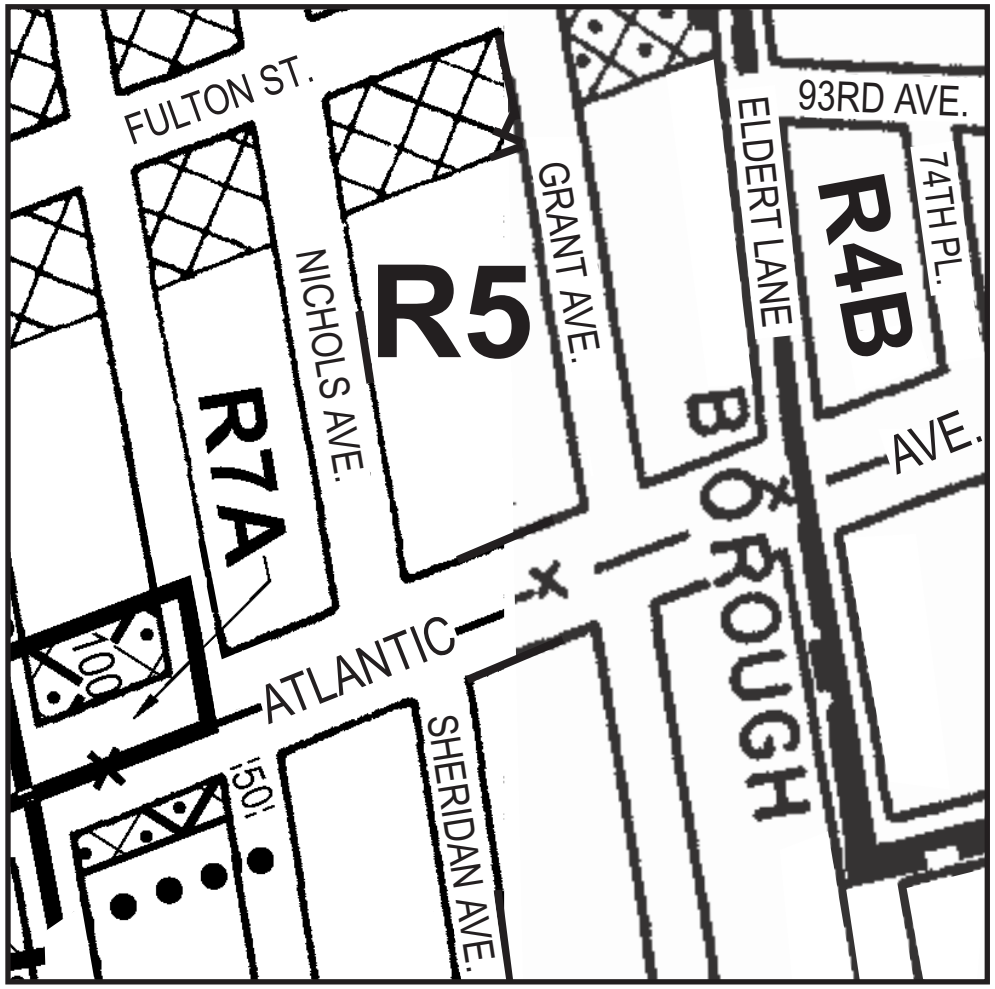

Legend
Proposed Rezoning Area
Projected Development Site 1
(Applicant-Owned)
Projected Development Site 2
(Non-Applicant Owned)
Projected Development Site 1
Projected Development Site 2
4133
4134
4135
4148
4149
4150
4151
4152
4175
8939
8940
8995
FULTON ST
NICHOLS AV
GRANT AV
ELDERT LA
93 AV
74 PL
AUTUMN AV
LINCOLN AV
ATLANTIC AV
ATLANTIC AV
GRANT AV
S141-T
S141-49
BT141-482
BT141-482
0
70
140
210
280 Feet
N


Legend
Proposed Rezoning Area
Projected Development Site 1 (Applicant-Owned)
Projected Development Site 2 (Non-Applicant Owned)
One & Two Family Residential
Multi-Family Residential (Walk-up)
Multi-Family Residential (Elevator)
Mixed Residential & Commercial
Commercial/Office Buildings
Industrial/Manufacturing
Transportation/Utility
Public Facilities & Institutions
Open Space & Recreation
Parking Facilities
Vacant Land
No Data/Other
400 Feet
Projected Development Site 1
Projected Development Site 2
AUTUMN AVENUE
FULTON STREET
NICHOLS AVENUE
GRANT AVENUE
93 AVENUE
74 PLACE
HEMLOCK STREET
LINCOLN AVENUE
ATLANTIC AVENUE
ELDERT LANE
FORBELL STREET
95 AVENUE
DREW STREET
SHERIDAN AVENUE
CRESCENT STREET
GLEN STREET
0 100 200 300 400 Feet
N

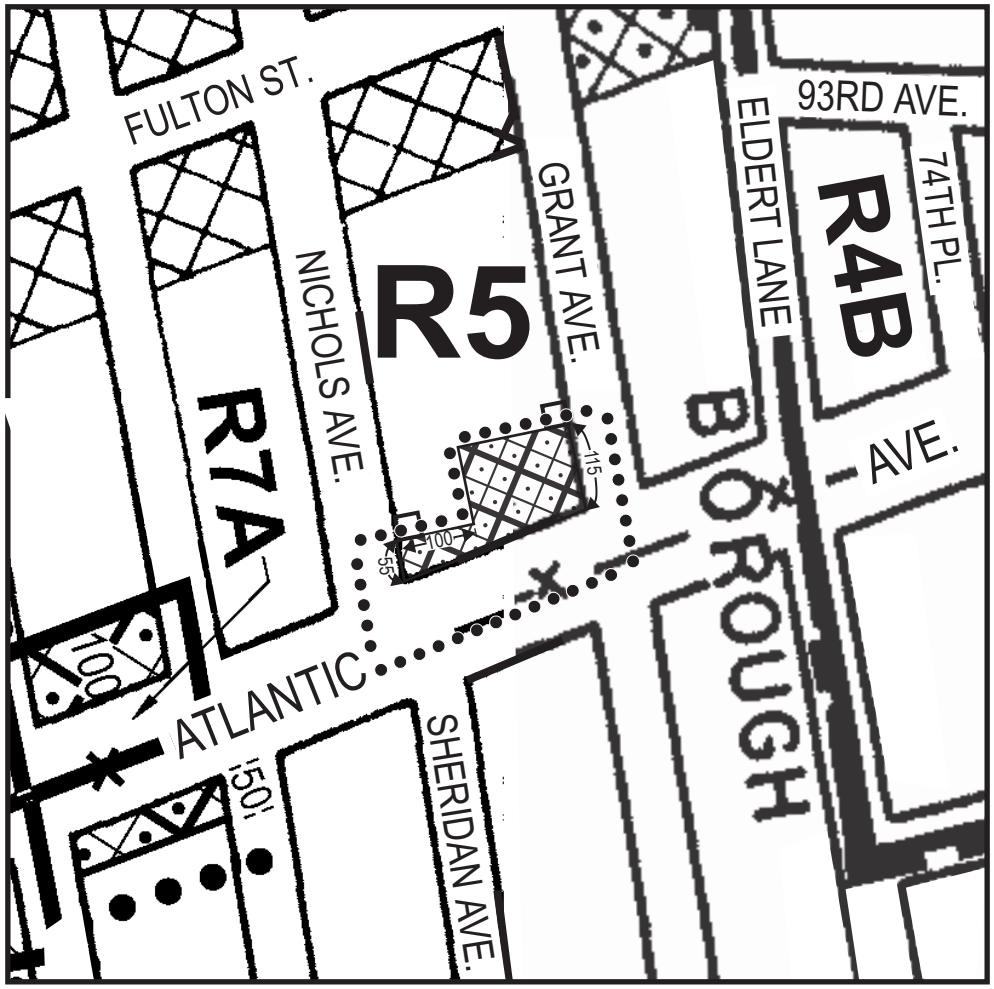
Site

Map 17c | Map 18a





Current Zoning Maps (17c & 18a)



Proposed Zoning Maps (17c & 18a):
Area being rezoned is outlined with dotted lines

Rezoning from R5 to R5/C2-4

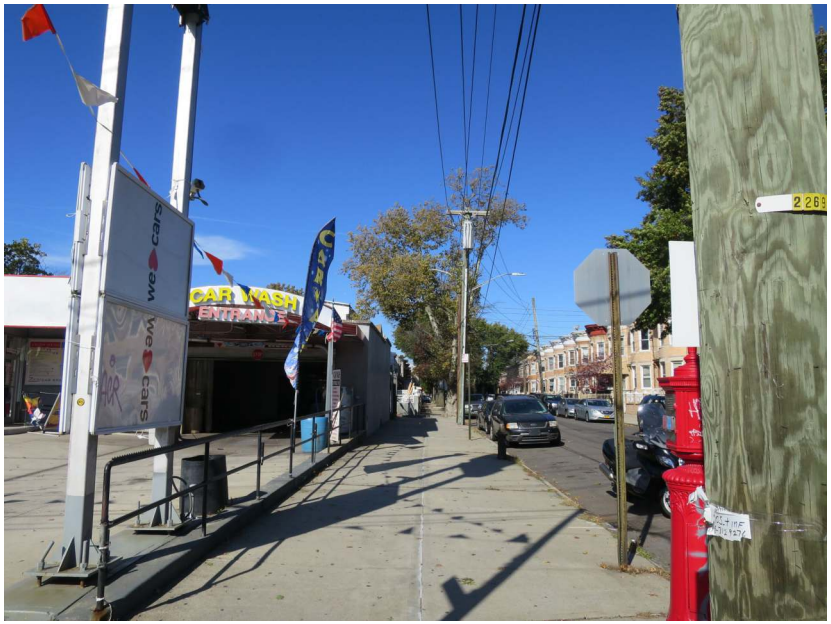

Legend
Proposed Rezoning Area
Projected Development Site 1
(Applicant-Owned)
Projected Development Site 2
(Non-Applicant Owned)
400 Feet
Projected Development Site 1
Projected Development Site 2
AUTUMN AVENUE
FULTON STREET
NICHOLS AVENUE
GRANT AVENUE
93 AVENUE
74 PLACE
75 STREET
HEMLOCK STREET
LINCOLN AVENUE
ATLANTIC AVENUE
SHERIDAN AVENUE
ELDERT LANE
FORBELL STREET
95 AVENUE
DREW STREET
0
100
200
300
400 Feet
N



1. View of the Development Site facing west from Grant Avenue.



2. View of the sidewalk along the west side of Grant Avenue facing south toward Atlantic Avenue (Development Site at right).



3. View of the sidewalk along the west side of Grant Avenue facing north from Atlantic Avenue (Development Site at left).





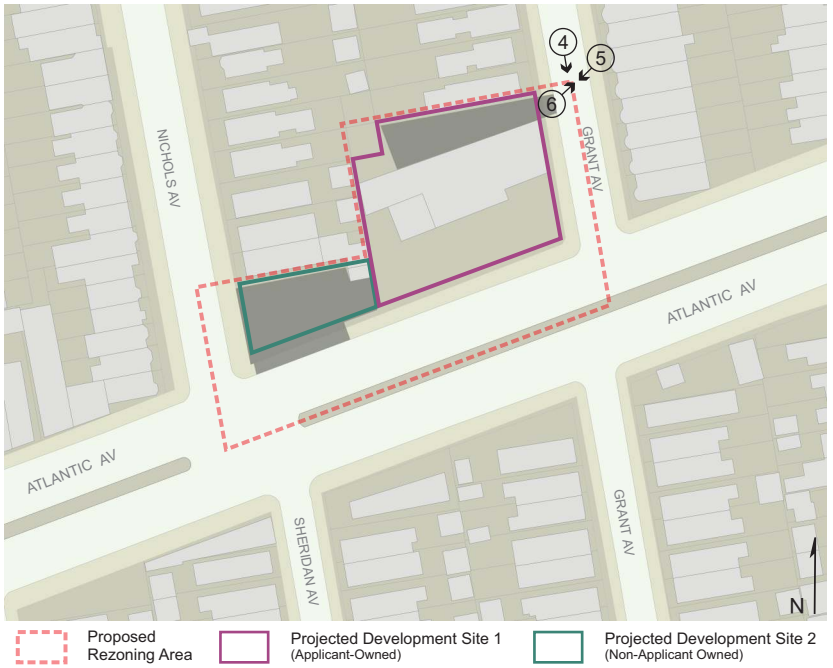
4. View of Grant Avenue facing south toward Atlantic Avenue (Development Site at right).



5. View of the Development Site facing southwest from Grant Avenue.



6. View of east side of Grant Avenue facing northeast from the Development Site.





7. View of Atlantic Avenue facing west from Grant Avenue (Development Site at right).



8. View of the Development Site facing northwest from the intersection of Atlantic Avenue and Grant Avenue.



9. View of Grant Avenue facing north from Atlantic Avenue (Development Site at left).





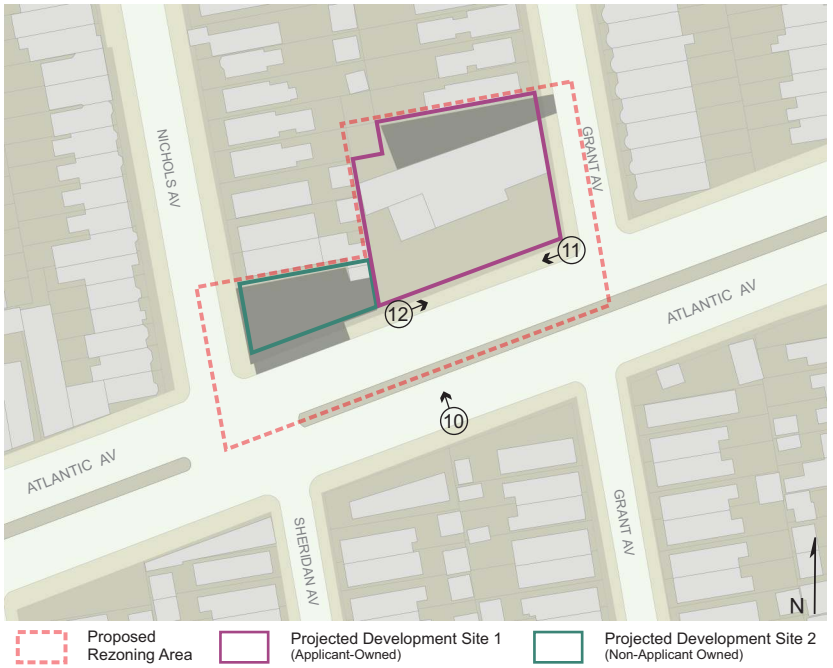
10. View of the Development Site facing north from Atlantic Avenue.



11. View of the sidewalk along the north side of Atlantic Avenue facing west from Grant Avenue (Development Site at right).



12. View of the sidewalk along the north side of Atlantic Avenue facing east toward Grant Avenue (Development Site at left).

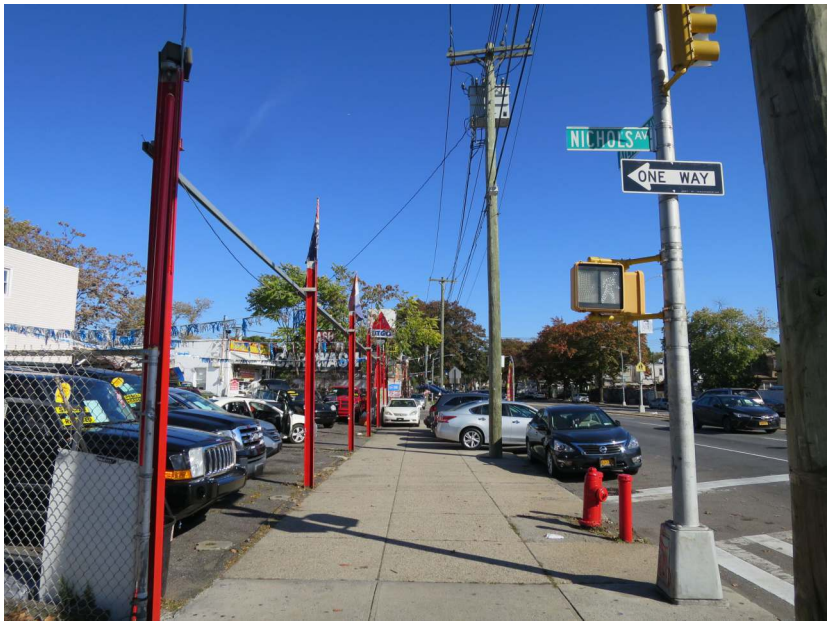




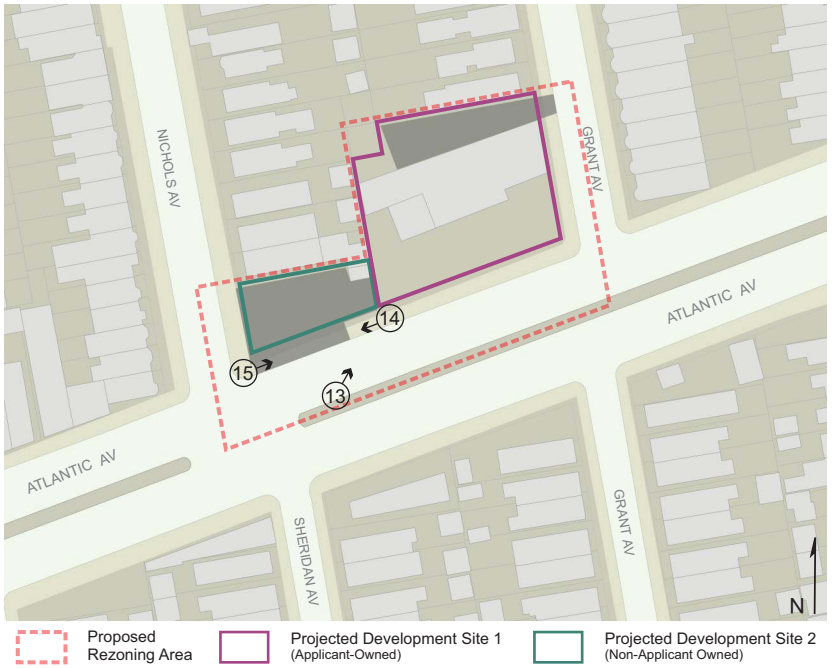
13. View of the Development Site facing northeast from Atlantic Avenue.



14. View of the sidewalk along the north side of Atlantic Avenue facing west toward Nichols Avenue.



15. View of the sidewalk along the north side of Atlantic Avenue facing east from Nichols Avenue (Development Site ahead, at left).





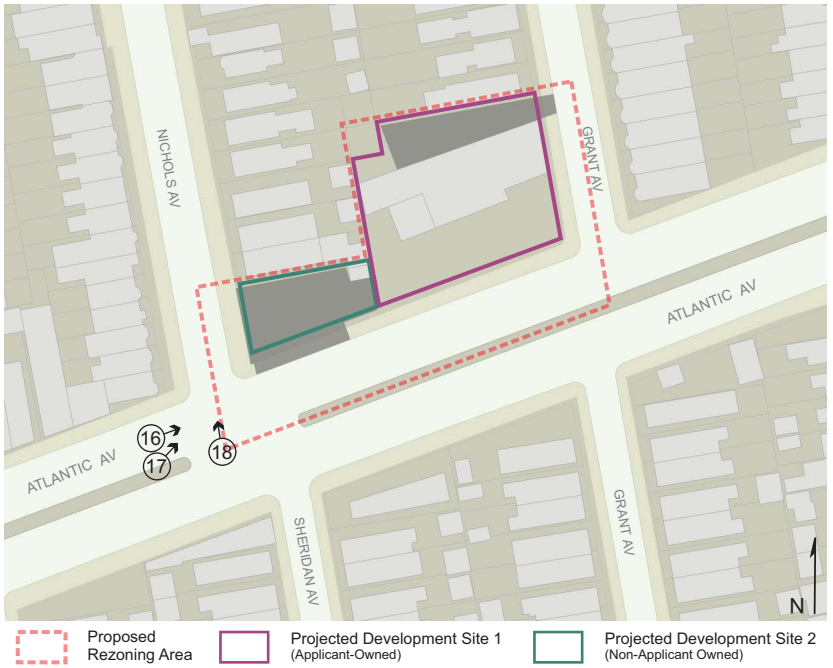
16. View of Atlantic Avenue facing east from Nichols Avenue.



17. View of the intersection of Atlantic Avenue and Nichols Avenue facing northeast.



18. View of Nichols Avenue facing north from Atlantic Avenue.

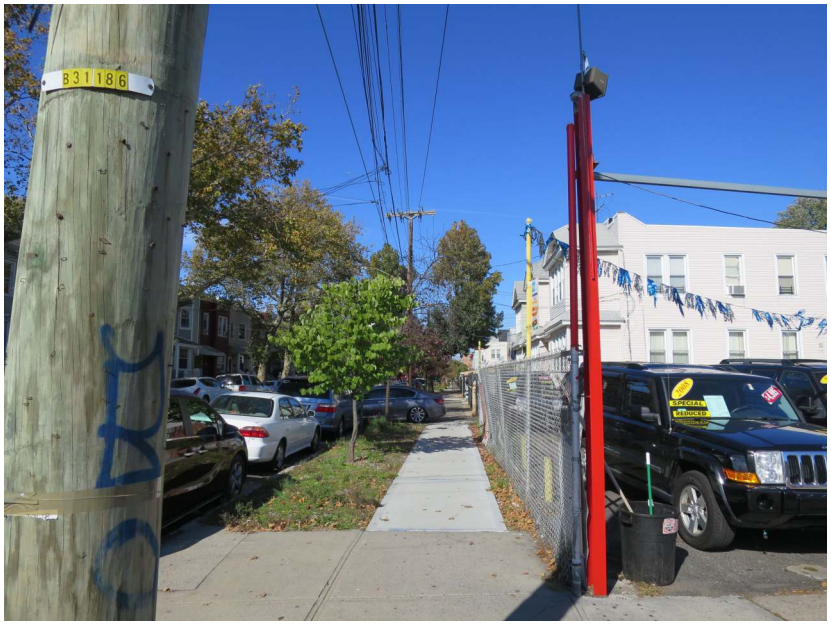




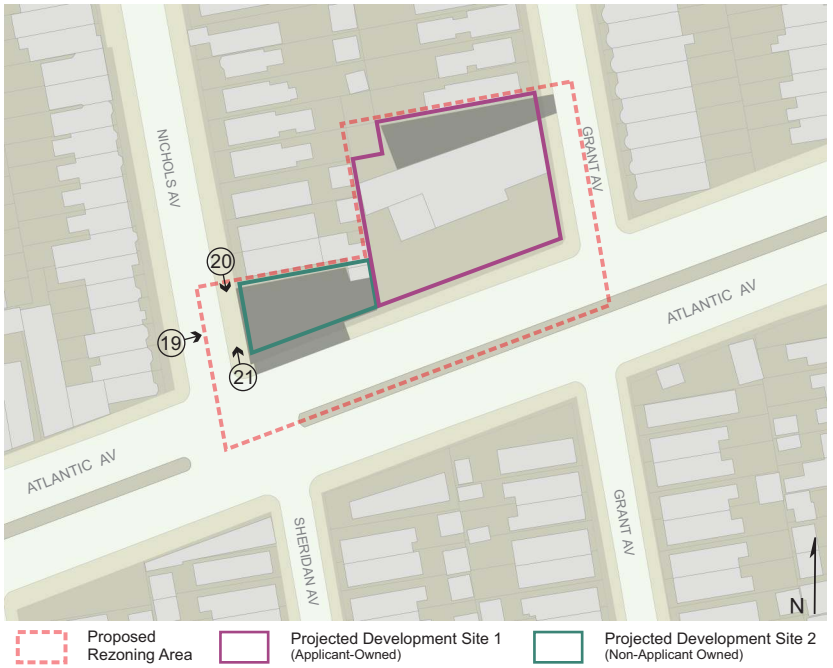
19. View of the east side of Nichols Avenue between Atlantic Avenue and Fulton Street facing east.



20. View of the sidewalk along the east side of Nichols Avenue facing south toward Atlantic Avenue.



21. View of the sidewalk along the east side of Nichols Avenue facing north from Atlantic Avenue.





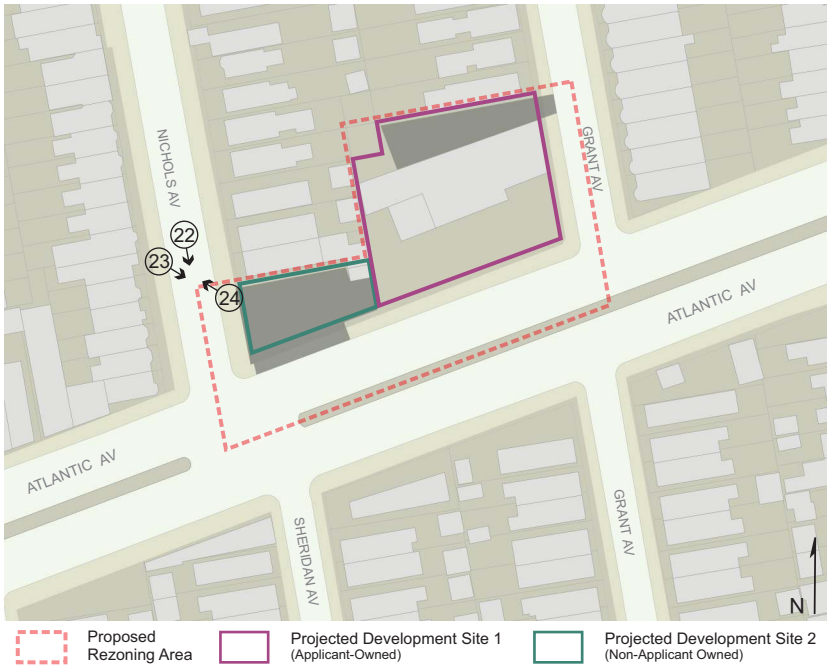
22. View of Nichols Avenue facing south toward Atlantic Avenue.



23. View of the east side of Nichols Avenue between Atlantic Avenue and Fulton Street facing southeast.



24. View of the west side of Nichols Avenue between Atlantic Avenue and Fulton Street facing northwest.





25. View of the intersection of Atlantic Avenue and Nichols Avenue facing southwest.



26. View of the south side of Atlantic Avenue facing south from the Development Site.



27. View of the intersection of Atlantic Avenue and Grant Avenue facing southeast from the Development Site.



Atlantic Avenue facing west (Site at right)



No-Action Scenario

Atlantic Avenue facing west (Site at right)



With-Action Scenario

Atlantic Avenue facing east (Site at left)



No-Action Scenario

Atlantic Avenue facing east (Site at left)



With-Action Scenario

PROJECT DESCRIPTION
3513 ATLANTIC AVENUE, BROOKLYN, NY

Introduction

The applicant, Leemilt's Petroleum Inc., (the "Applicant"), seeks a zoning map amendment to Zoning Map 18a that would include adjacent Lots 1, 54 and 107 of Block 4151 (the "Proposed Rezoning Area") in the East New York section of Brooklyn, Community District 5.

The proposed zoning map amendment would rezone the Proposed Rezoning Area from an R5 zoning district to an R5/C2-4 zoning overlay, which is necessary to permit new commercial use within the Proposed Rezoning Area.

The proposed zoning map amendment to Block 4151, Lot 54 (the "Projected Development Site 1") and Block 4151, Lot 1 (the "Projected Development Site 2") would facilitate the redevelopment of a commercial building on each of the sites. Lot 107 is not considered a potential development site.

A zoning map amendment (the "Proposed Action") would extend an existing C2-4 commercial overlay to the Atlantic Avenue block front between Nichols Avenue and Grant Avenue, which is currently zoned R5. The C2-4 overlay would vary in depth from approximately 36 feet to approximately 142 feet, generally aligning with the lot lines of the Proposed Rezoning Area and allow Use Groups 6, 7, 8, 9 and 14.
.

See **Figure 1 –** Site Location and **Figure 2 –** Tax Map.

Existing Conditions

The Proposed Rezoning Area consists of three adjacent tax and zoning lots, (Block 4151, Lots 1, 54 and 107) in the East New York section of Brooklyn, Community District 5. It encompasses the entire block front on the northern side of Atlantic Avenue between Grant Avenue and Nichols Avenue. Lot 107 contains 625 square feet of vacant, unimproved interior lot that has no street frontage. The 625 square footage is included in the overall square footage of the Proposed Rezoning Area but does not affect either Projected Development Site 1 or 2 in this analysis.

The entire Proposed Rezoning Area is 24,055 square feet and is situated along Atlantic Avenue, which is a wide, heavily trafficked, eight-lane east-west commercial thoroughfare in East New York.

The existing non-conforming gas station with carwash and convenience store at the Development Site 1 (Lot 54) has a 1957 Certificate of Occupancy, indicating that this non-conforming use predates the enactment of the 1961 Zoning Resolution making it legally non-conforming.

The existing non-conforming commercial building and used automobile sales lot on the adjacent lot (Lot 1), has a 1959 Certificate of Occupancy indicates that the non-conforming use predates the enactment of the Zoning Resolution, making it legally non-conforming. See **Figure 3 –** Land Use Map.

Proposed Action

The action necessary to facilitate the project is a zoning map amendment to establish a C2-4 overlay in the existing R5 zoning district. The zoning map amendment is necessary to permit new commercial use within the Proposed Rezoning Area. See **Figures 4-1 through 4-4 –** Zoning Maps.

Proposed Zoning Map Amendment:

R5 zoning district to an R5 zoning district with a C2-4 commercial overlay (Block 4151; Lots 1, 54 and 107)

The proposed R5/C2-4 zoning district along Atlantic Avenue between Nichols Avenue and Grant Avenue will permit an FAR of 1.00 for commercial use (Use Groups 6, 7, 8, 9 and 14), facilitating the Proposed Development.

Development Sites

The applicant seeks to redevelop the Development Site 1, Block 4151, Lot 54, with one one-story commercial building containing two retail stores with approximately 10,152 gross square feet (gsf) (9,856 zoning square feet (zsf)) of commercial floor area (0.53 FAR). The proposed zoning map amendment would also affect the adjacent lot on the Atlantic Avenue block front, Block 4151, Lot 1 and the interior Lot 107. As discussed above, Lot 107 is not considered a potential development site. For purposes of conservative analysis, a Reasonable Worst Case Development Scenario (RWCDS) has been established for the Proposed Rezoning Area, which would include Block 4151, Lot 54 and Lot 1, as noted below.

Projected Development Site No.	**Block**	**Lot**
Projected Development Site 1 (Applicant Site)	4151	54
Projected Development Site 2	4151	1

Existing Conditions

Projected Development Site 1

Block 4151, Lot 54 has 18,760 square feet of lot area and is improved with two one-story commercial buildings with 6,541 gsf (6,350 zsf) of floor area (0.34 FAR). The Development Site 1 is currently used as a gas station with carwash and convenience store. The 1957 Certificate of Occupancy (CO #151292) indicates that this non-conforming use predates the enactment of the 1961 Zoning Resolution, making it legally non-conforming.

Projected Development Site 2

Block 4151, Lot 1 has 4,670 square feet of lot area and is improved with a 206 gsf (200 zsf) commercial building (0.04 FAR) and used automobile sales lot. The 1959 Certificate of Occupancy (CO # 192798) indicates that the non-conforming use predates the enactment of the 1961 Zoning Resolution, making it legally non-conforming.

The Proposed Rezoning Area (**Figure 5 –** Aerial Map) is within a R5 district which permits residential uses (Use Groups 1 and 2) and community facility uses (Use Groups 3 and 4) only. The maximum residential FAR is 1.25 and the maximum community facility FAR is 2.0. Commercial use is not permitted as-of-right. Photos of the existing area are attached (**Figures 6-1 through 6-9**).

Future No-Action Scenario

Absent the Proposed Action, the properties within the Proposed Rezoning Area would remain in their current condition.

Projected Development Site 1

Block 4151, Lot 54 is assumed to remain in its existing condition. The existing building at the Development Site is occupied by commercial uses and is legally non-conforming. Therefore, in the future No-Action scenario, the Development Site 1 is expected to remain in its current condition.

Projected Development Site 2

Block 4151, Lot 1 is assumed to remain in its existing condition. The existing commercial building is legally non-conforming. Therefore, in the future No-Action scenario, the Development Site 2 is expected to remain in its current condition.

Future With-Action Scenario

In the future with the Proposed Action, Projected Development Sites 1 and 2 would be redeveloped.

Projected Development Site 1

In the future with the Proposed Action, Development Site 1 (Block 4151, Lot 54) would be redeveloped with a one-story commercial building containing 19,323 gsf (18,760 zsf) of floor area (1.0 FAR). The one-story building would have a maximum rooftop height of 30 feet. Parking spaces required for commercial uses are waived pursuant to Zoning Resolution (ZR) Section 36-232 which states that in certain districts with low parking requirements such as C2-4, if the total number of off-street parking required is less than 40, parking requirements are waived.

Projected Development Site 2

In the future with the Proposed Action, Development Site 2 (Block 4151, Lot 1) would be redeveloped with a one-story, 4,819 gsf (4,670 zsf with 1.0 FAR) commercial building with allowable use groups (Use Groups 6, 7, 8, 9 & 14) and a maximum rooftop height of 30 feet. Parking spaces for commercial uses are waived pursuant to ZR Section 36-232 which states that in certain districts with low parking requirements such as C2-4, if the total number of off-street parking required is less than 40, parking requirements are waived.

Purpose and Need

The Projected Development Sites 1 and 2 require a zoning map amendment. The Proposed Rezoning Area contains commercial and automotive uses which are legally non-conforming with the existing R5 zoning district. The proposed C2-4 overlay would resolve the non-conforming zoning status of the Applicant-owned Projected Development Site 1 but would not resolve the non-conforming status of the non-Applicant-owned Projected Development Site 2. Uses allowed within a C2-4 commercial overlays do not include enclosed automobile sales such as found on Projected Development Site 2. The Proposed Action would facilitate the redevelopment of commercial buildings on both Projected Development Sites 1 and 2 on a high-traffic corridor and would be consistent with the existing commercial character of Atlantic Avenue and historic commercial use within the Proposed Rezoning Area.

Build Year

Based on an estimated 12-month approval process and 18-month construction period, the analysis year is assumed as 2021.

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3513 ATLANTIC AVENUE
BROOKLYN, NEW YORK

INTRODUCTION

Based on the analysis and the screens contained in the Environmental Assessment Statement Short Form, the analysis areas that require further explanation include land use, zoning, and public policy; historic and cultural resources; urban design and visual resources; natural resources; hazardous materials; transportation; air quality; noise and construction, as further detailed below. The subject heading numbers below correlate with the relevant chapters of the *CEQR Technical Manual.*

The applicant seeks a zoning map amendment would rezone the Projected Development Site 1 (Block 4151, Lot 54) and the Projected Development Site 2 (Block 4151, Lot 1) from an R5 zoning district to an R5/C2-4 zoning overlay (Proposed Action) to allow the redevelopment of both sites that make up the Proposed Rezoning Area. Lot 107 of Block 4151 is also within the Proposed Rezoning Area, but it is not considered a potential development site. The C2-4 overlay would vary in depth from approximately 36 feet to approximately 142 feet, generally aligning with the lot lines of the Proposed Rezoning Area and allow Use Groups 6, 7, 8, 9 and 14.

The Proposed Project on the Applicant-owned Projected Development Site 1 would be a 19 ft one-story commercial building containing two retail stores with approximately 10,152 gsf (9,856 zsf) of commercial floor area (0.53 FAR). Six accessory unenclosed parking spaces would be provided.

A Reasonable Worst Case Development Scenario (RWCDS) has been established for two sites within the Proposed Rezoning Area. Projected Development Site 1 would allow for approximately 19,323 gsf (18,760 zsf) of commercial floor area (1.0 FAR) with a maximum building height of 30 ft. Projected Development Site 2 would allow for approximately 4,810 gsf (4,670 zsf) of commercial floor area (1.0 FAR) with a maximum building height of 30 ft.

4. LAND USE, ZONING AND PUBLIC POLICY

I. Introduction

The analysis of land use, zoning and public policy characterizes the existing conditions of the Proposed Rezoning Area (Projected Development Site 1: Block 4151, Lot 54; Projected Development Site 2: Block 4151 Lot 1. and Block 4151, Lot 107. Lot 107 is not considered a potential development site and is therefore not included in the analysis) and the surrounding study area; anticipates and evaluates those changes in land use, zoning and public policy that are expected to occur independently of the Proposed Action; and identifies and addresses any potential impacts related to land use, zoning and public policy resulting from the Proposed Action. A comprehensive analysis of land use, zoning and public policy characteristics of the area has been prepared, including field surveys, studies of the neighborhood, census data, and land use and zoning maps.

Land Use Study Area

In order to assess the potential for project related impacts, the land use study area has been defined as the area located within a 400-foot radius of the site, which is an area within which the Proposed Action has the potential to affect land use or land use trends. See **Figure 1 – Site Location**. The 400-foot radius study area is bounded roughly by Fulton Street to the north; the midblock between Atlantic Avenue and McKinley Avenue to the south; Autumn Avenue to the west; and 74th Place (Queens) to the east and is characterized by a mix of low-density residential with two-story row homes, detached homes and semi-detached homes and mixed-use buildings with residential and commercial uses. Atlantic Avenue is a 120-foot-wide street with four lanes in either direction plus a traffic median that contains a variety of commercial uses including a concentration of auto-related uses.

II. Land Use

Site Description (Existing Conditions)
Block 4151, Lot 54 (Projected Development Site 1) has 18,760 square feet of lot area and is improved with two one-story commercial buildings with 6,541 gsf (6,350 zsf) of floor area (0.34 FAR). It is currently used as a gas station with carwash and convenience store.

Block 4151, Lot 1 (Projected Development Site 2) has 4,670 square feet of lot area and is improved with one-story commercial buildings with 206 gsf (200 zsf) of floor area (0.04 FAR). It is currently used as automobile sales shop.

Block 4151, Lot 107 has 625 square feet of vacant, unimproved land with no street frontage. It is not considered a potential development site.

The study area surrounding the Proposed Rezoning Area is predominantly low-density residential uses with two-story row homes, detached and semi-detached homes and mixed-use buildings with residential and commercial uses. Fulton Street to the north is improved with local retail development. Atlantic Avenue contains a variety of commercial uses including a concentration of auto-related uses.

Land uses in the area include residential (Use Groups 1 and 2), community facility uses (Use Groups 3 and 4) as well as a wider range of commercial uses including local retail and service establishments (Use Group 6), home maintenance or repair services (Use Group 7), amusement or service establishments (Use Group 8), retail and service establishments that serve a larger area (Use Group 9) and special services related to boating (Use Group 14). See **Figure 3 – Land Use Map**.

Future No-Action (No-Build) Scenario

In the future and absent the Proposed Action, no land use changes would be made to the Proposed Rezoning Area and the study area would continue to remain in its existing condition.

The Proposed Rezoning Area is assumed to remain in its existing condition as a legally non-conforming commercial use

With-Action (Build) Scenario

In the future with the Proposed Action, commercial uses (Use Group 6) would be permitted within the Proposed Rezoning Area. This would resolve the non-conforming status of Projected Development Site 1, while facilitating the redevelopment of both Projected Development Sites 1 and 2. The commercial uses allowed within the proposed C2-4 overlay in the future with the proposed actions including Use Groups 6, 7, 8, 9 & 14. Specifically, local retail and service establishments (Use Group 6), home maintenance or repair services (Use Group 7), amusement or service establishments (Use Group 8), retail and service establishments that serve a larger area (Use Group 9) and special services related to boating (Use Group 14).

The Proposed R5/C2-4 district permits a maximum of 1.25 FAR for residential, 1.00 commercial and 2.00 community facility uses. The R5 permits a maximum of 1.25 FAR for residential and 2.00 community facility uses. Commercial uses are not permitted as-or-right. The Proposed action would facilitate the proposed new retail development on the Development Site 1 (Block 4151, Lot 54), where only residential and community facility uses are currently permitted.

The Proposed Action would legalize the status of the proposed commercial uses allowing the development of a one-story commercial building with two retail stores and six parking spaces. This would entail an enlargement from a 6,541 gsf (6,350 zsf) building to 19,323 gsf (18,760 zsf) building or from 0.34 FAR to 1.0 FAR on an 18,760 square foot lot for Projected Development Site 1. It would also allow the enlargement from a 206 gsf (200 zsf) building to a 4,810 gsf (4,670 zsf) building or from 0.04 FAR to 1.0 FAR on a 4,670 sf lot for Projected Development Site 2.

Conclusion

The Proposed Action is not anticipated to result in any new land uses or uses that are significantly different from surrounding uses. Two blocks to the west of the Proposed Rezoning Area is a continuous C2-4 commercial overlay within an R7A zoning district that was recently rezoned as part of the East New York Rezoning to promote higher density, mixed use developments along Atlantic Avenue. The Proposed Action would not be a departure from adjacent uses, would not be incompatible with the land uses in the surrounding area and would activate an otherwise underutilized site.

No potentially significant adverse impacts related to land use are expected to occur as a result of the Proposed Action. Therefore, further analysis of land use is not warranted.

III. Zoning

Existing Conditions

The Proposed Rezoning Area is currently zoned R5, which permits a maximum FAR of 1.25 for residential and 2.00 for community facilities. The existing commercial uses in the Proposed Rezoning Area are legally non-conforming.

Projected Development Site 1 (Block 4151, Lot 54) has 18,760 square feet of lot area and is improved with two one-story commercial buildings with 6,541 gsf (6,350 zsf) of floor area (0.34 FAR). It is currently improved with a gas station with carwash and convenience store. The 1957 Certificate of Occupancy (CO #151292) indicates that this non-conforming use predates the enactment of the Zoning Resolution, making it legally non-conforming.

Projected Development Site 2 (Block 4151, Lot 1) has 4,670 square feet of lot area and is improved with a 206 gsf (200 zsf) commercial building (0.04 FAR) and used automobile sales lot. The 1959 Certificate of Occupancy (CO # 192798) indicates that the non-conforming use predates the enactment of the 1961 Zoning Resolution, making it legally non-conforming.

Zoning districts within the study area include R4B, R5, R5/C1-2, R5/C2-2 and R7A/C2-4. The Proposed Rezoning Area is located between, but not within, the boundaries of the East New York Rezoning area and the Ozone Park Rezoning area (Queens).

Future No-Action (No-Build) Scenario

In the future and absent the action, development of the Proposed Rezoning Area would continue to be governed by the provisions of the existing R5 zoning district. Subsequently, both Projected Development Site 1 and 2 are anticipated to remain legally non-conforming in the future without the Proposed Action.

Projected Development Site 1 is assumed to remain in its existing condition. The existing commercial building at the site is legally non-conforming. Absent the proposed rezoning, these non-conforming uses would be permitted to remain, subject to discontinuance provisions. However, structural alterations are not permitted to a structure occupied by a non-conforming use that would allow it to accommodate another non-conforming use pursuant to ZR § 52-22. As a result, the existing gas station and car wash cannot be converted to retail use at the Projected Development Site 1 without the proposed rezoning. Therefore, in the future No-Action scenario, the site is anticipated to remain as 6,541 gsf (6,350 zsf) of commercial space (0.34 FAR).

Projected Development Site 2 is assumed to remain in its existing condition. The existing commercial building site is legally non-conforming. Therefore, in the future No-Action scenario, the site is anticipated to remain as 206 gsf (200 zsf) of commercial space (0.04 FAR).

No changes are anticipated to the zoning districts and zoning regulations relating to the Proposed Rezoning Area or the surrounding study area by the project build year of 2021.

Future With-Action (Build) Scenario

In the future with the Proposed Action, commercial uses would be permitted on the Proposed Rezoning Area. This would facilitate the commercial redevelopment of both Projected Development Sites 1 and 2.

Within the R5/C2-4 zoning district, the maximum FAR for commercial uses is 1.0. The maximum 1.25 FAR permitted for residential and the maximum community facility FAR of 2.0 remain. The maximum permitted base height in the R5/C2-4 zone is 40 feet or 4 stories. The required setback distance above maximum base height is 15 feet for wide streets and 20 feet for narrow streets. The R5/C2-4 zoning district requires accessory residential parking spaces for 85 percent of dwelling units. Parking is required for commercial uses based on area, with retail uses at one space per 1,000 square feet. However, accessory commercial parking may be waived if fewer than 25 spaces are required pursuant to ZR § 36-231.

The Proposed Action seeks a zoning map amendment that would facilitate the development of a 18,760 square foot one-story commercial building (1.0 FAR) on the

Projected Development Site 1, as well as the development of a 4,670 square foot one-story commercial building (1.0 FAR) on the Projected Development Site 2. The proposed district boundary for the C2-4 overlay only includes these existing non-conforming uses, ensuring that commercial use is limited to the Proposed Rezoning Area and does not encroach into the R5-zoned midblock.

Therefore, the Future With-Action Scenario would resolve the non-conforming zoning status of Projected Development Site 1 but would not resolve the non-conforming zoning status of Projected Development 2. The Future With-Action Scenario would facilitate the redevelopment of both Projected Development Sites 1 and 2.

Conclusion

No significant impacts to zoning patterns in the area would be expected. The Proposed Action would result in a zoning map amendment that creates new R5/C2-4 zoning district, which would legalize pre-existing commercial uses on both lots within the Proposed Rezoning Area and facilitate the redevelopment of the sites, both of which contain longstanding commercial business. On Projected Development Site 1, the proposed 18,760 square foot commercial development (1.0 FAR) would be within the permissible commercial FAR of 1.0 within R5/C2-4 zoning district. The maximum wall height would rise to 30 feet, which would also be within the permissible commercial height of 30 feet within an R5/C2-4 zoning district. On Projected Development Site 2, the proposed 4,670 square foot commercial development (1.0 FAR) would be within the permissible commercial FAR of 1.0 within R5/C2-4 zoning district. The maximum wall height would rise to 30 feet, which would also be within the permissible commercial height of 30 feet within an R5/C2-4 zoning district.

While the Proposed Action would facilitate a redevelopment in the Proposed Rezoning Area, the action is not intended to facilitate additional development but would be consistent with the existing adjacent R5/C2-4 along Atlantic Avenue.

Therefore, the Proposed Action will not have a significant impact on the extent of conformity with the current zoning in the surrounding area, and it would not adversely affect the viability of conforming uses on nearby properties and further assessment of zoning is not warranted.

IV. Public Policy

Existing Conditions

The Proposed Rezoning Area is within the East New York section of Brooklyn, Community District 5, one block west of the Queens border.

The Proposed Rezoning Area is located between, but not within, the boundaries of the East New York Neighborhood Plan (CEQR #15DCP102K, ULURP #160035ZMK,

160036ZRK, 160050ZRK, dated 4/20/2016) in Brooklyn and the Ozone Park Rezoning (CEQR #14DCP027Q, ULURP #140079ZMQ, dated 12/10/2013) in Queens. While the boundaries of these two nearby rezoning plans are fixed, the Proposed Rezoning Area is located between the two along the same major commercial route (Atlantic Avenue) where commercial uses were deemed appropriate. Both of these plans promote commercial overlays along Atlantic Avenue to promote local commercial retail and mixed-use development.

The Proposed Rezoning Area is located along Vision Zero's Atlantic Avenue Phase II: Great Streets, scheduled for construction in 2019. Vision Zero is a multi-agency effort to reduce traffic fatalities in New York City. Atlantic Avenue is one of the arterial streets designated for City funds as part of this Vision Zero Capital Program. Design improvements to Atlantic Avenue include reconstruction of the center median with plantings, extension of pedestrian refuge space in crosswalks, installation of raised median-side bicycle lanes and the addition of left turn bays/left turn signals to reduce traffic/pedestrian conflicts.

No other public policies relate to the Proposed Rezoning Area or to the surrounding 400-foot radius study area. The site and the 400-foot radius area are not located within an Historic District and do not contain any designated historic resources and are therefore not subject to any historic regulations. Neither the Proposed Rezoning Area nor the study area are located within a Federal Empowerment Zone, nor is it covered by any 197-a Community Development Plans and is not located within a critical environmental area (The Jamaica Bay Watershed Protection Plan is discussed in Section 11: Natural Resources, of this document.), a significant coastal fish and wildlife habitat, a wildlife refuge, or a special natural waterfront area.

Future No-Action (No-Build) Scenario

No new public policy initiatives or changes to existing initiatives are anticipated to affect the Proposed Rezoning Area or the surrounding 400-foot study area by the analysis year of 2021.

Future With-Action (Build) Scenario

The future with the Proposed Action would result in a zoning map amendment that would include a commercial overlay over the existing R5 zoning, creating a new R5/C2-4 zoning district. This R5/C4-2 district would facilitate the redevelopment of both Projected Development Site 1 and 2. The R5/C2-4 district permits a maximum FAR of 1.25 for residential use, 2.00 for community facility use and 1.00 for commercial use. As noted within the land use analysis above, the proposed uses would be compatible with the existing land uses within a 400-foot radius of the Proposed Rezoning Area.

The Proposed Action is required in order to allow the Applicant-owned site, Projected Development Site 1, to become legally conforming and to be redeveloped. The Proposed Action would not make Projected Development Site 2 legally conforming, but it would

facilitate redevelopment. The Proposed Action would meet The City's public policy goals by reducing the degree of non-compliance and non-conformance with zoning in the study area, specifically on the Applicant-owned Projected Development Site 1. The Proposed Action would further the goals for Atlantic Avenue established in the East New York Neighborhood Plan in Brooklyn and the Ozone Park Rezoning in Queens. The land use and zoning would be consistent with the those along Atlantic Avenue and therefore would place no additional burden on the Vision Zero-Atlantic Avenue Phase II: Great Streets design improvements scheduled for 2019.

No adverse impact to public policies would occur as a result of the Proposed Action.

Conclusion
The Proposed Action, which would facilitate a commercial redevelopment in the Proposed Rezoning Area, would not be inconsistent with the goals of the nearby existing public policies for the area, as discussed above.

No potentially significant adverse impacts related to public policy are anticipated to occur as a result of the Proposed Action, and further assessment of public policy is not warranted.

V. Conclusion

No significant adverse impacts related to land use, zoning, and public policy are anticipated to occur as a result of the Proposed Action. Therefore, the Proposed Action is not expected to result in any of the conditions that warrant the need for further assessment of land use, zoning, or public policy.

9. HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both architectural and archaeological resources. Architectural resources generally include historically important buildings, structures, objects, sites, and districts. They may include bridges, canals, piers, wharves, and railroad transfer bridges that may be wholly or partially visible above ground. Archaeological resources are physical remains, usually subsurface, of the prehistoric, Native American, and historic periods—such as burials, foundations, artifacts, wells, and privies. As a general rule, archaeological resources do not include 20th and 21st Century artifacts.

According to the *CEQR Technical Manual*, a historic and cultural resources assessment is required if a project has the potential to affect either archaeological or architectural resources. The attached letter dated January 24, 2018 from the New York City Landmarks Preservation Commission (NYC LPC), affirms that the Proposed Rezoning Area has no architectural or archaeological significance. See **Appendix A**.

Conclusion

Based on the above, there is no potential for impacts related to architectural historic resources or archaeological historic resources as a result of the Proposed Action and further analysis is not required.

10. URBAN DESIGN AND VISUAL RESOURCES

An assessment of urban design is needed when a project may have effects on any of the elements that contribute to the pedestrian experience of public space. A preliminary assessment is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. An assessment would be appropriate for the following:

1. Projects that permit the modification of yard, height, and setback requirements; and
2. Projects that result in an increase in built floor area beyond what would be allowed 'as-of-right'.

The Applicant seeks a zoning map amendment that would include adjacent Lots 1, 54 and 107 of Block 4151 (the "Proposed Rezoning Area") in the East New York section of Brooklyn, Community District 5. The proposed zoning map amendment would rezone the Proposed Rezoning Area from an R5 zoning district to an R5/C2-4 zoning overlay.

The proposed zoning map amendment to Block 4151, Lot 54 (the "Projected Development Site 1") and Block 4151, Lot 1 (the "Projected Development Site 2") would facilitate the redevelopment of a commercial building on each of the sites. Although Lot 107 is included in the Proposed Rezoning Area, it is not considered a potential development site.

A zoning map amendment (the "Proposed Action") would extend a nearby existing C2-4 commercial overlay to the Atlantic Avenue block front between Nichols Avenue and Grant Avenue, which is currently zoned R5.

Existing Conditions (and No-Action Scenario)

The Proposed Rezoning Area is currently zoned R5. R5 districts allow all types of housing (Use Groups 1-2) at a maximum FAR of 1.25. Community facility uses (Use Groups 3-4) are permitted at a maximum FAR of 2.0. The maximum height of R5 districts is 40 feet, with a perimeter wall height of 30 feet. Commercial uses are not permitted in R5 districts. This district usually produces buildings with four stories. Front yards must be 10 feet deep or, if deeper, a minimum of 18 feet to provide sufficient space for on-site parking. Detached houses must have two side yards that total at least 13 feet and each one must be at least five feet wide. Semi-detached buildings need one side yard with a minimum width of eight feet. The maximum street wall length for a building on a single zoning lot is 185 feet. Parking is required for 85% of the dwelling units.

In the future, without the Proposed Action, the existing developments are anticipated to remain in their existing conditions, given that both sites within the Proposed Rezoning

Area contain commercial uses, which are not permitted in the current R5 zoning district, as discussed above.

With-Action Scenario

In the future with the Proposed Action, the R5/C2-4 zoning district overlay would legalize pre-existing commercial retail uses. The underlying R5 district would remain but the C2-4 commercial overlay would permit commercial FAR of 1.0, one parking space per 1,000 sf of commercial floor area is required and side yards are not required.

With the Proposed Action, Projected Development Site 1 would allow for approximately 19,323 gsf (18,760 zsf) of commercial floor area (1.0 FAR) with a maximum building height of 30 ft. Projected Development Site 2 would allow for approximately 4,810 gsf (4,670 zsf) of commercial floor area (1.0 FAR) with a maximum building height of 30 ft.

The Proposed Action complies with the permitted height of the R5/C2-4 zoning district and is similar in size and bulk to other buildings along Atlantic Avenue in the surrounding area that are currently zoned R5/C2-4. This is illustrated in **Figures 7-1 and 7-2 – Urban Design/Massing Diagrams**. Therefore, the Proposed Action would be consistent with the character of the neighborhood.

The Proposed Action would allow a maximum building height of 30 feet. This is the maximum height allowed by existing nearby R5/C2-4 along Atlantic Avenue. In addition, the Applicant intends to reduce the length of the curb cuts and improve the pedestrian experience on Atlantic Avenue with the Proposed Action. It would be consistent with other commercial buildings' size and bulk along Atlantic Avenue and in keeping with the commercial and residential land use along Atlantic Avenue. Therefore, there is no potential for a pedestrian to observe, from street level, a physical alteration beyond that allowed by the existing zoning. See **Figure 5 – Aerial Map** and **Figures 6-1 through 6-9 – Photographs**.

The Proposed Action would not alter the essential character of the neighborhood, impair the appropriate use or development of the adjacent properties, or be detrimental to the public welfare. The impacts would be similar to those of the existing commercial uses along Atlantic Avenue.

Based on the above, a detailed urban design assessment is not warranted and no urban design or visual resources impacts would occur.

11. NATURAL RESOURCES

The Proposed Rezoning Area is located within the boundaries of the Jamaica Bay Watershed Protection Plan (See *Jamaica Bay Watershed Form*, **Appendix B**). As such, a preliminary assessment of the Proposed Action's potential effect on natural resources is required. Relative to the requirements of the Natural Resources chapter of the *CEQR Technical Manual*, the Proposed Rezoning Area is developed with active commercial uses and is within the highly urbanized area of East New York, making the site devoid of any significant natural resource. The site is fully covered by impervious surfaces and does not contain any vegetation or animal habitat. The Proposed Action is not anticipated to create a significant adverse impact on natural resources and no further analysis is warranted.

12. HAZARDOUS MATERIALS

An analysis of hazardous materials is conducted to determine whether or not a proposed project would increase the exposure of the people of the environment to hazardous materials, and, if so, whether this increased exposure would result in potentially significant public health or environmental impacts. If significant adverse impacts are identified CEQR requires that the impacts be disclosed and mitigated or avoided to the greatest extent practicable.

Site Description

The subject property is an 18,760+/- square-foot lot occupied by a gasoline filling station, convenience store, and car wash. The central part of the site contains a 1-story, masonry and wood-frame building with the convenience store, office, bathroom, storage area, and car wash. Heat for the building is provided by gas-fired systems. The southern part of the property is paved with concrete and contains the three underground petroleum storage tanks, two product dispenser islands, and general parking areas. The northern portion of the site contains an unpaved parking area which was filled with cars at the time of the site visit.

Site History

Research into the history of the property shows that the project site was undeveloped in 1887 and 1908, as indicated by Sanborn maps for those years. Based on the rural nature of the area prior to 1887, it is considered unlikely that the site was developed before this time. In the early 1920s, two buildings were constructed at the site. The north building contained a garage and repair shop, a dwelling, a retail store and numerous auto houses (one-car garages). A buried gasoline tank is shown below the east side of this building on the 1928 and 1851 Sanborn maps. The south building contained two retail stores and numerous auto houses. A printing business was identified in the north building in (Bedell Willis Printer) in 1934. Printers are types of businesses which have been known to use hazardous substances in their operations. However, given the small, retail nature of this business, and that it only appears at the site in 1934, it is considered unlikely that this printer would have impacted the subject property.

In 1956 the south building and all but the garage/repair shop portion of the north building were demolished, and the convenience store portion of the existing subject building was constructed as an auto repair garage. The former garage portion of the north building is now the car wash portion of the existing subject building. A gasoline filling station was also added to the south side of the site in 1956. The uses of the site consisted of a gasoline filling station, auto repair garage, and car wash from 1956 to circa 2006. In 2006, the auto repair shop portion of the building was converted to a convenience store and the site has been used as a filling station, convenience store and car wash since that time.

Auto repair garages/repair shops and gasoline filling stations are types of operations which store and use petroleum products and hazardous substances. In addition, residual materials removed from cars in the car wash may also contain hazardous substances and petroleum products. Any past spills, leaks or discharges of such materials would be a potential source of commination to the project site. In addition, due to the identified former uses of the property, the sandy soils below the site, and the relatively shallow groundwater below the property, which is located approximately 20 to 22 feet below grade (fbg), the potential for a vapor encroachment condition into the current and future buildings at the site exists.

Environmental Liens and Activity and Use Limitations

There were not any indications of Environmental Liens or Activity and Use Limitations (AULs) found on file for the project site in the New York City Department of Finance records reviewed. No indications of any Environmental Liens or AULs were found in the deed provided by the User. There are any Environmental Liens or AULs identified at the project site in the EDR database report.

Current Operations/Hazardous Substances/Petroleum Products

No auto repair or maintenance operations are currently performed at the project site. Gasoline and diesel fuel for the filling station are stored in three underground storage tanks (USTs) on the south side of the property. In addition, automotive supplies including lubricating oils, anti-freeze, cleaners, windshield washer fluid and others are stored and packaged for retail sale in the convenience store. Automotive cleaners and detailing chemicals are stored and used in the car wash in 1-, 5- and 55-gallon containers. No additional petroleum products or hazardous substance were noted at the project site. No indications of recent spills or leaks of hazardous substances or petroleum products were observed during the site visit, such as stained surfaces or chemical sheens on standing water.

Drainage Structures

Typical lavatory drainage structures such as sinks and toilets are present in the building. Several floor drains and a trench drain were observed in the car wash. In addition, there are two circular steel manway covers and a circular drainage grate in the floor on the east side of the car wash. The structure located below these covers is not known; however, it is possible that it is an oil/water separator or similar structure. Finally, one storm drain was present in the parking lot on the south side of the site. The drainage destination of the drainage structures at the site is not known; however, it is likely that they discharge to the municipal sewer system.

Petroleum Storage Tanks

There are three 4,000-gallon USTs located on the south side of the site; two containing gasoline and one containing diesel fuel. These tanks are double-walled fiberglass construction and were installed in 1997. The three USTs at the site are currently registered with the New York State Department of Environmental Conservation (NYSDEC)

Petroleum Bulk Storage (PBS) program (PBS Number 2-146684). The tanks were last tightness tested in 2007 and the registration expires on 6/13/2020. A compliance inspection of the storage tank systems at the project site were performed in March of 2007. The inspection included testing of the Stage I/Stage II vapor recovery system, piping system, overfill protection system, leak detectors, monitors, and shear valves. All components passed the tests performed, with the exception of the monitor system, which failed the inspection. There was not any evidence of other USTs observed at the property during the site visit, such as additional fillports or vent lines. No aboveground petroleum storage tanks were located at the project site.

In 1997, twelve 550-gallon gasoline USTs, one 550-gallon waste oil UST, and 450.48 tons of petroleum impacted soils were removed from the project site. Following the removal of tanks and soils, six endpoint soil samples were collected from the tank excavation and the existing 4,000-gallon USTs were installed in the same location. The results of the laboratory analysis of the endpoint samples collected detected four contaminants slightly in excess of NYSDEC Unrestricted Use Soil Cleanup Objectives (SCO). These are 1.92 parts per million (ppm) xylene in sample BS-1 at 12 fbg and 1.48 ppm xylene in sample BS-5 at 12 fbg compared to the SCO of .26 ppm, 130 ppm of 1,2,4-trimethybenzene in sample BS-2 at 12 fbg and 13.1 ppm of 1,2,4-trimethybenzene in sample BS-5 at 12 fbg compared to the SCO of 3.6 ppm.

According to the NYSDEC PBS database, the 550-gallon tanks were installed in 1961. The project site was first developed as a gasoline filling station in 1956 and it is not known if the 550-gallon USTs removed in 1997 are the original tanks for the filling station, or if subsequent generations of tanks were later installed at the site. Any former USTs at the property which were not removed may remain at the site.

As noted previously, heat for the subject building is currently provided by gas-fired systems. However, the car wash portion of the subject building was constructed in the 1920s, and the convenience store part of the building was constructed in the 1950s. In addition, there was formerly a building located on the south side of the site from the 1920s to the early 1950s. It is not known how the subject building was previously heated, or how the building on the south side of the site was heated (i.e., gas, oil, or other). If the subject building or the building formerly located on the south side of the site were heated using oil-fired systems, it is possible that one or more heating oil tanks may remain at the project site.

Asbestos/Lead-Based Paints/PCBs

Given the age of the subject building, it is possible that it contains asbestos-building materials and lead-based paints. No electrical equipment suspected of containing PCBs were identified at the project site.

Regulatory Agency Records

There are ten NYSDEC-reported spill incidents identified at the project site. Nine of these spills involved the release of small quantities of product which were quickly cleaned up and the spills were closed by the NYSDEC.

From 1991 to 2003, a remediation at the site was performed under Spill Number 9507252. In April of 1991, the NYSDEC sent a letter to the responsible party requiring the installation of groundwater monitoring wells in the center of the westbound traffic lane of Atlantic Avenue due to the occurrence of a gasoline spill into the Long Island Rail Road (LIRR) Atlantic Avenue tunnel. The spill incident was remediated using a combination of methods including the manual removal of free product from wells, a groundwater pump and treat system, and a soil/vapor extraction system. The depth to groundwater below the site was determined to be approximately 20 to 22 fbg and the direction of groundwater flow was determined to be to the south/southwest. The remediation systems began operation in June of 1991. As of January 1995, approximately 3,237 gallons of gasoline had been recovered by the remediation efforts.

In September of 1995, six inches of free products were detected in one of the groundwater monitoring wells (designated W-2). Subsequent product recovery efforts removed an additional 941.50 gallons of gasoline from the site.

The remediation system operated until May of 2003. The last Quarterly Monitoring Report for the spill (from April 2004 to June 2004) showed elevated levels of contaminants in three on-site wells (258 parts per billion (ppb) MTBE is well W-1, 12 ppb toluene in well W-2, 520 ppb xylene in Well W-2 and 344 ppb MTBE in well W-8). Downgradient wells W-14 and W-8 were non-detect for MTBE and xylene, indicating that the groundwater contamination was confined to the project site. Spill Number 9507252 was closed by the NYSDEC on 9/24/04. In July of 2003, soil samples were collected from six soil boring locations on the south side of the site. No contaminants above NYSDEC Soil Cleanup Objective were found in the samples analyzed.

The subject property is identified in the RCRA Hazardous Waste Generator database. The site was identified as a Small Quantity Generator of ignitable waste in 1996 and there are not any RCRA violations found for the project site.

The subject site does not appear in the remaining Federal or State environmental databases reviewed including the USEPA's Superfund, CERCLIS or ERNS databases, the RCRA Hazardous Waste Treatment/Storage/Disposal Facilities list, or the NYSDEC's Solid Waste Facilities database, Brownfield Site or Voluntary Cleanup Program databases, or the Registry of Inactive Hazardous Waste Disposal Sites.

Surrounding Land Uses

The project site is adjoined to the north by residential dwellings. Adjacent to the south is Atlantic Avenue, beyond which is a commercial office building and residential dwellings. Adjacent to the east is Grant Avenue, beyond which are residential dwellings. Adjacent to the west of the site is a used car lot and residential dwellings. Land uses in the immediate

vicinity of the property (i.e., within approximately 500 feet) are predominantly residential dwellings with some commercial and retail uses along Atlantic Avenue. There were no gasoline filling stations or heavy industrial uses identified in the immediate vicinity of the subject property.

A review of Sanborn maps shows that historical land uses in the immediate area of the site have been predominantly residential with some commercial and retail uses along Atlantic Avenue since the early 1900s. The 1951 through 1994 maps show a gasoline filling station and auto repair garage at 3461 Atlantic Avenue, approximately 400 feet west/southwest of the project site. There are not any heavy industrial uses are identified in the immediate vicinity of the project site on any of the Sanborn maps reviewed. There were not any businesses or operations identified in the immediate vicinity which are considered likely to have impacted the subject property.

Conclusions

A Phase I Environmental Site Assessment was performed in conformance with the scope and limitations of ASTM Practice E 1527-13 of 3513 Atlantic Avenue, Brooklyn, N.Y., the property. Any exceptions to or deletions from this standard are described in section A of this report. This assessment has revealed no evidence of *Controlled Recognized Environmental Conditions (RECs)* in connection with the property. This assessment has revealed no evidence of *Historical Recognized Environmental Conditions* in connection with the property, with the following exceptions:

- The presence of residual groundwater contamination on the south side of the site following the remediation of Spill Number 9507252 and spill closure by the NYSDEC.

- The presence of residual contaminated soils below the existing 4,000-gallon USTs following the removal of thirteen 550-gallon USTs from the site in 1997.

This assessment has revealed no evidence of *Recognized Environmental Conditions* in connection with the property, with the following exceptions:

- The possible presence of one or more out-of-service petroleum USTs that have not been closed or removed in accordance with applicable New York City Fire Department and New York State Department of Environmental Conservation requirements.

- The potential for contaminated soil and groundwater at the site from past gasoline filling station, auto repair and car wash operations, including on the north portion of the project site.

- The potential for a vapor encroachment condition to current and future buildings at the site from past gasoline filling station, auto repair and car wash operations.

- The possible presence of asbestos-containing materials and lead-based paints in the subject building.

Additional investigations would need to be performed to determine if the site has been impacted by the RECs identified above.

Upon review of the March 2018 Phase I report by the New York City Department of Environmental Protection, Bureau of Sustainability (See **Appendix C**), an (E) designation for hazardous materials will be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the subject property. The (E) designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance on the property. The Applicant will be directed to coordinate further hazardous materials assessments through the Mayor's Office of Environmental Remediation (OER).

Due to the possible presence of hazardous materials on the Projected Development Site, there is potential for contamination of the soil and groundwater on the site and the adjacent lot. To determine if contamination exists and perform the appropriate remediation, the following tasks must be undertaken by the Applicant of the lot restricted by this (E) designation prior to any demolition or disturbance of soil on the lot.

Therefore, in order to avoid any potential impacts associated with hazardous materials, an (E) designation (E-529) will be assigned for hazardous materials on the following property:

Projected Development Site 1 (Block 4151, Lots 54)
Projected Development Site 2 (Block 4151, Lot 1)

Although Projected Development Site 1 is Applicant-owned and Projected Development Site 2 is not Applicant-owned, an (E) designation would be mapped on both sites to prevent impacts related to hazardous materials. The text for the (E) designations related to hazardous materials is as follows:

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request**.**

Task 2-Remediation Determination and Protocol

A written report with findings and a summary of the data must he submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

If remediation is indicated from test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

A construction-related health and safety plan should be submitted to OER and would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil, groundwater and/or soil vapor. This plan would be submitted to OER prior to implementation.

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted. Therefore, there is no potential for the Proposed Actions to result in significant adverse impacts related to hazardous materials on Projected Development Site.

16. TRANSPORTATION

Introduction

In order to determine the potential for the proposed commercial local retail (stores) development to result in significant adverse transportation impacts, trip generation screening analyses were performed pursuant to the methodologies identified in the *2014 CEQR Technical Manual.* Based on the proposed local retail trip generation screening (Levels One) analyses results, it was determined that the proposed action would not result in significant adverse transportation impacts as is summarized below.

The project sites are located within a block in Brooklyn, bounded by Nichols Avenue, a one-way northbound roadway, on the west, Grant Avenue, a one-way southbound roadway, on the east, Fulton Street, a two-way eastbound/westbound roadway, on the north and Atlantic Avenue, a two-way eastbound/westbound roadway, on the south.

The following Trip generation analysis has been prepared for both the proposed With-Action and the No-Action Scenarios. The proposed action would include a total of 24,133 (total for two projected sites (projected site one with 19,323 gsf commercial local retail stores and projected site two with 4,810 gsf of commercial local retail stores) and a total decrease of 6,350 gsf of gas station with convenience store and car wash space.

Based on standard and approved trip generation rates and modal split and temporal distribution as is detailed below and summarized in **Table 1**, the proposed action would generate -25, 22, -20 and 1 (one) net vehicle trip ends, during the AM, Midday, PM and Saturday Midday peak hours, respectively as summarized **Table 3**.

Existing Conditions

Projected Development Site 1

Block 4151, Lot 54 has 18,760 square feet of lot area and is improved with two one-story commercial buildings with 6,350 square feet of floor area (0.34 FAR). The Projected Development Site 1 is currently used as a gas station with carwash and convenience store. Commercial use is not permitted as-of-right.

Projected Development Site 2

Block 4151, Lot 1 has 4,670 square feet of lot area and is improved with a 200 square foot commercial building (0.04 FAR) and used automobile sales lot. Commercial use is not permitted as-of-right.

Future No-Action Scenario

Absent the proposed action, the properties within the Proposed Rezoning Area would remain in their current condition.

Future With-Action Scenario

In the future with the Proposed Action, Projected Development Sites 1 and 2 would be redeveloped.

Projected Development Site 1

In the future with the proposed action, Development Site 1 (Block 4151, Lot 54) would be redeveloped with a one-story commercial building containing 19,323 gsf of commercial local retail stores. Parking spaces required for commercial uses are waived pursuant to ZR Section 36-232.

Projected Development Site 2

In the future with the proposed action, Development Site 2 (Block 4151, Lot 1) would be redeveloped with a one-story commercial building containing 4,810 gsf of commercial local retail stores. Parking spaces for commercial uses are waived pursuant to ZR Section 36-232.

Build Year

Based on an estimated 12-month approval process and approximately less than 24-month construction period, the build year is assumed to be 2021.

Trip generation Rates

Commercial Local Retail Stores

2014 CEQR Technical Manual (table 16-2) were utilized for trip generation rates, including truck trips and daily temporal distribution. Modal split information and vehicle occupancy rates were provided by NYCDOT, as is summarized in **Table 1.**

The NYCDOT modal split data for commercial local retail stores found that approximately 11% would travel by car, zero (0) percent would travel by taxi, three (3) percent would travel by bus, four (4) percent would travel by subway and 82% would travel by foot, as shown in **Table 1**.

Gas Station With Carwash and Convenience Store

Jerome Avenue Rezoning *FEIS, Jan. 2018 (Table 13-8)* were utilized for trip generation rates, including truck trips, daily temporal distribution and modal split information, as is summarized in **Table 1.**

The modal split results for gas station with carwash and convenience store use found that approximately 100% would travel by automobile, with a vehicle occupancy rate of 1.00. The above information is summarized in **Table 1**.

Person and Vehicle Trips

Person Trips

The proposed action would generate a total of 76, 674, 324 and 403 net person trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 2**.

Vehicle Trips

The proposed action would generate a total of -25, 22, -20 and 1 (one) net vehicle trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 3.**

The proposed action would generate less than 50 net vehicle trip ends during any peak hour time periods, and in accordance with the *CEQR Technical Manual* criteria, would not result in any conditions that would typically trigger the need for a detailed assessment of traffic and parking impacts.

Transit and Pedestrians

Bus Trips

The proposed action would generate a total of 3, 21, 11 and 13 net bus trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 2**. There is one bus line, Q24 (east and west directions, along Atlantic Avenue) in the study area, therefore no bus line would experience the *CEQR* 50-bus trip ends threshold per bus line per direction.

The proposed action would generate less than 200 bus trip ends/and 50 bus trip ends per bus per direction during each peak hour time period, and in accordance with the *CEQR Technical Manual* criteria, would not result in any conditions that would typically trigger the need for a detailed assessment of bus impacts.

Subway Trips

The proposed action would generate a total of 4, 28, 15 and 17 net subway trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively,

as summarized in **Table 2**. There is one subway station in the study area at Crescent Street (J and Z) Subway lines, therefore no subway station would experience the *CEQR* 200-subway trip ends threshold.

The proposed action would generate less than 200 subway trip ends per subway station during each peak hour time period, and in accordance with the *CEQR Technical Manual* criteria, would not result in any conditions that would typically trigger the need for a detailed assessment of subway impacts.

Pedestrian Trips

The proposed action would generate a total of 99, 627, 330 and 387 net pedestrian (bus, subway, walk and other) trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 2**.

The proposed action would generate more than 200 pedestrian trip ends during Weekday Midday, PM and Saturday peak hour time periods. There are several pedestrian entrance and exit points along Atlantic, Grant and Nichols Avenues for the two proposed commercial building with local retail stores and therefore, no pedestrian elements would experience more than 200 pedestrian trips and in accordance with the *CEQR Technical Manual 200-pedestruian trip ends threshold*, would not result in any conditions that would typically trigger the need for a detailed assessment of pedestrian impacts.

Conclusion

In accordance with the threshold guidelines as detailed in the *2014 CEQR Technical Manual*, the proposed action is not expected to result in significant adverse impacts related to transit or pedestrian conditions. Specifically, the proposed action is unlikely to have a significant effect on traffic flow, parking and operating conditions, safety, transit provision, and pedestrian safety. Therefore, no further transportation analysis is warranted.

Table 1 : Transportation Planning Factors

3513 Atlantic Avenue, Brooklyn NY

Land Use:	Local Retail	Gas Station w/ store
	Space-gsf	Space-gsf
Size/Units:	24,133	-6,350
	(1)	**(3)**
Trip Generation:		
Weekday	205	90
Saturday	240	90
	per 1,000 sq.ft.	per 1,000 sq.ft.
Linked-Trip:	25%	0%
Temporal Distribution:	**(1)**	**(2)**
AM Peak Hour	3%	6.2%
MD Peak Hour	19%	5.5%
PM Peak Hour	10%	8.2%
Saturday Midday Peak Hour	10%	5.5%
	(2)	**(3)**
Modal Split :	AM/MD/PM/Sat.Mid.	AM/MD/PM/Sat.Mid.
Auto	11%	100%
Taxi	0%	0%
Subway	4%	0%
Bus	3%	0%
Walk	82%	0%
Other	0%	0%
Total	100%	100%
	(2)	**(3)**
In/Out Splits:	In/Out	In/Out
AM Peak Hour	50/50	50/50
MD Peak Hour	50/50	50/50
PM Peak Hour	50/50	50/50
Saturday Midday Peak Hour	55/45	50/50
Vehicle Occupancy:	**(2)**	**(3)**
Auto	1.5	1.0
Taxi	1.5	1.0
Truck Trip Generation:	**(1)**	**(3)**
Weekday	0.35	0.35
Saturday	0.04	0.02
	per 1,000 s.f.	per 1,000 s.f.
	(1)	**(3)**
AM Peak Hour	8%	7.7%
MD Peak Hour	11%	11%
PM Peak Hour	2%	1%
Saturday Midday Peak Hour	11%	11%
AM/MD/PM/Saturday Midday	50/50	50/50

Sources:

(1)-2014 CEQR Technical Manual, Table 16-2.

(2)-NYCDOT

(3)-Jerome Avenue Rezoning FEIS.

Table 2 : Estimated Person Trips

3513 Atlantic Avenue, Brooklyn NY

Land Use:	Local Retail sq.ft.	Gas Station w/ Store sq.ft.	Total Net Demand
Size/Units:	24,133	6,350	
Peak hour Trips			
AM Peak Hour	111	-35	76
Midday Peak Hour	705	-31	674
PM Peak Hour	371	-47	324
Saturday Midday Peak Hour	434	-31	403
Person Trips:			
AM Peak Hour			
Auto	12	-35	-23
Taxi	0	0	0
Subway	4	0	4
Bus	3	0	3
Walk	91	0	91
Other	0	0	0
Total	111	-35	76
Midday Peak Hour			
Auto	78	-31	46
Taxi	0	0	0
Subway	28	0	28
Bus	21	0	21
Walk	578	0	578
Other	0	0	0
Total	705	-31	674
PM Peak Hour			
Auto	41	-47	-6
Taxi	0	0	0
Subway	15	0	15
Bus	11	0	11
Walk	304	0	304
Other	0	0	0
Total	371	-47	324
Saturday Midday Peak Hour			
Auto	48	-31	16
Taxi	0	0	0
Subway	17	0	17
Bus	13	0	13
Walk	356	0	356
Other	0	0	0
Total	434	-31	403

Table 3 : Estimated Vehicular Trips

3513 Atlantic Avenue, Brooklyn NY

Vehicular Trips	Local Retail	Gas Station W/Store	Total
AM Peak Hour			
Auto (Total)	8	-35	-27
Taxi	0	0	0
Taxi (Balanced)	0	0	0
Truck	1	0	1
Truck(Balanced)	2	0	2
Total	10	-35	-25
Midday Peak Hour			
Auto (Total)	52	-31	20
Taxi	0	0	0
Taxi (Balanced)	0	0	0
Truck	1	0	1
Truck(Balanced)	2	0	2
Total	54	-31	22
PM Peak Hour			
Auto (Total)	27	-47	-20
Taxi	0	0	-2
Taxi (Balanced)	0	0	0
Truck	0	0	0
Truck(Balanced)	0	0	0
Total	27	-47	-20
Saturday Midday Peak Hour			
Auto (Total)	32	-31	1
Taxi	0	0	0
Taxi (Balanced)	0	0	0
Truck	0	0	0
Truck(Balanced)	0	0	0
Total	32	-31	**1**

17. AIR QUALITY

Introduction

Ambient air quality, or the quality of the surrounding air, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. Under CEQR, an air quality assessment determines both a proposed project's effects on ambient air quality as well as the effects of ambient air quality on the project. The analysis framework, as mandated by the State Environmental Review Act, followed the *New York City Environmental Quality Review 2014 Technical Manual*.

The Proposed Actions

Project Area

The Project Area is located in the East New York neighborhood of Brooklyn, Community District #5. Two lots are affected by the Proposed Action: The Projected Development Site 1 (Block 4151, Lot 54), and Projected Development Site 2 (Block 4151, Lot 1).

Projected Development Site 1 (Block 4151, Lot 54)

Projected Development Site 1, the Applicant owned property, located at 3513 Atlantic Avenue would facilitate a one-story commercial building. The Reasonable-Worst Case Development Scenario (RWCDS) of Projected Development Site 1 is a 30-foot high building, containing 19,323 gross square feet (gsf) of floor area. The building would contain 8 accessory parking spaces.

The Projected Development Site 2 (Block 4151, Lot 1)

Projected Development Site 2 located at 3485 Atlantic Avenue would facilitate a one-story commercial building. The RWCDS of Projected Development Site 2 is a 30-foot high building, containing 4,810 gsf of floor area.

Analysis Increment

The predicted difference between the future with-action and the future no-action conditions are the development of a 16,790 gsf commercial space and an increase of 6 parking spaces.

Air Pollutants and Applicable Standards/Guidelines

National Air Quality Standards

The U.S. Environmental Protection Agency (EPA) has identified six pollutants, known as criteria pollutants which are being of concern nationwide, and established threshold concentrations based upon adverse effect on human health.

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by EPA, and New York State has adopted the NAAQS as the State ambient air quality standards. The pollutant for which a detailed analysis was conducted, together with their health-related averaging periods, are presented in Table 17-1.

New York State Standards

As mentioned, New York State has adopted the national standards, NAAQS. In addition, the New York State Department of Environmental Conservation (NYSDEC) has established guidelines for maximum allowable concentration of "noncriteria pollutants," which are potentially toxic or carcinogenic pollutants. The maximum allowable guidelines set a maximum 1-hour and annual averaging time concentrations and are published in the DAR-1 AGC/SGC Table, where AGC/SGC refers to Annual and Short-term Guideline Concentrations. The most recent DAR-1 guidelines were created on August 10, 2016. NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic or duration.

NYC Guidelines

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to CEQR apply a $PM_{2.5}$ and CO 8-hour averaging time significant impact criteria (based on concentration increments). These criteria are called *de minimis* and they are more stringent than the NAAQS and the state standards, as the criteria set a maximum increase of pollutant concentration that is below the national standard. If the estimated impacts of a proposed project are less than the *de minimis* criteria, the impacts are not considered to be significant. $PM_{2.5}$ significant impact concentrations applicable to stationary sources are evaluated as follows:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 $\mu g/m^3$ at any receptor location for stationary sources.

Background Concentrations

For the NAAQS, the determination of a significant adverse air quality impact is evaluated by adding the background concentration at the nearest NYSDEC monitoring station to the modeled concentration. For the NYC Guidelines, the determination a significant adverse air quality impact is evaluated by comparing the modeled concentration to the de minimis threshold criterion. Each criteria pollutant averaging time is independently evaluated.

Background concentrations of the criteria pollutants for which detailed analyses were required were obtained from the NYSDEC's annual report for 2017. These background concentrations were obtained from the nearest monitoring stations or the most conservative concentrations if the distances to monitoring stations were close. Table 17-1 shows the background concentrations and the NAAQS.

Table 17-1. National And New York States Ambient Air Quality

Pollutant	Averaging Period	National and State Standards	Background Concentration	Monitoring Station
NO_2	1-Hour Concentration	188 $\mu g/m^3$	112.2 $\mu g/m^3$	Queens College 2
	Annual Arithmetic Average	100 $\mu g/m^3$	32.4 $\mu g/m^3$	
$PM_{2.5}$	24-Hour concentration	35 $\mu g/m^3$	19.6 $\mu g/m^3$	JHS 126
	Average of 3 Consecutive Annual Means	12 $\mu g/m^3$	8.2 $\mu g/m^3$	
PM_{10}	24-Hour Concentration	150 $\mu g/m^3$	35 $\mu g/m^3$	Queens College 2
SO_2	1-hour Concentration	196 $\mu g/m^3$	18.1 $\mu g/m^3$	
	Annual Arithmetic Mean	80 $\mu g/m^3$	2.00 $\mu g/m^3$	

The *de minimis* threshold criterions for $PM_{2.5}$ are increments of: 24-hour $PM_{2.5}$ 7.70 $\mu g/m^3$, and annual $PM_{2.5}$ for stationary source of 0.3 $\mu g/m^3$.

Mobile Source

Introduction

Projects may result in significant mobile source impacts when they create mobile sources of pollutants, change traffic pattern, or add new uses near mobile sources of pollutants. Per CEQR guidelines, a detailed analysis is required to predict whether the Proposed Actions could potentially have a significant adverse air quality impact if certain threshold criteria are met or exceeded, while proposed projects that do not meet or exceed the threshold criteria (screen out) are not expected to have a mobile source impact. Projects that require a detailed analysis, model the ambient air CO and PM concentrations—the mobile source pollutants of concern—and compare the modeled concentrations with the applicable air quality standard.

Mobile Source Screen

Project-Generated Traffic

Per the *CEQR Technical Manual*, localized increases in CO and $PM_{2.5}$ levels may result from increased vehicular traffic volumes and changed traffic patterns in the study area as a consequence of the proposed project. Screening analyses for CO and $PM_{2.5}$ were therefore carried out to determine whether the project-generated traffic have the potential to cause significant impact. For purposes of the screening assessment, "project-generated traffic" refers to the number of additional vehicular trips in any given hour under future with-action conditions, compared with the number under future no-action conditions.

For this area of the City, the threshold volume for a detailed analysis of CO concentration, using MOVES2014 and CAL3QHC or AERMOD, is an increment of 170 vehicles. $PM_{2.5}$ threshold criterion is an increment of applies heavy-duty diesel vehicles (HDDVs) screen.

As provided by the transportation analysis for the proposed project, the maximum trip generation increment between the Future With No-Action and the Future With Action scenarios does not exceed the threshold of 170 vehicular trip generation at any peak hour period. Of the net vehicle trip increments, the maximum peak hour trip generation increment is 2 trucks and 20 autos during the MD peak hour period. The NYSDEC vehicle population by source type database (part of MOVES2014a database for the county of Kings) was consulted to determine the LDGV

and LDGT1 distribution. The result of the analysis shows that at most 6 net equivalent trucks trip ends would be predicted. As such, the worst-case peak hour traffic passes the $PM_{2.5}$ screen for the most stringent road type (paved road).

Therefore, no intersection detailed air quality analysis was required, and no significant mobile source air quality impacts are expected at intersections affected by the proposed project.

Parking Garage

Based on CEQR guidelines, the maximum capacity of a parking garage is evaluated against a threshold criterion to predict whether the potential impacts associated with mobile source emissions are significant. The threshold criteria level, per CEQR guidelines, is 85 off-street parking spaces. If the threshold is met or exceeded, a detailed analysis is warranted.

The increment between the future with-action and no-actions scenarios is 6 off-street parking spaces, and less than the 85 parking spaces threshold criterion. Therefore, no detailed air quality analysis is required, and no significant mobile source air quality impacts are expected from vehicular emission generated at the proposed project's off-street parking space.

Project HVAC Systems Analysis

Introduction

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system of the proposed project to significantly impact existing land uses (project-on-existing), and the potential of the proposed project to significantly impact each other (project-on-project).

Buildings' HVAC systems are defined as stationary sources. Accordingly, and based on CEQR guidelines, a preliminary screening analysis is to be conducted as a first step to predict whether the heat and hot water system boiler emissions would result in a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

Screening Analysis

A screening analysis was performed, using the methodology described in the *CEQR Technical Manual*, to determine if the heat and hot water system of the RWCDS would result in potential air quality impacts to another building in the area. This methodology determines the threshold of development size below which the action would not have a significant impact.

The potential for stationary source emissions from heat and hot water systems to have a significant adverse impact on nearby receptors depends on the type of fuel that would be used, the building's residential or non-residential use, the square footage of the development that would be served by the system, the height of the building served by the HVAC system and the distance to the nearest building whose height is at least as great as the building served by the HVAC system. The *CEQR Technical Manual* provides a screening analysis based on these factors. In addition, screening analysis is only applicable to a single smokestack. However, for purpose of a cumulative analysis, emissions from multiple stacks could be combined in a single stack situated as close as possible to a receiving building.

According to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Therefore, the analysis assumed that fuel oil #2 would be the type of fuel used in the building's HVAC system(s).

If the actual distance between a stack and the affected building is greater than the threshold distance for a building size, then that building passes the screening analysis (and no adverse significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, then there is a potential for an adverse significant impact and a detailed analysis would be required. The following screening analyses were performed:

1. The Projected Development Site 1: A single commercial building, 30 feet high, containing 19,323 gsf of floor area. Fuel oil #2 would be the type of fuel used in the building's HVAC system(s). Figure 17-6 of the *CEQR Technical Manual* for a 30-foot stack height was applied (as the 30 feet curve height is closest to but not higher than the proposed stack height, as the CEQR screening procedure requires).

2. The Projected Development Site 2: A single commercial building, 30 feet high, containing 4,810 gsf of floor area. Fuel oil #2 would be the type of fuel used in the building's HVAC system(s). Figure 17-6 of the *CEQR Technical Manual* for a 30-foot stack height was applied (as the 30 feet curve height is closest to but not higher than the proposed stack height, as the CEQR screening procedure requires).

3. The Projected Development Sites RWCDS combined: A single commercial building, 30 feet high, containing 24,133 gsf of floor areas. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems. Figure 17-6 of the *CEQR Technical Manual* for a 30-foot stack height was applied (as the 30 feet curve height is closest to but not higher than the proposed stack height, as the CEQR screening procedure requires).

These nomographs depict the size of the development versus distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. In addition, and per *CEQR Technical Manual*, the distance to nearest building of similar or greater height was assumed to be 400 feet if the actual distance is greater. Table 17-2 shows the screening analyses results, where "Fail" indicate that a detailed analysis using AERMOD dispersion analysis was required.

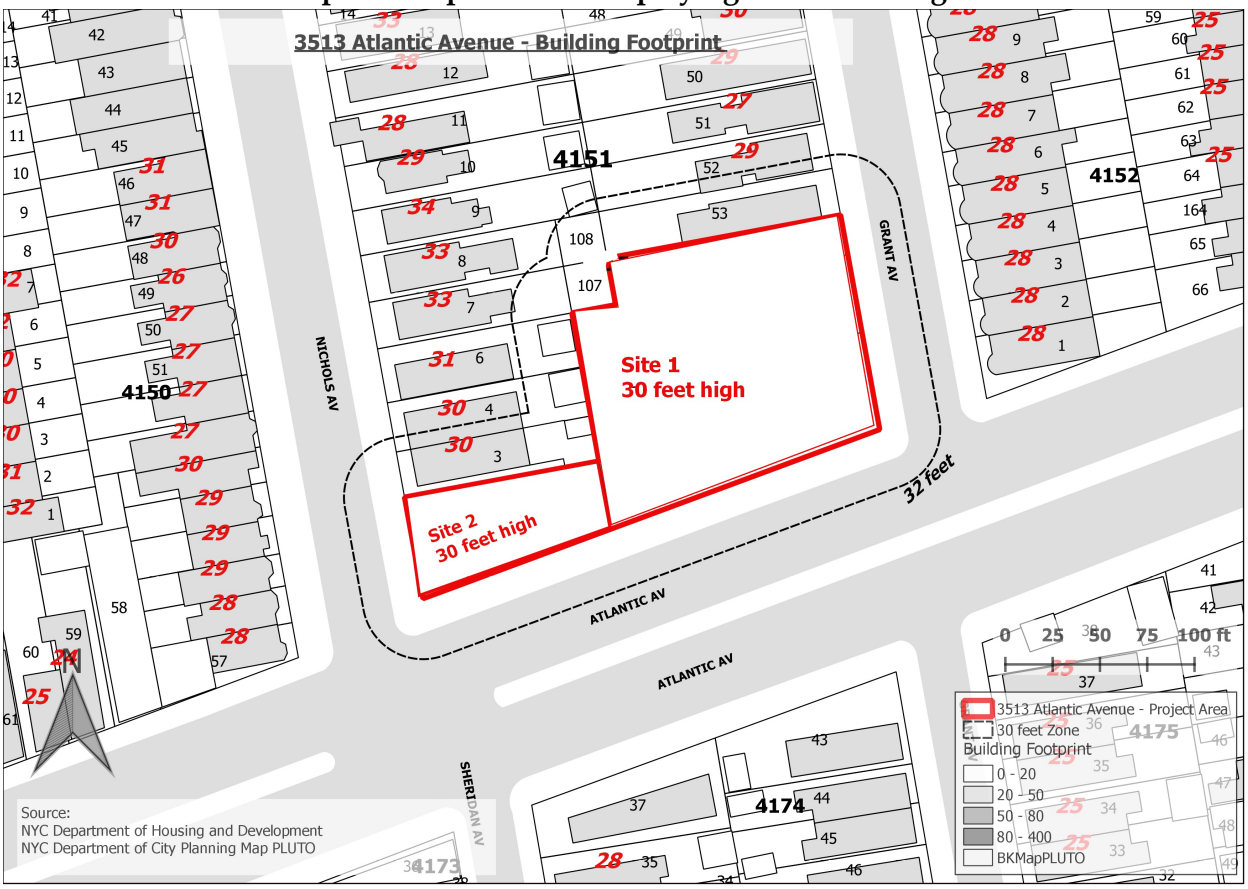
Table 17-2. Screening Analysis Results

Projected Development Site ID	Building Height (ft.)	Heated Area (sq. ft.)	Screen Distance (ft.)	Receptor Building (Site ID or Block/Lot)	Receiving Building Distance (ft.)	Pass/ Fail
Site 1	30	19,323	30	Site 2	0	Fail
Site 2	30	4,810	30	Site 2	0	Fail
Sites 1 & 2 Combined	30	24,133	30	Existing - 4151 / 3	0	Fail
				Existing - 4151 / 4	20	Fail

The screening analysis shows that a detailed analysis would be required for any existing land uses that is 30 feet or higher and at a distance of less than 30 feet from any of the Projected

Development Sites. Figure 17-1 shows the area within a 30-foot radius plotted on the NYC Building Footprint map, where the buildings' roof heights are indicted in red colored font. This geo metadata was obtained from the NYC Open Data Building Footprints shapefile.[1]

Figure 17-1. The Project Area with a 30-foot Zone Plotted in the NYC-Planimetric Buildings Footprint Shapefile and Displaying the Roofs Heights



As seen in Figure 17-1, the buildings located at 313 Nicholas Avenue (Block 4151, Lot 3) and 311 Nicholas Avenue (Block 4151, Lot 4) are similar in height to the Projected Development Sites and are less than 30 feet from the Project Area. Therefore, the screening analysis is not applicable, and a detailed analysis was required for these two buildings. The east edge of the building located at 303 Nichols Avenue (Block 4151, Lot 7) is a one-floor, approximately 12 feet high section, and therefore, the building screen out. In addition, the project-on-project scenario also required a detailed analysis. All other existing land uses passes the screening analysis.

Detailed Analysis

Three scenarios of dispersion modeling analyses were carried out: a) the Projected Development Site 1 RWCDS building height on the Projected Development Sites 2; b) the Projected Development Site 2 RWCDS on the Projected Development Sites 1; and, c) the Projected Development Site 1 and 2 RWCDS buildings on existing land uses.

[1] https://data.cityofnewyork.us/Housing-Development/Building-Footprints/nqwf-w8eh/data.

These analyses were conducted using the latest version of EPA's AERMOD dispersion model. In accordance with CEQR guidance, these analyses were conducted assuming stack tip downwash, urban dispersion surface roughness length of 1.0 meter, elimination of calms, and with and without downwash effect on plume dispersion. In addition, all analyses specified flat terrain.

All analyses were conducted using the latest five consecutive years of meteorological data (2013-2017). Surface data was obtained from JFK Airport and upper air data was obtained from Brookhaven station, New York. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Meteorological data were combined to develop a 5-year set of meteorological conditions, which was used for the AERMOD modeling runs and Anemometer height of 6.7 meters was specified per Lakes Environmental Software Inc.

Per the *CEQR Technical Manual*, the pollutants of concern for oil #2 fueled boilers are SO_2 and $PM_{2.5}$. However, NO_2 was also analyzed as a conservative measure. Each of the Projected Development Sites boiler's energy intensity was calculated from the annual fuel usage, the development's gross floor area, and the assumption that the development's fuel usage would resemble that of a commercial building. Pertinent values were obtained from the *CEQR Technical Manual Appendices* for non-mall buildings, and the assumption that all fuel would be consumed during the 100-day (or 2,400 hour) heating season. Per the guidance from the Department of City Planning for similar project, SO_2 emission was assumed to be 15 ppm. Table 17-3 shows the calculated emission rates, both short-term and annual.

Table 17-3. The Projected Development Sites Estimated Emission Rates

Site ID	Floor Area	NO_2 Emission Rate (g/sec)		$PM_{2.5}$ Emission Rate (g/sec)		SO_2 Emission Rate (g/sec)	
	(ft^2)	1-hour	Annual	1-hour	Annual	1-hour	Annual
Site 1	19,323	4.26E-03	1.17E-03	4.54E-04	1.24E-04	1.63E-03	4.48E-04
Site 2	4,810	1.06E-03	2.91E-04	1.13E-04	3.09E-05	4.07E-04	1.11E-04

The diameters of the stacks and the exhausts' exit velocities of both the Projected Development Sites were assumed to be 0.0 feet and 0.001 meter per second respectively, based on values obtained from the *CEQR Technical Manual*. All the stacks exit temperatures were assumed to be 300°F (423°K), which is appropriate for boilers. The New York City Building Code (Building Code) requires that a rooftop stack should be at least 10 feet away from the edge of the roof and at least 3 feet higher than the roofline[2]. These parameters were specified in the AERMOD models.

All the Projected Development Sites were modeled as buildings that cover all their lot areas and rise to their maximum height. Receptors on receiving building(s) were placed all around the receiving building(s) envelope(s), in 10 feet increments and at heights of 6, 16.5, and 27 feet above grade.

[2] https://www1.nyc.gov/assets/buildings/apps/pdf_viewer/viewer.html?file=2014CC_FGC_Chapter5_Chimneys_and_Vents.pdf&section=conscode_2014

All AERMOD models specified generic emission of 1 gram per second and maximum predicted concentrations. Concentration impacts on existing land uses from both Projected Development Sites were cumulatively added.

Results of Dispersion Analyses

As previously mentioned, each pollutant averaging time was modeled twice—with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. The results are compared with the 24-hour/annual $PM_{2.5}$ significant impact criteria, and the 1-hour/annual NO_2 and SO_2 NAAQS. Result of the dispersion analyses are shown in Table 17-4.

Table 17-4. Detailed HVAC Analyses Results

Pollutant and Averaging Time	Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Evaluated Concentration ($\mu g/m^3$)	Threshold Concentration ($\mu g/m^3$)	Threshold Standard
Projected Development Site 1- on – Projected Development Site 2					
1-hour NO_2	70.3	112.2	**183**	**188**	NAAQS
Annual NO_2	0.34	32.4	**32.7**	**100**	NAAQS
24-hour $PM_{2.5}$	1.07	N.A.	**1.07**	**7.70**	*de minimis*
Annual $PM_{2.5}$	0.04	N.A.	**0.04**	**0.3**	*de minimis*
1-hour SO_2	27.0	18.1	**45**	**196**	NAAQS
Annual SO_2	0.13	2.0	**2.1**	**80**	NAAQS
Projected Development Site 1- on – Projected Development Site 2					
1-hour NO_2	29.5	112.2	**142**	**188**	NAAQS
Annual NO_2	0.19	32.4	**32.6**	**100**	NAAQS
24-hour $PM_{2.5}$	0.69	N.A.	**0.69**	**7.70**	*de minimis*
Annual $PM_{2.5}$	0.02	N.A.	**0.02**	**0.3**	*de minimis*
1-hour SO_2	11.3	18.1	**29**	**196**	NAAQS
Annual SO_2	0.07	2.0	**2.1**	**80**	NAAQS
Project – on – Existing					
1-hour NO_2	48.7	112.2	**161**	**188**	NAAQS
Annual NO_2	0.40	32.4	**32.8**	**100**	NAAQS
24-hour $PM_{2.5}$	1.32	N.A.	**1.32**	**7.80**	*de minimis*
Annual $PM_{2.5}$	0.04	N.A.	**0.04**	**0.3**	*de minimis*
1-hour SO_2	18.7	18.1	**37**	**196**	NAAQS
Annual SO_2	0.15	2.0	**2.2**	**80**	NAAQS

As seen in Table 17-4, the NO_2 and SO_2 predicted concentrations are less than the NAAQS and the $PM_{2.5}$ concentrations are less than the *de minimis*. Therefore, with (E) Designations in place, the emissions of the Projected Development Sites HVAC systems would not pose a significant adverse impact to other buildings in the area or on each other. The E Designation (E-529) language is as follows:

(E) Designation

<u>Block 4151, Lots 54 (Projected Development Site 1)</u>: Any new commercial development on the above-referenced property must ensure that the stack is located at the building's highest tier

and at a minimum of 33 feet above the grade to avoid any potential significant adverse air quality impacts.

<u>Block 4151, Lots 1 (Projected Development Site 2)</u>: Any new residential or commercial development on the above-referenced property must ensure that the stack is located at the building's highest tier and at a minimum of 33 feet above the grade to avoid any potential significant adverse air quality impacts.

Industrial and Major Source Analysis

<u>Introduction</u>

Per *CEQR Technical Manual*, the analysis of existing or planned emission stacks impact on the proposed project is categorized by the types of sources, which is related to their emissions. Major and large sources are sources which require Prevention of Significant Deterioration permits (Title V) or facilities which require a State Facility permit. Odor producing facilities are also considered major sources. Industrial sources are manufacturing or processing facilities that their emissions do not require them to obtain Title V or State Facility permits (generally less emission), but does require them to obtain New York City Department of Environmental Protection (DEP) a processing type permit.

The analysis first determines if there are any existing sources located in the study area (different area for each type of source). An air dispersion analysis is conducted if any existing source is in the study area, else no analysis is required.

<u>Land Survey Methodology</u>

Information regarding potential emissions of toxic air pollutants from existing industrial sources within 400 feet of the Project Area, and emissions of air pollutants from existing major and large sources within 1,000 feet of the Project Area were developed using the following procedure:

A study area was developed that includes all industrial facilities with potential air toxic emissions located within 400 feet of the Project Area using ZoLa;

A search was performed to identify permits listed in the EPA Envirofacts database in this study area;

New York City's Open Accessible Space Information System Cooperative (OASIS), Google Street View, the New York City Department of Building (DOB) database, and online searches were used to identify and categorize facilities;

The land use study affirmed the online study findings and identified any other likely industrial source in the study area; and

The DEP online Clean Air Tracking System (CATS) database was consulted to determine whether air emissions permits had been issued for any of the nonresidential zoned lots.

<u>Study Result – Major and Large Sources and Odor Producing Facilities</u>

No existing large combustion sources, such as power plants, cogeneration facilities, etc., located within 1,000 feet of the Project Area were identified. In addition, no odor producing facility was identified in the 1,000 feet study area. As such, no analysis was warranted.

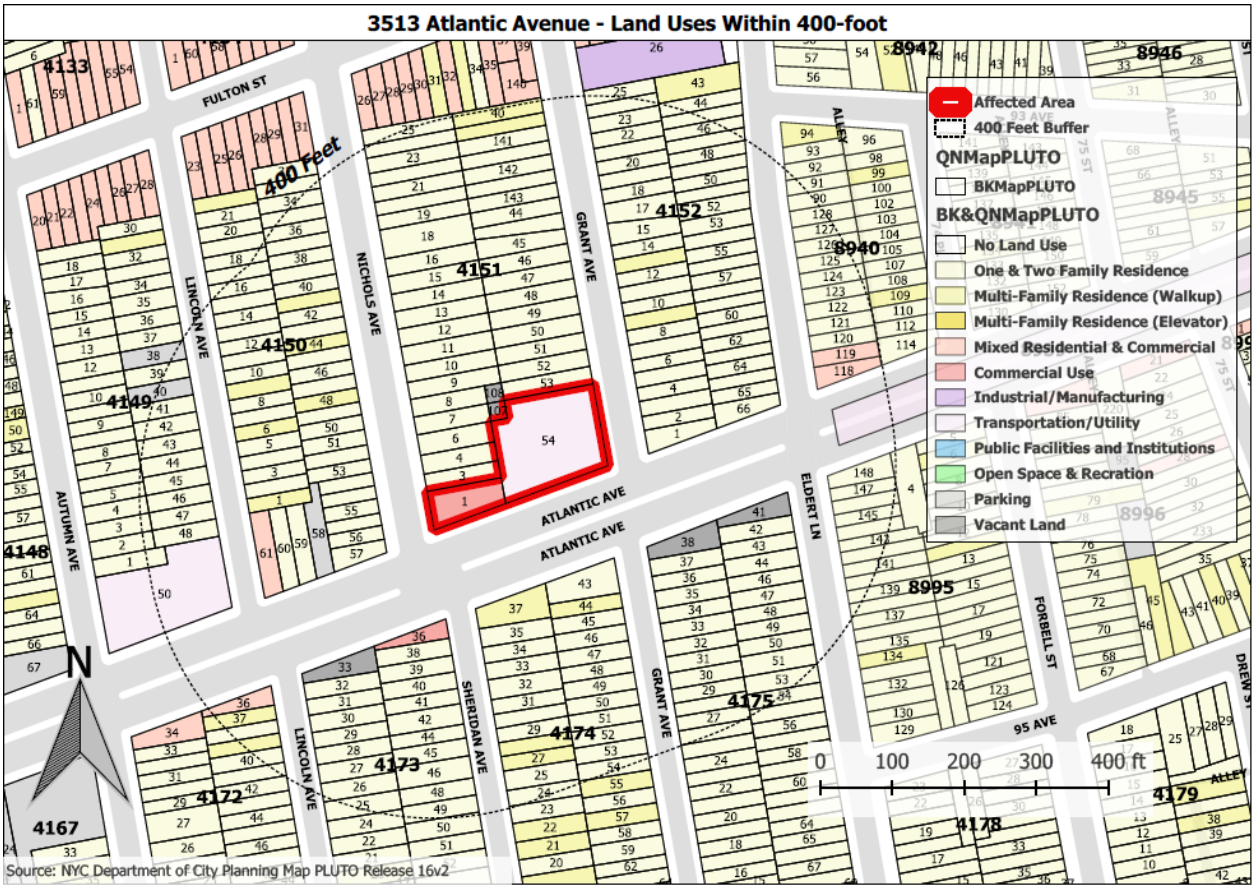
Study Result – Industrial Sources Toxic Air Emission

The land survey study identified 14 commercial, industrial, or processing facilities in the study area (nonresidential uses within 400 feet from the Project Area). Table 17-5 shows the uses at, and the DEP CATS database results, for the 14 nonresidential lots. Figure 17-2, shows the land use map for the study area.

Table 17-5. Land Survey Study of Industrial Sources Within 400 Feet of the Project Area

Block	Lot	Address	CATS info.	Current Use (Land Survey)
4149	38	270 Lincoln Avenue	No Record	Parking
	40	276 Lincoln Avenue	No Record	Parking
	50	3443 Atlantic Avenue	No Record	Multiple Facilities: Chichi Auto Transmission Repair, Pedro Work (auto mechanic & auto body), Jose Sons Auto Repair (auto mechanic)
4150	57	322 Nichols Avenue	No Record	Residential
	58	3473 Atlantic Avenue	No Record	Auto Sound & Auto Mechanic
	61	3467 Atlantic Avenue	No Record	Restaurant
4172	36	324 Lincoln Avenue	No Record	Community facility ground floor, residential on top
4173	33	Lincoln Avenue	No Record	Parking
	36	2 Sheridan Avenue	No Record	Tire shop
4174	37	3492 Atlantic Avenue	No Record	Offices (The Money Source Inc.)
4175	38	Grant Avenue	No Record	Storage yard
	41	Eldert Lane	No Record	Parking
8940	118	93-35 Eldert Lane	No Record	Deli

Figure 17-3. Land Uses within 400 feet of the Project Area.



As seen in Table 17-5, no facility has a DEP processing permit. However, the land survey identified Pedro's Work, located at 3443 Atlantic Avenue (Block 4149, Lot 50) as an auto body shop. A phone call to the facility (phone number from sign located on the facility's gate) confirmed that Pedro's Work is an auto body repair and refinishing, specializing in color matching repair. No other likely toxic air emitter was identified in the land survey study.

<u>Pedro's Work Auto Body Facility</u>

Introduction

Per *CEQR Technical Manual*, projects that would result in new uses that may be adversely affected by air-born emissions from existing industrial sources require an assessment of both criteria and non-criteria pollutants emissions. If the industrial source does not have a NYSDEC or DEP permits, but emissions are expected due to the type of manufacturing process, a conservative emission analysis is appropriate.

The site study determined that Pedro's Work, located at 3443 Atlantic Avenue (Block 4149, Lot 50), is an auto body shop, specializing in auto body repair and color matching, hence the facility does not paint entire vehicles. The facility is situated 332 feet west of the Project Area in a 15.3 feet high building (Department of Building database). Per 6 CRR-NY 212-1.2 the auto body facility and its stack are defined as process operation with a process emission source. However, the

facility does not have a NYSDEC or DEP permit. As such, conservative assumptions, based on the facility feasible activity and DEP permits of 19 other auto body facilities in NYC, were made.

Emission

The contaminants associated with auto body spray booths are solids (also named particulates) and solvents. Solvents are the VOC (volatile organic compounds) which evaporate during the spraying activity and while the coating substance dries. The solids that bind to the sprayed item dries to a hard surface. The coatings contain 30 to 85 percent solvents by weight and this amount is regulated by the EPA and NYSDEC. Per the DEP guidance and as outlined in the EPA AP-42, the analysis assumes that all VOCs are emitted. Each VOC contaminant is analyzed with the SGC/AGC guideline concentration. Particulates are fluid or solids particles grouped together. Particulates concentrations are collectively evaluated with the NAAQQS and *de minimis* threshold concentrations.

A review of 19 DEP permits for auto body facilities shows that most operate 4-6 hours per day (hr/day), 200-250 days per year (day/yr), and spray a maximum of 1.0 gallon per hour (gal/hr) and 750 gallon per year. The maximum solids emission from these facilities are 0.065 pounds per hour (lb/hr) and 97.6 pounds per year (lb/yr); the maximum volatile organic compounds (VOC) emission are 3.1 lb/hr and 4,650 lb/yr.

In accordance with NYCDEP, emissions of solids are analyzed as PM_{10} and $PM_{2.5}$, and the particle size distribution was obtained from the EPA AP-42, *Appendix B1, Page B.1-12, Particle Size Distribution Data and Sized Emission Factors for Selected Sources, Table 4.2.2.8 Automobile and Light-Duty Track Surface Coating Operations, Automobile Spray Booths*. **Table 17-6** shows the PM_{10} and $PM_{2.5}$ emission rates.

Table 17-6. PM_{10}/$PM_{2.5}$ Emission Rates from the Pedro's Work Spray Booth/Area Activity

Contaminant	Permitted Emission Rate		Fraction of Particle Size	Emission rate			
				Short-term		Annual	
	lb/hr	lb/yr	Percent	lb/hr	g/s	lb/yr	g/s
$PM_{2.5}$	0.065	97.6	28.6	1.86E-02	2.34E-03	2.79E+01	4.01E-04
PM_{10}			46.7	3.04E-02	3.82E-03	4.56E+01	6.56E-04

The mixture of different compounds, identified collectively as VOC, have no guideline values in the NYSDEC DAR-1 database. The mixture comprises of compounds of varying toxicities. As the composition of the coating substance was not known, a representative composition by percent weight was obtained from the approved CEQR action *139-01, 135-05, and 135-09 Northern Boulevard 07DCP029Q, Table 3, Typical Composition of VOC Emissions from Auto Spray Paint Booths* (hereinafter "Solow Report Table 3"). The Solow Report analyzed the emissions of auto body facilities operating without a DEP permit. Table 3 of the Solow Report shows the VOC chemicals that makeup the representative paint, and each chemical quantity in percentage weight. The Solow Report VOC chemicals by percentage weight and the facility 1-hour and annual total VOC emissions were used to calculate each chemical emission rates. The ingredients that make up the representative paint, along with their Chemical Abstract Service (CAS) number, by percent weight and the hourly and annual emission rates are presented in **Table 17-7**.

Table 17-7. VOC Short-term and Annual Emission Rates from the Pedro's Work Spray Booth/Area Activity (Chemicals and their Percentage Weight from the Solow Report, Table 3)

Contaminant name	CAS No.	Percent Weight	1-Hour		Annual	
			lb/hr	g/s	lb/yr	g/s
Acetone	67-64-1	43%	1.33E+00	1.68E-01	1999.5	2.88E-02
Aromatic Petroleum Distillate	64742-94-5	10%	3.10E-01	3.91E-02	465.0	6.69E-03
Butane	106-97-8	11%	3.41E-01	4.30E-02	511.5	7.36E-03
Ethanol	64-17-5	2%	6.20E-02	7.81E-03	93.0	1.34E-03
Ethyl 3-Ethoxypropionate	763-69-9	9%	2.79E-01	3.52E-02	418.5	6.02E-03
Ethylbenzene	100-41-4	5%	1.55E-01	1.95E-02	232.5	3.34E-03
Methyl Ethyl Ketone	78-93-3	8%	2.48E-01	3.12E-02	372.0	5.35E-03
N-Butyl Acetate	123-86-4	5%	1.55E-01	1.95E-02	232.5	3.34E-03
Propane	74-98-6	11%	3.41E-01	4.30E-02	511.5	7.36E-03
Stoddard Solvent	8052-41-3	10%	3.10E-01	3.91E-02	465.0	6.69E-03
Toluene	108-88-3	10%	3.10E-01	3.91E-02	465.0	6.69E-03
Xylene	1330-20-7	10%	3.10E-01	3.91E-02	465.0	6.69E-03

Air Dispersion Analysis Methodology

As previously mentioned, the predicted concentrations are compared with the maximum allowable concentrations. If the predicted concentrations are below the allowable maximum concentrations, no significant adverse air quality impacts are expected, else a detailed analysis using AERSCREEN or AERMOD dispersion models are performed. As such, the predicted concentration of PM_{10} was compared with the NAAQS, the $PM_{2.5}$ concentrations with the 24-hour and annual *de minimis*, and all other contaminants evaluated with the DAR-1 SGC and AGC threshold criterions.

For estimating potential impacts from a single industrial emission source of toxic air pollutants, the *CEQR Technical Manual* recommends using a screening procedure as a first step in the analysis. This procedure uses pre-tabulated pollutant concentration values based on a generic emission rate of 1 gram per second from the *CEQR Technical Manual* Table 17-3, "Industrial Source Screen," for the applicable averaging time periods. This approach, which can be used to estimate maximum short-term and annual average concentration values at various distances (from 30 to 400 feet) from an emission source, was utilized as a first step to assess the potential impact of the emissions from the auto body facility.

The facility shortest distance to the Project Area is 332 feet. The CEQR pre-tabulated concentrations corresponding to distance less than or equal to the measure distance were utilized. The 1-hour, 24-hour, and annual pre-tabulated concentrations are 1,703, 509, and 73 $\mu g/m^3$, respectively.

Air Dispersion Analysis Results

The *CEQR Technical Manual* Table 17-3 Industrial Source Screen was used to evaluate both the criteria and non-criteria pollutants concentrations. The air dispersion results of the criteria pollutants are displayed in Table 17-8.

Table 17-8. PM_{10} and $PM_{2.5}$ Dispersion Analysis Results

Criteria Pollutant and Averaging Time	Threshold Standard	Predicted Conc. (µg/m³)	Background Conc. (µg/m³)	Total Conc. (µg/m³)	Threshold Criterion (µg/m³)
$PM_{2.5}$ 24-Hour	*de minimis*	1.19	N.A.	**1.19**	**7.70**
$PM_{2.5}$ Annual	*de minimis*	0.03	N.A.	**0.03**	**0.3**
PM_{10} 24-Hour	NAAQS	1.95	35	37	**150**

As displayed in Table 17-8, the PM_{10} predicted concentration was compared with the NAAQS; $PM_{2.5}$ predicted concentrations were evaluated with the NYC Guideline criterions. No impact was predicted.

The *CEQR Technical Manual* Table 17-3 Industrial Source Screen was used to evaluate the solvents, VOC, concentrations. The predicted concentrations were compared with the NYSDEC SGC/AGC guidelines where applicable (some contaminants do not have short-term guideline). The non-criteria pollutants analysis is displayed in Table 17-9.

Table 17-9. Non-Criteria Pollutants Dispersion Analysis Results

Contaminant name	CAS No.	1-Hour	SGC	Annual	AGC
		(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)
Acetone	67-64-1	286.03	180000.0	2.10	30000.0
Aromatic Petroleum Distillate	64742-94-5	66.52		0.49	100.0
Butane	106-97-8	73.17	238000.0	0.54	
Ethanol	64-17-5	13.30		0.10	45000.0
Ethyl 3-Ethoxypropionate	763-69-9	59.87	140.0	0.44	64.0
Ethylbenzene	100-41-4	33.26		0.24	1000.0
Methyl Ethyl Ketone	78-93-3	53.22	13000.0	0.39	5000.0
N-Butyl Acetate	123-86-4	33.26	95000.0	0.24	17000.0
Propane	74-98-6	73.17		0.54	43000.0
Stoddard Solvent	8052-41-3	66.52		0.49	900.0
Toluene	108-88-3	66.52	37000.0	0.49	5000.0
Xylene	1330-20-7	66.52	22000.0	0.49	100.0

As seen in Table 17-9, the VOC predicted concentrations are less than the AGC/SGC standards. As the VOCs predicted concentrations are below the AGC/SGC standards, and the particulate matter concentrations are below the NAAQS and/or *de minimis* guidelines, no significant adverse air quality impacts are expected from industrial facilities to the proposed project.

Conclusion

Air quality analyses addressed mobile sources, stationary HVAC systems, and air toxics. The results of the analyses are summarized below.

- Emissions from project-related vehicle trips would not cause significant adverse air quality impacts to receptors at the local or neighborhood scale.

- Emissions from project-related heating, ventilation, and air conditioning (HVAC) and hot water system(s) would not cause significant adverse air quality impacts to receptors at the local scale with stack restrictions in place.

- No significant adverse air quality impacts are anticipated from industrial sources to the proposed project.

- No significant adverse air quality impacts are anticipated from existing large or major sources to the proposed project.

19. NOISE

Introduction

Noise monitoring was conducted on January 15, 2018 in support of a zoning map amendment to add a C2-4 commercial overlay to an existing R zoning district. The Project Site, identified as Block 4151, Lot 51 and Lot 1 on the New York City Tax Map, is situated on Atlantic Avenue between Grant Avenue and Nichols Avenue within Brooklyn Community District 5. Atlantic Avenue at the Project Site is a major through route carrying three moving lanes in each direction with its intersections controlled by traffic lights. Grant Avenue is a one-way southbound street with one moving lane with its intersections controlled by stop signs. Nichols Avenue is a one-way northbound street with one moving lane with its intersections controlled by stop signs.

The Proposed Action would introduce a commercial use, not permitted as-of-right under the use provisions of the existing R5 district, which limits development to residential and community facility uses and is projected to facilitate one commercial building with floor area of 19,323 gsf on Projected Development Site 1(Block 4151, Lot 54) and another commercial building with floor area of 4,819 gsf on Projected Development Site 2 (Block 4151, Lot 1). Accordingly, an assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The proposed development would not create a significant stationary noise generator. Additionally, project-generated traffic would not double vehicular traffic on nearby roadways, and therefore would not result in a perceptible increase in vehicular noise. Therefore, this noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development.

Framework of Noise Analysis

Noise is defined as any unwanted sound, and sound is defined as any pressure variation that the human ear can detect. Humans can detect a large range of sound pressures, from 20 to 20 million micropascals, but only those air pressure variations occurring within a particular set of frequencies are experienced as sound. Air pressure changes that occur between 20 and 20,000 times a second, stated as units of Hertz (Hz), are registered as sound.

Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in units called decibels (dB). The decibel is a relative measure of the sound pressure with respect to a standardized reference quantity. Because the dB scale is logarithmic, a relative increase of 10 dB represents a sound pressure that is 10 times higher. However, humans do not perceive a 10-dB increase as 10 times louder. Instead, they perceive it as twice as loud.

Sound is often measured and described in terms of its overall energy, taking all frequencies into account. However, the human hearing process is not the same at all frequencies. Humans are less sensitive to low frequencies (less than 250 Hz) than mid-frequencies (500 Hz to 1,000 Hz) and are most sensitive to frequencies in the 1,000- to 5,000-Hz range. Therefore, noise measurements are often adjusted, or weighted, as a function of frequency to account for human perception and

sensitivities. The most common frequency weightings used are the A- and C-weightings. These weight scales were developed to allow sound level meters, which use filter networks to approximate the characteristic of the human hearing mechanism, to simulate the frequency sensitivity of human hearing. The A-weighting is the most commonly used for environmental measurements, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does. C-weighting gives nearly equal emphasis to sounds of most frequencies. Mid-range frequencies approximate the actual (unweighted) sound level, while the very low and very high frequency bands are significantly affected by C-weighting.

Table Noise-1: Noise Levels of Common Sources

Sound Source	SPL (dB(A))
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0
Notes: A change in 3dB(A) is a just noticeable change in SPL. A change in 10 dB(A)Is perceived as a doubling or halving in SPL.	
Source: 2014 CEQR Technical Manual	

The following is typical of human response to relative changes in noise level:

- 3-dBA change is the threshold of change detectable by the human ear;
- 5-dBA change is readily noticeable; and
- 10-dBA change is perceived as a doubling or halving of the noise level.
  The SPL that humans experience typically varies from moment to moment. Therefore, various descriptors are used to evaluate noise levels over time. Some typical descriptors are defined below.
- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating SPLs is averaged over time to create a single number to describe the mean energy, or intensity,

level. High noise levels during a measurement period will have a greater effect on the L_{eq} than low noise levels. L_{eq} has an advantage over other descriptors because L_{eq} values from various noise sources can be added and subtracted to determine cumulative noise levels.

- $L_{eq(24)}$ is the continuous equivalent sound level over a 24-hour time period.

The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level (L_X). Examples include L_{10}, L_{50}, and L_{90}. L_{10} is the A-weighted sound level that is exceeded 10% of the measurement period.

The decrease in sound level caused by the distance from any single noise source normally follows the inverse square law (i.e., the SPL changes in inverse proportion to the square of the distance from the sound source). In a large open area with no obstructive or reflective surfaces, it is a general rule that at distances greater than 50 feet, the SPL from a point source of noise drops off at a rate of 6 dB with each doubling of distance away from the source. For "line" sources, such as vehicles on a street, the SPL drops off at a rate of 3 dBA with each doubling of the distance from the source. Sound energy is absorbed in the air as a function of temperature, humidity, and the frequency of the sound. This attenuation can be up to 2 dB over 1,000 feet. The drop-off rate also will vary with both terrain conditions and the presence of obstructions in the sound propagation path.

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Protection Order-City Environmental Quality Review (CEPO-CEQR) noise standards at the exterior façade to achieve interior noise levels of 45 dB(A) or below. CEPOCEQR Noise Standards classify noise exposure into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable. As noted in the *CEQR Technical Manual*, these standards are the basis for classifying noise exposure into the following categories based on the L10 measured directly outside the projected development site:

Table 19-2 CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				**Clearly Unacceptable**
Noise Level with Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[1]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^2$ dB(A)

Notes:

[1] The above composite window-wall attenuation values are for residential dwellings. Commercial and office spaces/meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.

[2] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.

Measurement Location and Equipment

Because the predominant noise sources in the area of the proposed project consist of vehicular movements, noise monitoring was conducted during peak vehicular travel periods (AM, Midday, PM and Saturday). Pursuant to CEQR Technical Manual Methodology, measurement periods of 1-hour each AM, Midday, and PM peak hours were conducted at the street frontage of the Project Site at the corner of Nichols Avenue and Atlantic Avenue at the direction of New York City Department of City Planning (DCP); This location is known as Location One (1). The monitoring location at 3513 Atlantic Avenue is identified in Figure 1.

Noise monitoring was conducted using a Larson Davis SoundTrack LxT sound meter with wind screen. The monitors were placed on a tripod at a height of approximately three feet above the ground, away from any other noise-reflective surfaces. The monitors were calibrated prior to and following each monitoring session. Periods of peak vehicular traffic around the subject site constitute a worst-case condition for noise at the project site. Noise meter calibration certification and back up data are provided in **Appendix D**.

Figure 1: Noise Monitoring Locations



Photo 1: ***Noise Monitoring Location One (1) at the Street Frontage at the corner of Atlantic Avenue and Nichols Avenue.***



Measurement Conditions
Monitoring was conducted during typical midweek conditions, on Tuesday, January 15th, 2019. The weather was dry and wind speeds were moderate during all monitoring periods. The sound meters were calibrated before and after each monitoring session.

Existing Conditions
Based on the noise measurements taken at the Project Site, the predominant source of noise is vehicular traffic. The level of traffic and its corresponding level of noise is mild at Location One (1).

Table 1.1 *below contains the results for the measurements taken at the Project Site:*
Note: **Bold** denotes L_{10} noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

Table 1.1: Noise Levels (dB)

Location 1: *Noise Levels at the Street Frontage at the Corner of Atlantic Avenue and Nichols Avenue*

Tuesday, January 15th, 2019			
Time	7:52 – 8:52 am	12:02 – 1:02 pm	4:30 – 5:30 pm
L_{max}	87.9	86.6	98.0
L_{10}	**71.9**	67.9	69.0
L_{eq}	68.5	65.1	69.7
L_{50}	65.3	59.3	63.1
L_{90}	59.2	51.2	55.4
L_{min}	52.0	44.8	51.4

Table 2.1 *below contains the traffic counts taken at the Project Site:*

Table 2.1: Traffic Counts and Vehicle Classifications

Location 1: *Traffic Counts at the Street Frontage at the Corner of Atlantic Avenue and Nichols Avenue*

	7:52 am – 8:52 am	**12:02 pm – 1:02 pm**	**4:30 pm – 4:50 pm**
Car/ Taxi	397	241	571
Van/Light Truck/SUV	336	212	498
Motorcycle	0	0	0
Heavy Truck	79	68	98
Bus	33	14	26
Train	0	0	0

Conclusion

The 2014 *CEQR Technical Manual* Table 19-2 contains noise exposure guidelines. For a commercial use such as would occur under the proposed action, an L_{10} of between 65 and 70 dB(A) is identified as marginally acceptable general external exposure. An L_{10} of between 70 and 73 dB(A) is identified as marginally unacceptable general external exposure. The highest recorded L_{10} at Location One (1) of the subject property was 71.9 dB during the morning monitoring period.

Based on these results, a window-wall attenuation of 23 dB(A) would be required for all building facades to achieve an acceptable interior noise exposure level of 50 dB(A) for commercial office spaces and meeting rooms) With this level of noise attenuation, there would be no potential for adverse impacts related to noise and no further analysis is warranted.

To avoid any potential impacts associated with noise, the Proposed Actions will place an (E) designation (E-529) for noise on the following properties. The text of the E-Designation would be as follows:

(E) Designation

Block 4151, Lot 54 (Projected Development Site 1): In order to ensure an acceptable interior noise environment, future commercial uses must provide a closed-window condition with a minimum of 23 dBA window/wall attenuation on all building's facades in order to maintain an interior noise level of 50 dBA for commercial uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Block 4151, Lot 1 (Projected Development Site 2): In order to ensure an acceptable interior noise environment, future commercial uses must provide a closed-window condition with a minimum of 23 dBA window/wall attenuation on all building's facades in order to maintain an interior noise level of 50 dBA for commercial uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

22. CONSTRUCTION

According to the *CEQR Technical Manual*, construction activities, although temporary in nature, can sometimes result in significant adverse impacts. A project's construction activities may affect a number of technical areas analyzed for the operational period, such as air quality, noise, and traffic; therefore, a construction assessment relies to a significant extent on the methodologies and resulting information gathered in the analyses of these technical areas.

Short-term (less than two years) construction generally does not warrant a detailed construction analysis. However, consideration of other factors, including location and setting of the Proposed Action may require further analysis.

The Proposed Rezoning Area is located along a major thoroughfare, Atlantic Avenue. According to *CEQR*, if a proposed project is located along a major thoroughfare, further analysis of the project's construction activity on transportation would be needed.

Construction of the proposed project would occur over approximately 18 months. Construction activities on Atlantic Avenue would be limited as construction staging and deliveries could also occur on Grant Avenue and Nichols Avenue, part of the project site. Closure of travel lanes and sidewalks on Atlantic Avenue is not anticipated; however, if curbside lane or sidewalk closures were necessary, they would be undertaken in accordance with detailed New York City Department of Transportation Office of Construction Mitigation and Coordination-approved Maintenance and Protection of Traffic (MPT) Plans. Most of the construction-period worker and truck trips are expected to occur during non-peak hours; in addition, they are not expected to be substantial enough to adversely affect area traffic conditions. Like all construction projects, work at the project site would result in temporary disruptions to the surrounding community and occasional noise and dust. Overall, these activities are typical of construction projects in urban areas, the effects would be temporary, and they are not considered significant.

The Proposed Action would be required to comply with applicable control measures for construction noise. Construction noise is regulated by the New York City Noise Control Code and by noise emission standards for construction equipment issued by the U.S. Environmental Protection Agency. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction material be handled and transported in such a manner as to not create unnecessary noise.

Therefore, based on the above, there would be no significant adverse construction impacts due to the Proposed Action and no further analysis is warranted.

APPENDIX A

New York City Landmarks Preservation Commission

APPENDIX B
Jamaica Bay Watershed Form

APPENDIX C

New York City
Department of Environmental Protection
Bureau of Sustainability
Correspondence

APPENDIX D
Noise Backup Data and Calibration Certificate

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.030
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 07:52:03
Stop Time	Tuesday, 2019 January 15 08:52:20
Duration	01:00:16.3
Run Time	01:00:16.3
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 07:51:10
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		68.5	dB
LAFmax	2019 Jan 15 07:58:27	87.9	dB
LApeak (max)	2019 Jan 15 08:42:10	102.4	dB
LAFmin	2019 Jan 15 08:02:42	52.0	dB
LCeq		76.2	dB
LAeq		68.5	dB
LCeq - LAeq		7.7	dB
LAIeq		70.3	dB
LAeq		68.5	dB
LAIeq - LAeq		1.8	dB
Ldn		68.5	dB
LDay 07:00-22:00		68.5	dB
LNight 22:00-07:00		---	dB
Lden		68.5	dB
LDay 07:00-19:00		68.5	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		104.1	dB
EA		2.844	mPa²h
EA8		22.65	mPa²h
EA40		113.3	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAF5.00		73.4	dBA
LAF10.00		71.9	dBA
LAF33.30		67.7	dBA
LAF50.00		65.3	dBA
LAF66.60		62.9	dBA
LAF90.00		59.2	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)		2 / 2.6	s
LAF > 115.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)		0 / 0.0	s

Dose

Name	OSHA-1	
Dose	---	%
Projected Dose	---	%
TWA (Projected)	---	dBA
TWA (t)	---	dBA
Lep (t)	59.5	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.2	dB
Under Range Peak	97.2	dB
Noise Floor	33.1	dB
Overload	140.9	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	55.2	62.8	72.3	71.5	69.9	67.3	65.4	64.4	59.9	54.7	51.7	47.7
LZFmax	79.0	84.1	89.3	94.7	91.7	91.1	88.0	86.2	79.1	80.5	82.9	78.9
LZFmin	31.7	47.4	59.2	52.4	52.7	49.2	45.1	44.5	41.2	34.2	25.6	24.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3
PRMLxT2	09 Jan 2019 17:29:30	-47.3
PRMLxT2	09 Jan 2019 16:21:30	-47.2

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.031
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 12:02:11
Stop Time	Tuesday, 2019 January 15 13:02:42
Duration	01:00:30.8
Run Time	01:00:30.8
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 12:01:44
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		65.1	dB
LAFmax	2019 Jan 15 12:25:39	86.6	dB
LApeak (max)	2019 Jan 15 12:25:39	99.3	dB
LAFmin	2019 Jan 15 12:57:16	44.8	dB
LCeq		74.0	dB
LAeq		65.1	dB
LCeq - LAeq		8.8	dB
LAIeq		67.4	dB
LAeq		65.1	dB
LAIeq - LAeq		2.3	dB
Ldn		65.1	dB
LDay 07:00-22:00		65.1	dB
LNight 22:00-07:00		---	dB
Lden		65.1	dB
LDay 07:00-19:00		65.1	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		100.7	dB
EA		1.310	mPa²h
EA8		10.39	mPa²h
EA40		51.94	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAF5.00		70.6	dBA
LAF10.00		67.9	dBA
LAF33.30		62.5	dBA
LAF50.00		59.3	dBA
LAF66.60		55.8	dBA
LAF90.00		51.2	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)		1 / 0.7	s
LAF > 115.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)		0 / 0.0	s

Dose

Name	OSHA-1	
Dose	---	%
Projected Dose	---	%
TWA (Projected)	---	dBA
TWA (t)	---	dBA
Lep (t)	56.1	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.2	dB
Under Range Peak	97.2	dB
Noise Floor	33.1	dB
Overload	141.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	53.3	57.1	65.6	70.6	68.6	65.0	61.8	61.4	55.6	48.3	43.9	39.4
LZFmax	74.6	83.6	83.7	96.6	91.8	90.5	86.3	82.8	76.6	70.2	72.1	72.9
LZFmin	29.1	37.1	48.8	48.1	45.6	42.4	41.2	38.9	32.9	24.0	22.6	24.2

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 12:01:40	-47.3
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3
PRMLxT2	09 Jan 2019 17:29:30	-47.3

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.032
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 16:30:40
Stop Time	Tuesday, 2019 January 15 17:30:47
Duration	01:00:07.5
Run Time	01:00:07.5
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 16:28:28
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		69.7	dB
LAFmax	2019 Jan 15 17:21:11	98.0	dB
LApeak (max)	2019 Jan 15 17:21:11	110.8	dB
LAFmin	2019 Jan 15 16:42:18	51.4	dB
LCeq		77.7	dB
LAeq		69.7	dB
LCeq - LAeq		8.0	dB
LAIeq		74.9	dB
LAeq		69.7	dB
LAIeq - LAeq		5.2	dB
Ldn		69.7	dB
LDay 07:00-22:00		69.7	dB
LNight 22:00-07:00		---	dB
Lden		69.7	dB
LDay 07:00-19:00		69.7	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		105.3	dB
EA		3.743	mPa²h
EA8		29.88	mPa²h
EA40		149.4	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		3	
OBA Overload Duration		6.5	s

Statistics

LAF5.00	70.9	dBA
LAF10.00	69.0	dBA
LAF33.30	65.2	dBA
LAF50.00	63.1	dBA
LAF66.60	60.1	dBA
LAF90.00	55.4	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)	16 / 19.0	s
LAF > 115.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Dose

Name	OSHA-1	
Dose	0.03	%
Projected Dose	0.25	%
TWA (Projected)	46.9	dBA
TWA (t)	31.9	dBA
Lep (t)	60.7	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.3	dB
Under Range Peak	97.3	dB
Noise Floor	33.2	dB
Overload	141.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	57.0	64.1	73.6	72.6	72.3	68.4	66.7	66.7	58.9	53.3	47.8	40.7
LZFmax	78.9	78.8	85.5	101.9	101.9	98.6	97.3	96.2	89.9	85.1	83.0	74.0
LZFmin	33.5	53.6	62.7	53.5	52.5	49.1	47.4	45.4	43.1	39.3	30.6	25.7

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 16:28:14	-47.3
PRMLxT2	15 Jan 2019 12:01:40	-47.3
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3

Calibration Certificate

Certificate Number 2018007854
Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	PRMLxT2	*Procedure Number*	D0001.8383		
Serial Number	013562	*Technician*	Ron Harris		
Test Results	**Pass**	*Calibration Date*	3 Aug 2018		
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019		
		Temperature	23.29 °C	± o.o1 °C	
Description	Larson Davis 1/2" Preamplifier for LxT Class 2 -15 dB	*Humidity*	49.6 %RH	± 0.5 %RH	
		Static Pressure	86.47 kPa	± 0.03 kPa	

Evaluation Method Tested electrically using an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 IJPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

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

The quality system is registered to ISO 9001:2008.

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

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

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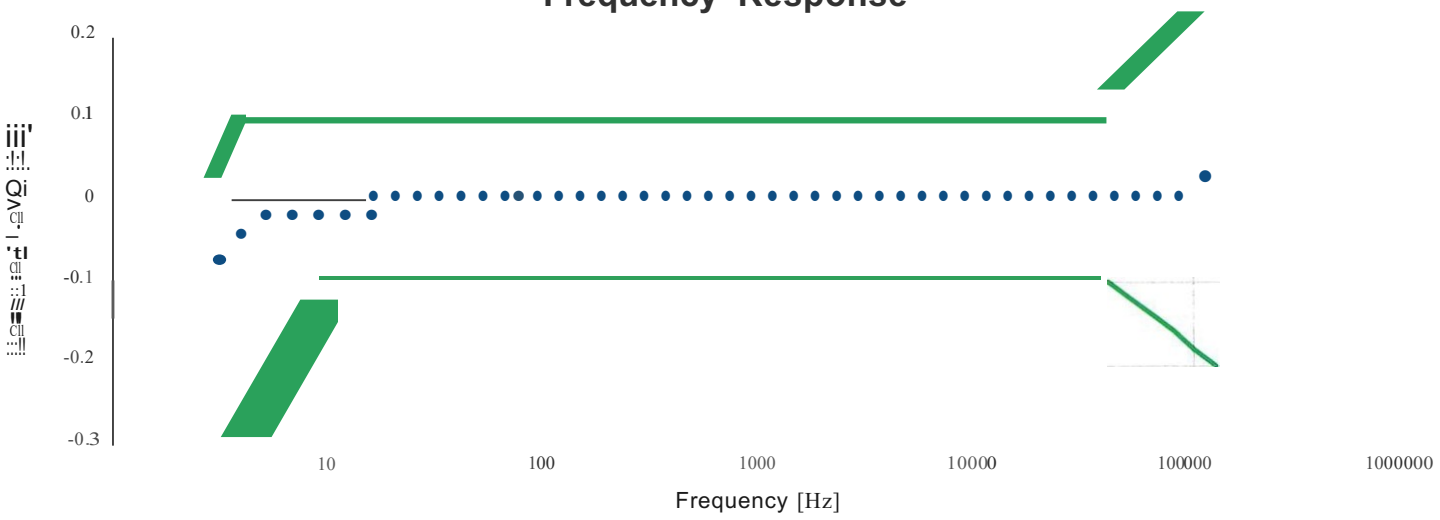
Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	03/07/2018	03/07/2019	003003
Hart Scientific 2626-H Temperatu re Probe	02/02/2018	02/02/2019	006767
Agilent 34401A DMM	06/29/2018	06/29/2019	007165
SRS DS360 Ultra Low Distortion Generator	10/05/2017	10/05/2018	007167

Frequency Response



Frequency response electrically tested at 120.0 dB re 1 iJV

Frequency [Hz]	Test Result [dB re 1kHz]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
2.50	-0.13	-0.29	0.03	0.09	Pass
3.20	-0.08	-0.22	0.08	0.09	Pass
4.00	-0.05	-0.18	0.10	0.09	Pass
5.00	-0.03	-0.15	0.10	0.09	Pass
6.30	-0.02	-0.13	0.10	0.09	Pass
7.90	-0.02	-0.11	0.10	0.09	Pass
10.00	-0.02	-0.10	0.10	0.09	Pass
12.60	-0.01	-0.10	0.10	0.09	Pass
15.80	-0.01	-0.10	0.10	0.09	Pass
20.00	0.00	-0.10	0.10	0.09	Pass
25.10	-0.01	-0.10	0.10	0.09	Pass
31.60	-0.01	-0.10	0.10	0.09	Pass
39.80	-0.01	-0.10	0.10	0.09	Pass
50.10	-0.01	-0.10	0.10	0.09	Pass
63.10	0.00	-0.10	0.10	0.09	Pass
79.40	-0.01	-0.10	0.10	0.09	Pass
100.00	-0.01	-0.10	0.10	0.09	Pass
125.90	0.00	-0.10	0.10	0.09	Pass
158.50	0.00	-0.10	0.10	0.09	Pass
199.50	0.00	-0.10	0.10	0.09	Pass
251.20	0.00	-0.10	0.10	0.09	Pass
316.20	0.00	-0.10	0.10	0.09	Pass
398.10	0.00	-0.10	0.10	0.09	Pass
501.20	0.01	-0.10	0.10	0.09	Pass
631.00	0.01	-0.10	0.10	0.09	Pass
794.30	0.01	-0.10	0.10	0.09	Pass
1,000.00	0.01	-0.10	0.10	0.09	Pass
1,258.90	0.00	-0.10	0.10	0.09	Pass
1,584.90	0.00	-0.10	0.10	0.09	Pass
1,995.30	0.00	-0.10	0.10	0.09	Pass
2,511.90	0.00	-0.10	0.10	0.09	Pass
3,162.30	0.00	-0.10	0.10	0.09	Pass

Frequency [Hz]	Test Result [dB re 1kHz)	Lower limit [dB)	Upper limit [dB[	Expanded Uncertainty (dB]	Result
3,981.10	0.00	-0.10	0.10	0.09	Pass
5,011.90	0.00	-0.10	0.10	0.09	Pass
6,309.60	0.00	-0.10	0.10	0.09	Pass
7,943.30	0.00	-0.10	0.10	0.09	Pass
10,000.00	0.00	-0.10	0.10	0.09	Pass
12,589.30	0.00	-0.10	0.10	0.09	Pass
15,848.90	0.00	-0.10	0.10	0.09	Pass
19,952.60	0.00	-0.10	0.10	0.09	Pass
25,118.90	0.00	-0.10	0.10	0.09	Pass
31,622.80	0.00	-0.10	0.10	0.09	Pass
39,810.70	0.00	-0.10	0.10	0.09	Pass
50,118.70	0.00	-0.12	0.12	0.09	Pass
63,095.70	0.00	-0.14	0.14	0.09	Pass
79,432.80	0.00	-0.16	0.16	0.09	Pass
100,000.00	0.01	-0.18	0.18	0.09	Pass
125,892.50	0.03	-0.20	0.20	0.11	Pass

Gain Measurement

Measurement	Test Result (dB]	Lower limit [dB[	Upper limit (dB)	Expanded Uncertainty (dB]	Result
Output Gain @ 1 kHz	-14.21	-15.40	-13.80	0.15	Pass

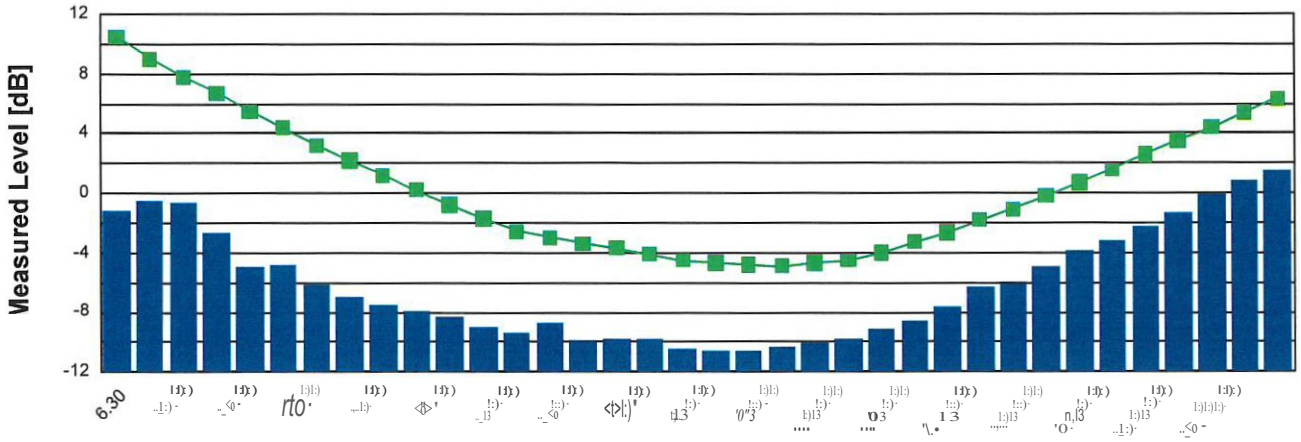
--End of measurement results--

DC Bias Measurement

Measurement	Test Result [V]	Lower limit [V)	Upper limit [V)	Expanded Uncertainty (V)	Result
DC Voltage	3.54	2.90	3.80	0.02	Pass

--End of measurement results--

1/3-0ctave Self-Generated Noise



Frequency [Hz)	Test Result [dB re 1 J1VJ	Upper limit [dB re 1 J1V1	Result
6.30	-1.18	10.50	Pass
8.00	-0.48	9.00	Pass
10.00	-0.68	7.80	Pass
12.50	-2.68	6.70	Pass
16.00	-4.98	5.50	Pass
20.00	-4.88	4.40	Pass
25.00	-6.18	3.20	Pass
31.50	-6.98	2.20	Pass
40.00	-7.58	1.20	Pass
50.00	-7.98	0.20	Pass
63.00	-8.28	-0.80	Pass
80.00	-8.98	-1.70	Pass
100.00	-9.38	-2.60	Pass
125.00	-8.78	-3.00	Pass
160.00	-9.98	-3.40	Pass
200.00	-9.78	-3.70	Pass
250.00	-9.78	-4.10	Pass
315.00	-10.48	-4.50	Pass
400.00	-10.58	-4.70	Pass
500.00	-10.68	-4.80	Pass
630.00	-10.38	-4.90	Pass
800.00	-10.08	-4.70	Pass
1,000.00	-9.78	-4.50	Pass
1,250.00	-9.18	-4.00	Pass
1,600.00	-8.58	-3.30	Pass
2,000.00	-7.68	-2.70	Pass
2,500.00	-6.28	-1.80	Pass
3,150.00	-5.98	-1.10	Pass
4,000.00	-4.98	-0.20	Pass
5,000.00	-3.88	0.70	Pass
6,300.00	-3.18	1.60	Pass
8,000.00	-2.28	2.60	Pass
10,000.00	-1.28	3.50	Pass
12,500.00	-0.18	4.40	Pass
16,000.00	0.82	5.40	Pass
20,000.00	1.52	6.30	Pass

-- **End** of measurement results--

Self-generated Noise

Bandwidth	Test Result [JlV)	Test Result [dB reI JlVJ	Upper limit)dB re 1 J1V]	Result
A-weighted (1 Hz - 20 kHz)	2.12	6.52	9.50	Pass
Broadband (1 Hz - 20 kHz)	3.03	9.62	13.50	Pass

-- End of measurement results--

Signatory: R""""-' Harrw

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Calibration Certificate

Certificate Number 2018007874

Customer:

Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2	*Procedure Number*	D0001.8384
Serial Number	0002230	*Technician*	Ron Harris
Test Results	Pass	*Calibration Date*	3 Aug 2018
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019
Description	SoundTrack LxT Class 2 Class 2 Sound Level Meter Firmware Revision: 2.302	*Temperature*	23.55 °C ± 0.25 °C
		Humidity	48.1 %RH ± 2.0 %RH
		Static Pressure	86.44 kPa ± 0.13 kPa

Evaluation Method — *Tested with:*

Larson Davis PRMLxT2. S/N 013562
PCB 375A02. S/N 010193
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Data reported in dB re 20 µPa.

Compliance Standards

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI S1.25 (R2007)
IEC 61672:2013 Class 2	ANSI S1.43 (R2007) Type 2

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

The quality system is registered to ISO 9001:2008.

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

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

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, l770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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

ACCREDITED Cert. #3622.01

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

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

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

No Pattern approvalfor IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013/ AN81/A8A 81.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013/ ANSI/A8A S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 2 specifications in IEC 61672-1:2013 / AN81/A8A 81.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013/ ANSI/A8A 81.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013/ AN81/A8A 81.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2017-09-19	2018-09-19	001250
SRS DS360 Ultra Low Distortion Generator	2018-06-21	2019-06-21	006311
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
Larson Davis CAL200 Acoustic Calibrator	2018-07-24	2019-07-24	007027
Larson Davis Model 831	2018-02-28	2019-02-28	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2018-03-07	2019-03-07	007185

Acoustic Calibration

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

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

As Received Level: 116.03
Adjusted Level: 114.00

--End of measurement results--

Acoustic Signal Tests, C-weighting

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

Frequency [Bzj	Test Result [dB]	Expected [dBJ	Lower Limit [dB)	Upper Limit [dB)	Expanded Uncertainty [dB]	Result
125	-0.67	-0.20	-1.70	1.30	0.23	Pass
1000	0.21	0.00	-1.00	1.00	0.23	Pass
8000	-5.74	-3.00	-8.00	2.00	0.32	Pass

--End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI 81.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	39.99

--End of measurement results--

-- End of Report--

Signatory: R0'11t; Harri¥

Calibration Certificate

Certificate Number 2018007860

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386		
Serial Number	6755	*Technician*	Scott Montgomery		
Test Results	Pass	*Calibration Date*	3 Aug 2018		
Initial Condition	Adjusted	*Calibration Due*	3 Aug 2019		
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	24	0C	± 0.3 °C
		Humidity	40	%RH	±3 %RH
		Static Pressure	101.3	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 Pa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated In the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO!IEC 17025:2005. Test points marked with a :1: In the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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

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

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilcnt 34401A DMM	09/06/2017	09/06/2018	001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	I 0/05/2018	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2017	08/08/2018	006507
112 inch Microphone - RI- 200V	10/23/2017	10/23/2018	006511
Pressul·c Transducer	10/20/2017	10/20/2018	007204

ACCREDITED Cert. #3622.01

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Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.3	114.02	113.80	114.20	0.14	Pass
94	101.3	94.01	93.80	94.20	0.14	Pass

--End of mensurcment results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.3	1,000.14	990.00	1,010.00	0.20	Pass
94	101.3	1,000.16	990.00	1,010.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion+ Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.3	0.39	0.00	2.00	0.25	Pass
94	101.3	0.42	0.00	2.00	0.25	Pass

--End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

			it 3]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04 +	Pass
101.3	101.5	0.00	-0.30	0.30	0.04 +	Pass
92.0	92.0	0.02	-0,30	0.30	0.04 +	Pass
83.0	83.1	0.01	-0.30	0.30	0.04j:	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04j:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 +	Pass

--End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00	0.20 ‡	Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20 +	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20j:	Pass

--End of measurement results--

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1681 West 820 North
Provo, UT 84601, United States

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716-684-0001

Total Harmonic Distortion+ Noise (THD+N) Over Pressure

Tested at: 114 dB, 23 •c, 41 %RH

			Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25=1:	Pass
101.3	101.5	0.39	0.00	2.00	0.25=1:	Pass
92.0	92.0	0.40	0.00	2.00	0.25=1:	Pass
83.0	83.1	0.42	0.00	2.00	0.25 +	Pass
74.0	74.2	0.45	0.00	2.00	0.25 +	Pass
65.0	65.0	0.48	0.00	2.00	0.25 +	Pass

--End of measurement results--

Signatory: *_Sc&:ft:.LM:vl£, 'tll'[# 'WM","/j'f)'_* -

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8/3/2018

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Initial Assessment

Certificate Number 2018007859

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, N.J 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386	
Serial*Number*	6755	*Technician*	Scott Montgomery	
Test Results	Pass	*Calibration Date*	3 Aug 2018	
Initial Condition	As Received	*Ca/lbration Due*	3 Aug 2019	
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	23	0C ± 0.3 0C
		Humidity	36	%RH ±3 %RH
		Static Pressure	101.2	kPa ± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 Pa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otheiWise noted). It has been calibrated using measurement standards traceable to the 81 through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a+ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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

The uncertainties were computed in accordance with the 180 Guide to the Expression of Uncertainty in Measurement {GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM			001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	10/05/2018	006506
Larson Davis 1/2" Preamplifier ?wpin LEMO	08/08/2017	08/08/2018	006507
1/2 inch Microphone ▾ *RI* ▾ 200V	10123/2017	10/23/2018	006511
Pressure Transducer	10/20/2017	10/20/2018	007204

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.1	113.95	113.80	114.20	0.14	Pass
94	101.2	93.95	93.80	94.20	0.14	Pass

--End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.1	1,000.15	990.00	1,010.00	0.20	Pass
94	101.2	1,000.17	990.00	1.010.00	0.20	Pass

--End of measurement results--

Total Harmonic Distortion+ Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.1	0.39	0.00	2.00	0.25	Pass
94	101.2	0.43	0.00	2.00	0.25	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressur [kPa]			Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04j:	Pass
101.3	101.5	0.00	-0.30	0.30	0.04j:	Pass
92.0	92.0	0.02	-0.30	0.30	0.04j:	Pass
83.0	83.1	0.01	-0.30	0.30	0.04 ┼	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04:1:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 ┼	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00		Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20j:	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20 ┼	Pass

--End of measurement results--

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Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 23 'C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25 ±	Pass
101.3	101.5		0.00	2.00		Pass
92.0	92.0	0.40	0.00	2.00		Pass
83.0	83.1	0.42	0.00	2.00		Pass
74.0	74.2	0.45	0.00	2.00		Pass
65.0	65.0	0.48	0.00	2.00		Pass

-- End of measurement results--

Signatory: *Scott Montgomery*

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, Uniled States

Calibration Certificate

Certificate Number 2018007856

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2	*Procedure Number*	D0001.8378		
Serial Number	0002230	*Technician*	Ron Harris		
Test Results	**Pass**	*Calibration Date*	3 Aug 2018		
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019		
Description	SoundTrack LxT Class 2 Class 2 Sound Level Meter Firmware Revision: 2.302	*Temperature*	23.75	°C	± 0.2s °C
		Humidity	51	%RH	± 2.0 %RH
		Static Pressure	86.45	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT2 S/N 013562 and an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 23.6 mV/Pa.

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI 81.25 (R2007)
IEC 61672:2013 Class 2	ANSI 81.43 (R2007) Type 2

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

The quality system is registered to ISO 9001:2008.

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

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

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, 1770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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

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

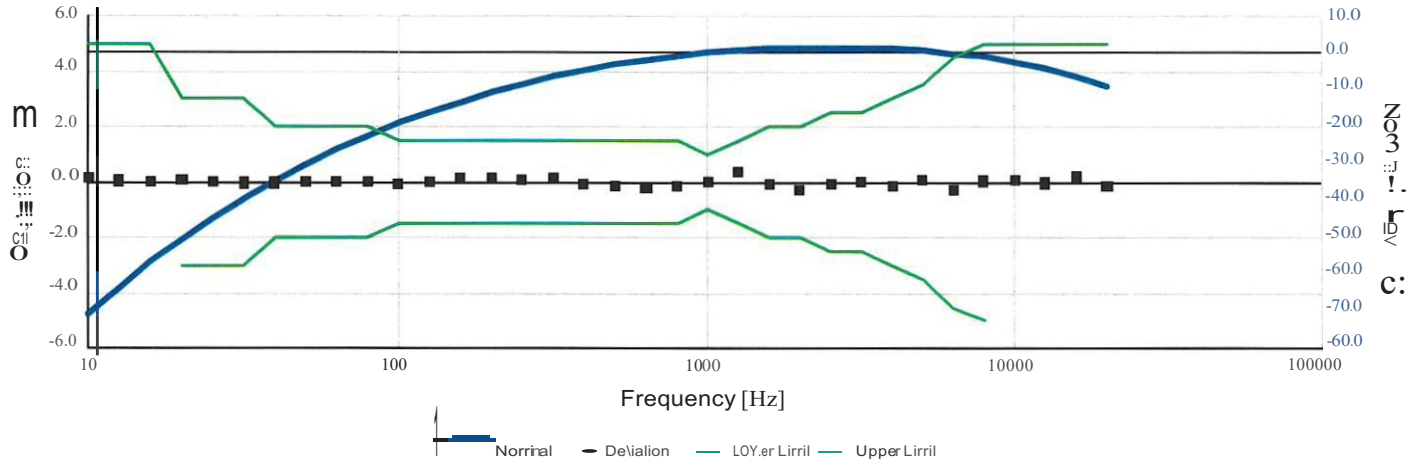
No Pattern approval for IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound levelmeter fully conformed to the class 2 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

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

A-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSIS1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSIS1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dB]	Result
10.00	-70.27	0.13	-inf	5.00	0.22	Pass
12.59	-63.35	0.05	-inf	5.00	0.22	Pass
15.85	-56.68	0.02	-inf	5.00	0.22	Pass
19.95	-50.43	0.07	-3.00	3.00	0.22	Pass
25.12	-44.70	0.00	-3.00	3.00	0.22	Pass
31.62	-39.43	-0.03	-3.00	3.00	0.22	Pass
39.81	-34.63	-0.03	-2.00	2.00	0.22	Pass
50.12	-30.20	0.00	-2.00	2.00	0.22	Pass
63.10	-26.17	0.03	-2.00	2.00	0.22	Pass
79.43	-22.46	0.04	-2.00	2.00	0.22	Pass
100.00	-19.14	-0.04	-1.50	1.50	0.22	Pass
125.89	-16.08	0.02	-1.50	1.50	0.22	Pass
158.49	-13.27	0.13	-1.50	1.50	0.22	Pass
199.53	-10.76	0.14	-1.50	1.50	0.22	Pass
251.19	-8.49	0.11	-1.50	1.50	0.22	Pass
316.23	-6.43	0.17	-1.50	1.50	0.22	Pass
398.11	-4.88	-0.08	-1.50	1.50	0.22	Pass
501.19	-3.31	-0.11	-1.50	1.50	0.22	Pass
630.96	-2.08	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.96	-0.16	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.95	0.35	-1.50	1.50	0.22	Pass
1,584.89	0.94	-0.06	-2.00	2.00	0.22	Pass
1,995.26	0.92	-0.28	-2.00	2.00	0.22	Pass
2,511.89	1.25	-0.05	-2.50	2.50	0.22	Pass
3,162.28	1.23	0.03	-2.50	2.50	0.22	Pass
3,981.07	0.83	-0.17	-3.00	3.00	0.22	Pass
5,011.87	0.59	0.09	-3.50	3.50	0.22	Pass
6,309.57	-0.41	-0.31	-4.50	4.50	0.22	Pass
7,943.28	-1.06	0.04	-5.00	5.00	0.22	Pass
10,000.00	-2.42	0.08	-inf	5.00	0.22	Pass
12,589.25	-4.33	-0.03	-inf	5.00	0.22	Pass
15,848.93	-6.41	0.19	-inf	5.00	0.22	Pass
19,952.62	-9.44	-0.14	-inf	5.00	0.22	Pass

-- End of measurement results--

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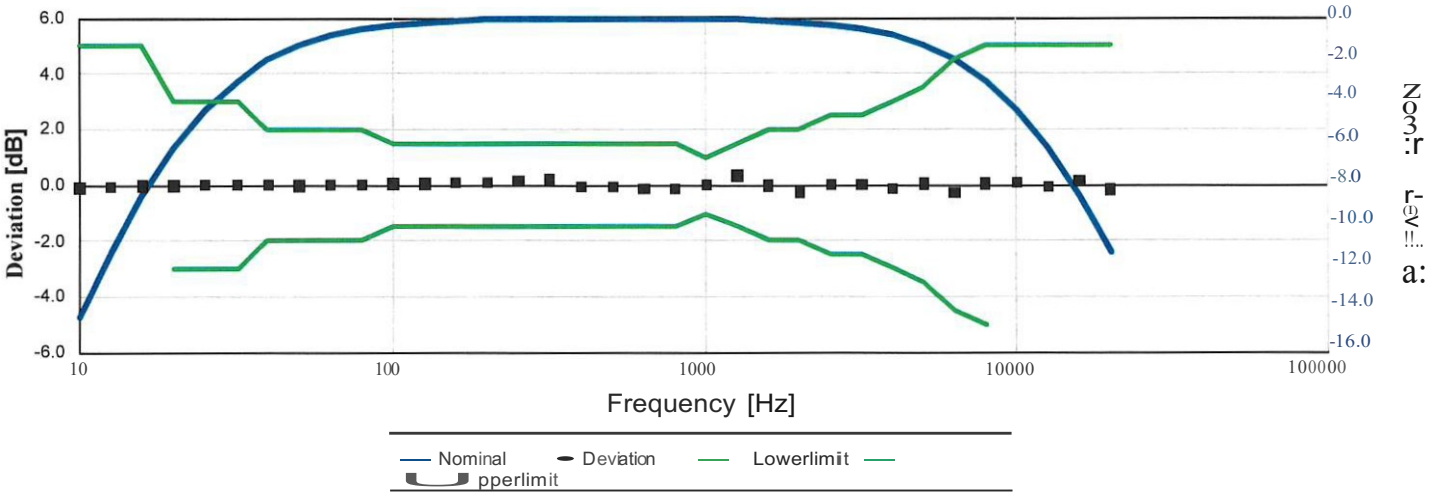
716-684-000 I

C-weight Filter Response

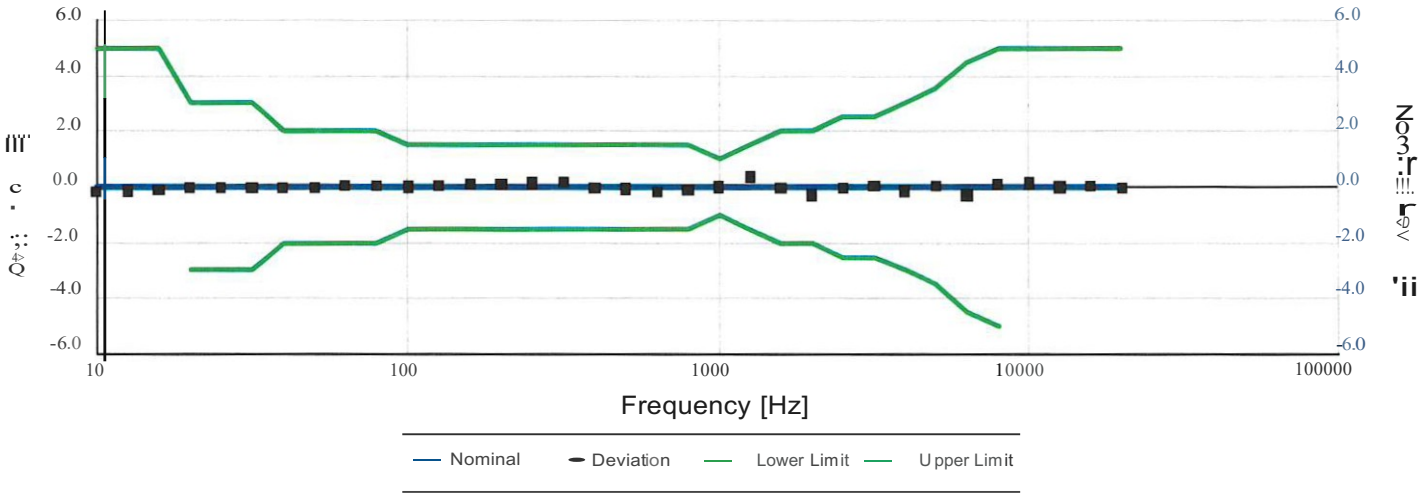


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
10.00	-14.39	-0.09	-inf	5.00	0.22	Pass
12.59	-11.27	-0.07	-inf	5.00	0.22	Pass
15.85	-8.53	-0.03	-inf	5.00	0.22	Pass
19.95	-6.22	-0.02	-3.00	3.00	0.22	Pass
25.12	-4.40	0.00	-3.00	3.00	0.22	Pass
31.62	-3.01	-0.01	-3.00	3.00	0.22	Pass
39.81	-1.99	0.01	-2.00	2.00	0.22	Pass
50.12	-1.33	-0.03	-2.00	2.00	0.22	Pass
63.10	-0.80	0.00	-2.00	2.00	0.22	Pass
79.43	-0.46	0.04	-2.00	2.00	0.22	Pass
100.00	-0.25	0.05	-1.50	1.50	0.22	Pass
125.89	-0.15	0.05	-1.50	1.50	0.22	Pass
158.49	0.00	0.10	-1.50	1.50	0.22	Pass
199.53	0.09	0.09	-1.50	1.50	0.22	Pass
251.19	0.13	0.13	-1.50	1.50	0.22	Pass
316.23	0.20	0.20	-1.50	1.50	0.22	Pass
398.11	-0.04	-0.05	-1.50	1.50	0.22	Pass
501.19	-0.04	-0.04	-1.50	1.50	0.22	Pass
630.96	-0.15	-0.15	-1.50	1.50	0.22	Pass
794.33	-0.11	-0.11	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.33	0.33	-1.50	1.50	0.22	Pass
1,584.89	-0.12	-0.02	-2.00	2.00	0.22	Pass
1,995.26	-0.45	-0.25	-2.00	2.00	0.22	Pass
2,511.89	-0.31	-0.01	-2.50	2.50	0.22	Pass
3,162.28	-0.47	0.03	-2.50	2.50	0.22	Pass
3,981.07	-0.95	-0.15	-3.00	3.00	0.22	Pass
5,011.87	-1.24	0.06	-3.50	3.50	0.22	Pass
6,309.57	-2.28	-0.28	-4.50	4.50	0.22	Pass
7,943.28	-2.95	0.05	-5.00	5.00	0.22	Pass
10,000.00	-4.33	0.07	-inf	5.00	0.22	Pass
12,589.25	-6.24	-0.04	-inf	5.00	0.22	Pass
15,848.93	-8.34	0.16	-inf	5.00	0.22	Pass
19,952.62	-11.37	-0.17	-inf	5.00	0.22	Pass

-- End of measurement results--

Z-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1:5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-0.18	-0.18	-inf	5.00	0.22	Pass
12.59	-0.16	-0.16	-inf	5.00	0.22	Pass
15.85	-0.09	-0.09	-inf	5.00	0.22	Pass
19.95	-0.06	-0.06	-3.00	3.00	0.22	Pass
25.12	-0.06	-0.06	-3.00	3.00	0.22	Pass
31.62	-0.05	-0.05	-3.00	3.00	0.22	Pass
39.81	-0.03	-0.03	-2.00	2.00	0.22	Pass
50.12	-0.04	-0.04	-2.00	2.00	0.22	Pass
63.10	0.01	0.01	-2.00	2.00	0.22	Pass
79.43	0.03	0.03	-2.00	2.00	0.22	Pass
100.00	0.00	0.00	-1.50	1.50	0.22	Pass
125.89	0.01	0.01	-1.50	1.50	0.22	Pass
158.49	0.08	0.08	-1.50	1.50	0.22	Pass
199.53	0.11	0.11	-1.50	1.50	0.22	Pass
251.19	0.14	0.14	-1.50	1.50	0.22	Pass
316.23	0.18	0.18	-1.50	1.50	0.22	Pass
398.11	-0.07	-0.07	-1.50	1.50	0.22	Pass
501.19	-0.08	-0.08	-1.50	1.50	0.22	Pass
630.96	-0.18	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.13	-0.13	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.36	0.36	-1.50	1.50	0.22	Pass
1,584.89	-0.04	-0.04	-2.00	2.00	0.22	Pass
1,995.26	-0.29	-0.29	-2.00	2.00	0.22	Pass
2,511.89	-0.03	-0.03	-2.50	2.50	0.22	Pass
3,162.28	0.02	0.02	-2.50	2.50	0.22	Pass
3,981.07	-0.15	-0.15	-3.00	3.00	0.22	Pass
5,011.87	0.03	0.03	-3.50	3.50	0.22	Pass
6,309.57	-0.29	-0.29	-4.50	4.50	0.22	Pass
7,943.28	0.08	0.08	-5.00	5.00	0.22	Pass
10,000.00	0.13	0.13	-inf	5.00	0.22	Pass
12,589.25	0.00	0.00	-inf	5.00	0.22	Pass
15,848.93	0.05	0.05	-inf	5.00	0.22	Pass
19,952.62	-0.04	-0.04	-inf	5.00	0.22	Pass

--End of measurement results--

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ACCREDITED Cert. #3622.01

LARSON DAVIS
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High Level Stability

Electrical signal test of high level stability performed according to IEC 61672-3:2013 21 and ANSI S1.4-2014 Part 3: 21 for compliance to IEC 61672-1:2013 5.15 and ANSI S1.4-2014 Part 1: 5.15

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit (dB(	Expanded Uncertainty (dB]	Result
High Level Stability	0.00	-0.30	0.30	0.01	Pass

-- End of measurement results--

Long-Term Stability

Electrical signal test of long term stability performed according to IEC 61672-3:2013 15 and ANSI S1.4-2014 Part 3: 15 for compliance to ISC 61672-1:2013 5.14 and ANSI S1.4-2014 Part 1:5.14

Test Duration [minj	Test Result (dB(	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dBJ	Result
36	0.00	-0.30	0.30	0.07	Pass

-- End of measurement results--

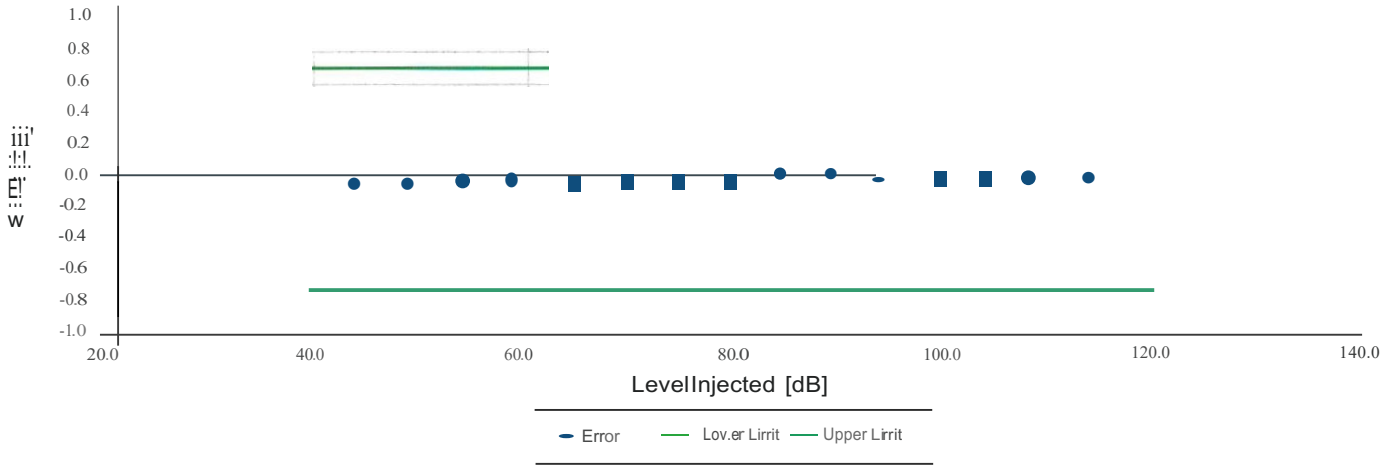
1 kHz Reference Levels

Frequency weightings and time weightings at 1 kHz (reference is A weighted Fast) performed according to IEC 61672-3:2013 14 and ANSI S1.4-2014 Part 3: 14 for compliance to IEC 61672-1:2013 5.5.9 and 5.8.3 and ANSI S1.4-2014 Part 1: 5.5.9 and 5.8.3

Measuremen t	Test Result [dB]	Lower limit [dB(	Upper limit (dBJ	Expanded Uncertainty [dB]	Result
C weight	105.80	105.60	106.00	0.09	Pass
Z weight	105.80	105.60	106.00	0.09	Pass
Slow	105.80	105.70	105.90	0.09	Pass
Impulse	105.80	105.70	105.90	0.09	Pass

-- End of measurement results--

A-weighted Broadband Log Linearity: 8,000.00 Hz

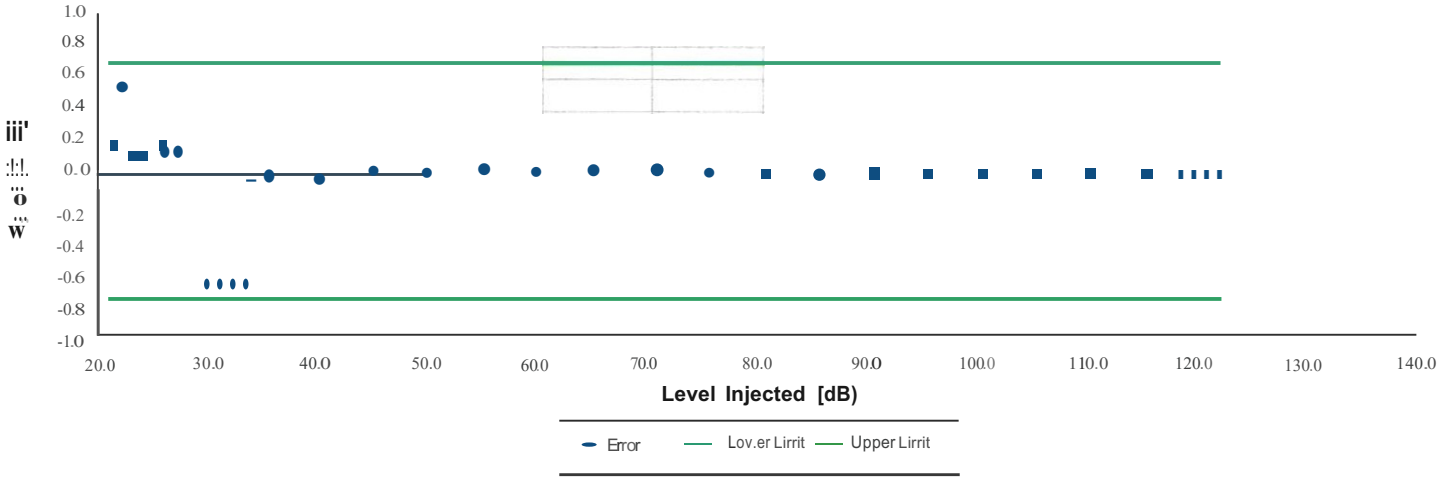


Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dBI	Error [dBJ	Lower limit [dBI	Upper limit JdB]	Expanded Uncertainty [dB)	Result
33.00	0.00	-0.70	0.70	0.09	Pass
34.00	-0.04	-0.70	0.70	0.09	Pass
39.00	-0.05	-0.70	0.70	0.09	Pass
44.00	-0.04	-0.70	0.70	0.09	Pass
49.00	-0.04	-0.70	0.70	0.09	Pass
54.00	-0.04	-0.70	0.70	0.09	Pass
59.00	-0.05	-0.70	0.70	0.09	Pass
64.00	-0.05	-0.70	0.70	0.09	Pass
69.00	-0.05	-0.70	0.70	0.09	Pass
74.00	-0.04	-0.70	0.70	0.09	Pass
79.00	-0.05	-0.70	0.70	0.09	Pass
84.00	0.01	-0.70	0.70	0.09	Pass
89.00	0.02	-0.70	0.70	0.09	Pass
94.00	0.00	-0.70	0.70	0.09	Pass
99.00	-0.01	-0.70	0.70	0.09	Pass
104.00	-0.01	-0.70	0.70	0.09	Pass
109.00	-0.01	-0.70	0.70	0.09	Pass
114.00	0.00	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.01	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass
122.00	-0.01	-0.70	0.70	0.09	Pass

-- End of measurement results--

1/1 Octave Log Linearity: 1,000.00 Hz



1/1 octave level linearity at normal range performed according to IEC 61260:2001 4.6, ANSI S.11 (R2009) 4.6

Level(dB)	Error (dB)	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty [dB)	Result
21.00	0.20	-0.70	0.70	0.09	Pass
22.00	0.53	-0.70	0.70	0.09	Pass
23.00	0.21	-0.70	0.70	0.09	Pass
24.00	0.22	-0.70	0.70	0.09	Pass
25.00	0.26	-0.70	0.70	0.09	Pass
26.00	0.12	-0.70	0.70	0.09	Pass
27.00	0.12	-0.70	0.70	0.09	Pass
28.00	0.00	-0.70	0.70	0.09	Pass
29.00	0.00	-0.70	0.70	0.10	Pass
30.00	0.10	-0.70	0.70	0.10	Pass
31.00	0.07	-0.70	0.70	0.09	Pass
32.00	0.07	-0.70	0.70	0.10	Pass
33.00	0.01	-0.70	0.70	0.09	Pass
34.00	0.02	-0.70	0.70	0.09	Pass
35.00	-0.04	-0.70	0.70	0.09	Pass
40.00	-0.01	-0.70	0.70	0.09	Pass
45.00	0.02	-0.70	0.70	0.09	Pass
50.00	0.05	-0.70	0.70	0.09	Pass
55.00	0.01	-0.70	0.70	0.09	Pass
60.00	0.02	-0.70	0.70	0.09	Pass
65.00	0.01	-0.70	0.70	0.09	Pass
70.00	0.00	-0.70	0.70	0.09	Pass
75.00	0.01	-0.70	0.70	0.09	Pass
80.00	0.01	-0.70	0.70	0.09	Pass
85.00	0.01	-0.70	0.70	0.09	Pass
90.00	0.01	-0.70	0.70	0.09	Pass
95.00	-0.01	-0.70	0.70	0.09	Pass
100.00	-0.01	-0.70	0.70	0.09	Pass
105.00	-0.01	-0.70	0.70	0.09	Pass
110.00	-0.02	-0.70	0.70	0.09	Pass
115.00	-0.01	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.02	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass

Level[dBI	Error [dB]	Lower limit [dB[	Upper limit [dBJ	Expanded Uncertainty [dB]	Result
122.00	-0.01	-0.70	0.70	0.09	Pass

-- End of measurement results--

Slow Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB	Upper limit [dB[	Expanded Uncertainty [dB]	Result
136.00	200	-7.53	-8.42	-6.42	0.09	Pass
	2	-27.14	-31.99	-25.99	0.09	Pass

--End of measurement results--

Fast Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB[	Duration [msJ	Test Result [dB]	Lower limit [dBJ	Upper limit [dB]	Expanded Uncertainty [dB]	Result
136.00	200.00	-1.06	-1.98	0.02	0.23	Pass
	2.00	-18.44	-20.49	-16.99	0.09	Pass
	0.25	-27.22	-31.99	-25.49	0.09	Pass

-- End of measurement results--

Sound Exposure Level

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB[	Duration [ms]	Test Result [dBJ	Lower limit [dB]	Upper limit [dBJ	Expanded Uncertainty [dBJ	Result
136.00	200.00	-7.01	-7.99	-5.99	0.09	Pass
	2.00	-27.03	-29.49	-25.99	0.09	Pass
	0.25	-36.14	-41.02	-34.52	0.09	Pass

--End of measurement results--

Peak C-weight

C-weighted peak sound level performed according to IEC 61672-3:2013 19 and ANSI S1.4-2014 Part 3: 19 for compliance to IEC 61672-1:2013 5.13 and ANSI S1.4-2014 Part 1: 5.13

Level [dBJ	Frequency [Hz[	Test Result [dB)	Lower limit [dB[	Upper limit [dB)	Expanded Uncertainty [dBJ	Result
134.00	31.50	137.18	133.50	139.50	0.09	Pass
134.00	500.00	137.56	135.50	139.50	0.09	Pass
134.00	8,000.00	136.73	134.40	140.40	0.10	Pass
134.00, Negative	500.00	136.18	134.40	138.40	0.09	Pass
134.00, Positive	500.00	136.18	134.40	138.40	0.09	Pass

--End of measurement results--

Peak Z-weight

Z-weighted peak sound level performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration(JIS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB(	Result
135.20	100	Negative Pulse	127.34	125.00	129.00	0.09	Pass
	100	Positive Pulse	127.34	125.00	129.00	0.09	Pass
125.20	100	Negative Pulse	117.34	115.00	119.00	0.09	Pass
	100	Positive Pulse	117.33	115.01	119.01	0.09	Pass
115.20	100	Negative Pulse	107.33	104.99	108.99	0.09	Pass
	100	Positive Pulse	107.34	104.99	108.99	0.09	Pass
105.20	100	Negative Pulse	97.37	95.03	99.03	0.09	Pass
	100	Positive Pulse	97.36	95.04	99.04	0.09	Pass

-- End of measurement results--

Overload Detector

Overload indication performed according to IEC 61672-3:2013 20 and ANSIS1.4-2014 Part 3: 20 for compliance to IEC 61672-1:2013 5.11, IEC 60804:2000 9.3.5, IEC 61252:2002 11, ANSI S1.4 (R2006) 5.8, and ANSI S1.4-2014 Part 1: 5.11, ANSI S1.25 (R2007) 7.6, ANSIS1.43 (R2007) 7

Measurement	Test Result (dB]	Lower limit [dB)	Upper limit [dB]	Expanded Uncertainty (dB]	Result
Positive	131.30	130.80	132.80	0.09	Pass
Negative	131.20	130.80	132.80	0.09	Pass
Difference	0.10	-1.50	1.50	0.09	Pass

-- End of measurement results--

Peak Rise Time

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSIS1.4:1983 (R2006) 8.4.4

Amplitude (dB]	Duration [JIS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB]	Result
139.00	40	Negative Pulse	130.28	128.80	130.80	0.09	Pass
		Positive Pulse	130.28	128.80	130.80	0.09	Pass
	30	Negative Pulse	129.31	128.80	130.80	0.09	Pass
		Positive Pulse	129.34	128.80	130.80	0.09	Pass

--End of measurement results--

Positive Pulse Crest Factor

200 IJS pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB)	Crest Factor	Test Result]dB)	Limits [dB]	Expanded Uncertainty [dB)	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.12	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.11	Pass
117.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass

-- End of measurement results--

Negative Pulse Crest Factor

200 s pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB[	Crest Factor	Test Result [dB[	Limits [dB[	Expanded Uncertainty [dB[	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.11	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass
117.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.13	± 1.00	0.09	Pass

-- End of measurement results-

Tone Burst

2kHz tone burst tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Tone burst response measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB)	Limits [dB[	Expanded Uncertainty [dB]	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.05	± 1.00	0.09	Pass
	5	-0.04	± 1.00	0.09	Pass
117.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.03	± 1.00	0.09	Pass
107.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.02	± 1.00	0.09	Pass

-- End of measurement results--

Impulse Detector- Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repitition Rate [Hz)	Test Result [dB]	Lower limit [dB[	Upper limit [dB]	Expanded Uncertainty [dB]	Result
139	100.00	-2.81	-4.71	-0.71	0.09	Pass
	20.00	-7.61	-9.57	-5.57	0.16	Pass
	2.00	-8.82	-11.76	-5.76	0.09	Pass
Step	2.00	4.97	4.00	6.00	0.09	Pass

– End of measurement results–

Impulse Detector- Single

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB)	Duration [ms]	Test Result [dB]	Lower limit [dBJ	Upper limit [dB)	Expanded Uncertainty dBl	Result
139	20.00	-3.72	-5.61	-1.61	0.09	Pass
	5.00	-8.92	-11.76	-5.76	(.10	Pass
Step	5.00	5.05	4.00	6.00	0.10	Pass

-- End of measurement results--

Gain

Gain measured according to IEC 61672-3:2013 17.3 and 17.4 and ANSI S1.4-2014 Part 3: 17.3 and 17.4

Measurement	Test Result [dB]	Lower limit (dB]	Upper limit (dB)	Expanded Uncertainty (dBJ	Result
0 dB Gain	104.02	103.90	104.10	0.09	Pass
0 dB Gain, Linearity	41.07	40.30	41.70	0.09	Pass
OBA Low Range	104.00	103.90	104.10	0.09	Pass
OBA Normal Range	104.00	103.20	104.80	0.09	Pass

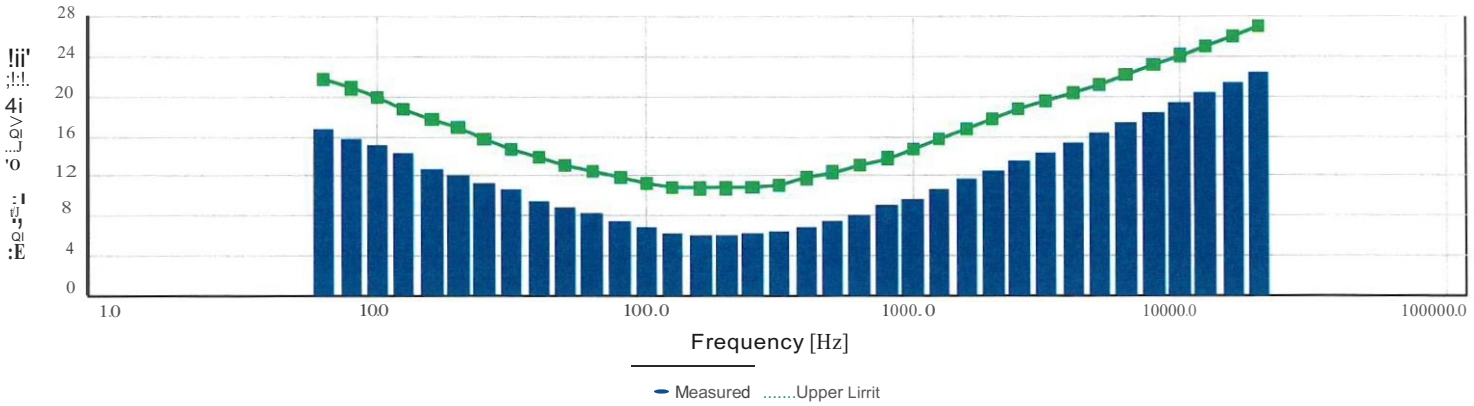
-- End of measurement results--

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

ilac-MRA
ACCREDITED
Cert. /3622.01

LARSON DAVIS
A PCB PIEZOTRONICS DIV.

1/3-0ctave Self-Generated Noise



Th ɜ SLM is set to low range.

Frequency (Hz)	Test Result (dB]	Upper limit (dB)	Result
6.30	16.72	21.80	Pass
8.00	15.67	20.90	Pass
10.00	15.07	20.00	Pass
12.50	14.29	18.80	Pass
16.00	12.68	17.80	Pass
20.00	12.09	16.90	Pass
25.00	11.24	15.70	Pass
31.50	10.63	14.80	Pass
40.00	9.54	13.90	Pass
50.00	8.84	13.10	Pass
63.00	8.16	12.50	Pass
80.00	7.55	11.90	Pass
100.00	6.88	11.30	Pass
125.00	6.31	10.90	Pass
160.00	6.00	10.80	Pass
200.00	6.03	10.80	Pass
250.00	6.26	10.90	Pass
315.00	6.40	11.10	Pass
400.00	6.92	11.80	Pass
500.00	7.44	12.40	Pass
630.00	8.09	13.10	Pass
800.00	8.98	13.80	Pass
1,000.00	9.77	14.80	Pass
1,250.00	10.70	15.70	Pass
1,600.00	11.65	16.70	Pass
2,000.00	12.56	17.70	Pass
2,500.00	13.52	18.70	Pass
3,150.00	14.40	19.50	Pass
4,000.00	15.38	20.30	Pass
5,000.00	16.34	21.20	Pass
6,300.00	17.43	22.20	Pass
8,000.00	18.27	23.20	Pass
10,000.00	19.34	24.10	Pass
12,500.00	20.30	25.10	Pass
16,000.00	21.35	26.10	Pass
20,000.00	22.31	27.10	Pass

-- End of measurement results--

Broadband Noise Floor

Self- enerated noise measured accordin to IEC 61672-3:2013 11.2 and ANSI S1.4-2014 Part 3: 11.2

Measurement	Test Result (dB(	Upper limit (dB]	Result
A-weight Noise Floor	26.83	36.00	Pass
C-weight Noise Floor	26.05	35.00	Pass
Z-weight Noise Floor	33.30	39.00	Pass

-- End of measurement results--

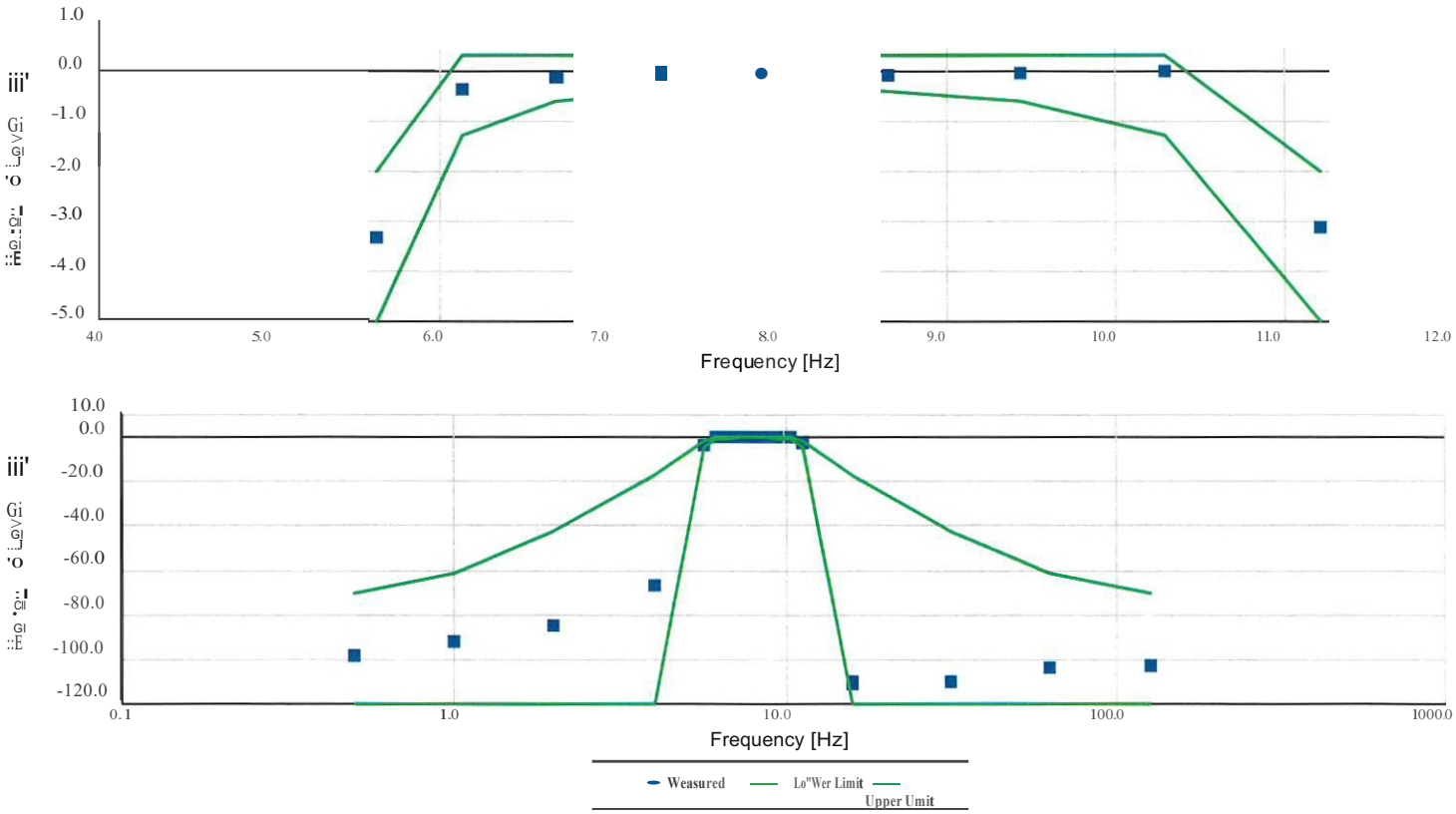
Total Harmonic Distortion

Measured using 1/3-0ctave filters

Measurement	Test Result [dB]	Lower Limit (dB]	Upper Limit (dB]	Expanded Uncertainty (dB]	Result
10 Hz Signal	137.42	136.40	138.00	0.09	Pass
THO	-68.42		-58.00	0.01	Pass
THD+N	-63.87		-58.00	0.01	Pass

-- End of measurement results--

1/1 Octave Filter: 8.0 Hz

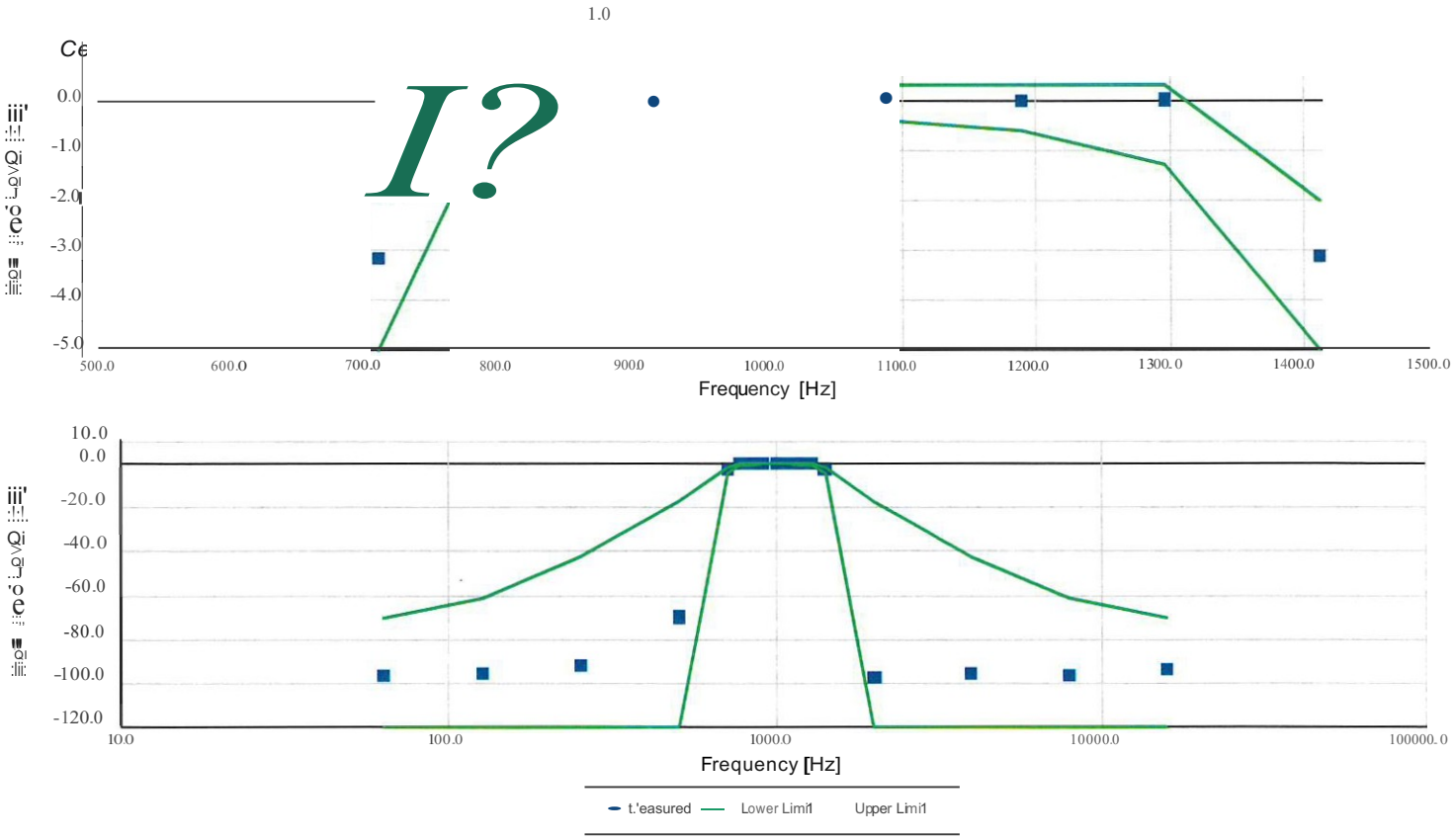


The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSIS1.11:2004

Freq uency IHzl	Test Result [dB]	Lower limit ldBI	Upper limit [dB)	Expanded Uncertainty [dB]	Result
0.50	-98.36	-inf	-70.00	2.70	Pass
1.00	-91.70	-inf	-61.00	2.00	Pass
2.00	-84.24	-inf	-42.00	0.26	Pass
3.98	-66.99	-inf	-17.50	0.31	Pass
5.62	-3.32	-5.00	-2.00	0.09	Pass
6.13	-0.37	-1.30	0.30	0.09	Pass
6.68	-0.13	-0.60	0.30	0.09	Pass
7.29	-0.11	-0.40	0.30	0.09	Pass
7.94	-0.10	-0.30	0.30	0.09	Pass
8.66	-0.08	-0.40	0.30	0.09	Pass
9.44	-0.05	-0.60	0.30	0.09	Pass
10.29	-0.01	-1.30	0.30	0.09	Pass
11.22	-3.10	-5.00	-2.00	0.09	Pass
15.85	-110.26	-inf	-17.50	1.30	Pass
31.62	-109.99	-inf	-42.00	1.70	Pass
63.10	-103.64	-inf	-61.00	1.50	Pass
125.89	-102.78	-inf	-70.00	1.60	Pass

--End of measurement results-

1/1 Octave Filter: 1 kHz

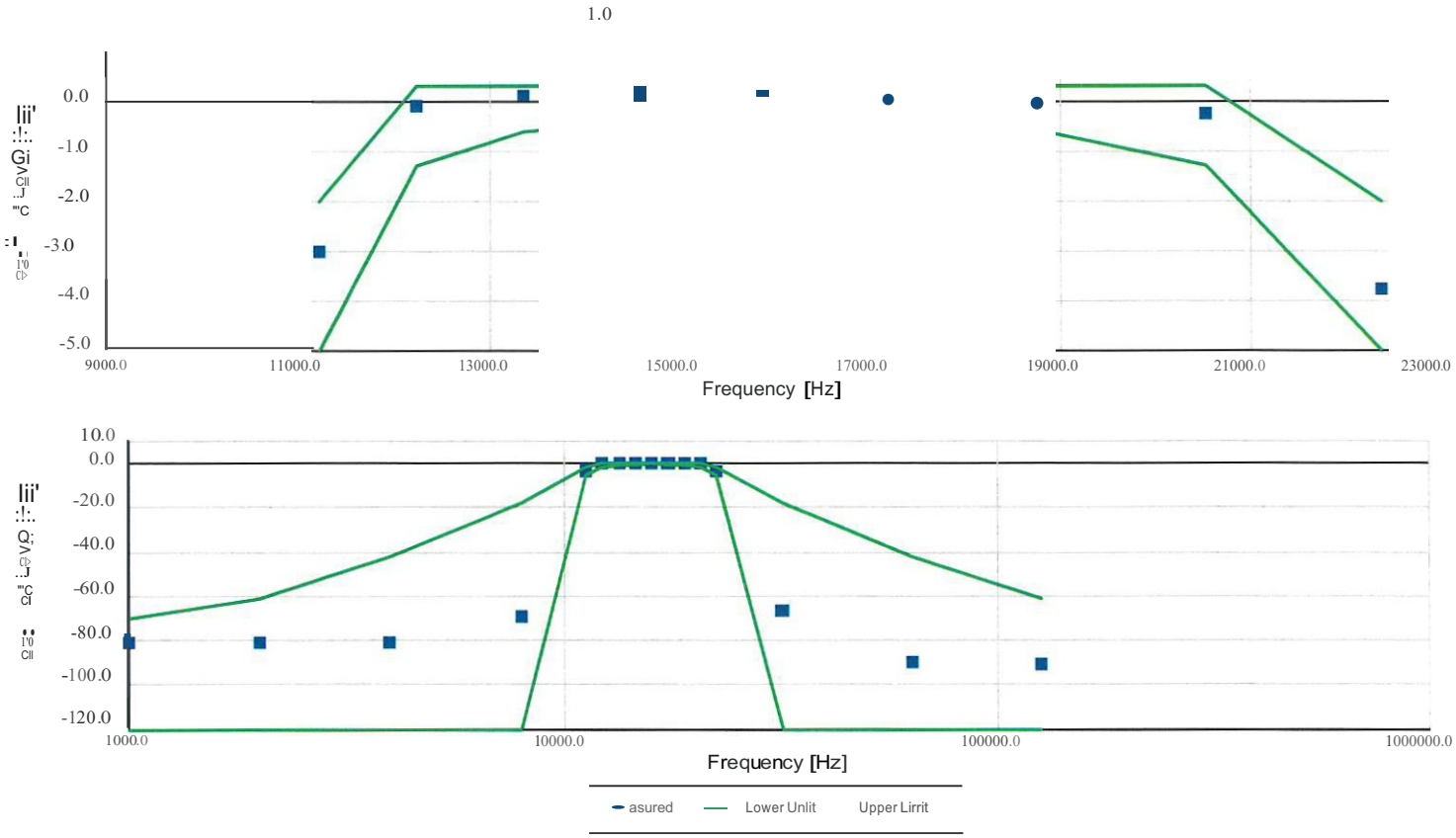


The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty (dB)	Result
63.10	-96.28	-inf	-70.00	0.24	Pass
125.89	-95.48	-inf	-61.00	0.25	Pass
251.19	-92.08	-inf	-42.00	0.13	Pass
501.19	-69.79	-inf	-17.50	0.09	Pass
707.95	-3.15	-5.00	-2.00	0.09	Pass
771.79	-0.22	-1.30	0.30	0.09	Pass
841.40	-0.02	-0.60	0.30	0.09	Pass
917.28	-0.01	-0.40	0.30	0.09	Pass
1,000.00	0.00	-0.30	0.30	0.09	Pass
1,090.18	-0.02	-0.40	0.30	0.09	Pass
1,188.50	-0.02	-0.60	0.30	0.09	Pass
1,295.69	0.00	-1.30	0.30	0.09	Pass
1,412.54	-3.14	-5.00	-2.00	0.09	Pass
1,995.26	-96.82	-inf	-17.50	0.25	Pass
3,981.07	-95.79	-inf	-42.00	0.29	Pass
7,943.28	-96.01	-inf	-61.00	0.23	Pass
15,848.93	-93.42	-inf	-70.00	0.23	Pass

--End of measurement results-

1/1 Octave Filter: 16kHz



The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency fHzJ	Test Result [dB]	Lower limit JdBJ	Upper limit JdBJ	Expanded Uncertainty [dB]	Result
1,000.00	-80.95	-inf	-70.00	0.10	Pass
1,995.26	-80.73	-inf	-61.00	0.11	Pass
3,981.07	-80.59	-inf	-42.00	0.09	Pass
7,943.28	-69.20	-inf	-17.50	0.12	Pass
11,220.18	-3.00	-5.00	-2.00	0.09	Pass
12,232.07	-0.09	-1.30	0.30	0.09	Pass
13,335.21	0.12	-0.60	0.30	0.09	Pass
14,537.84	0.08	-0.40	0.30	0.09	Pass
15,848.93	0.04	-0.30	0.30	0.09	Pass
17,278.26	-0.02	-0.40	0.30	0.09	Pass
18,836.49	-0.13	-0.60	0.30	0.09	Pass
20,535.25	-0.26	-1.30	0.30	0.09	Pass
22,387.21	-3.76	-5.00	-2.00	0.09	Pass
31,622.78	-66.77	-inf	-17.50	0.09	Pass
63,095.73	-89.72	-inf	-42.00	0.10	Pass
125,892.54	-90.58	-inf	-61.00	0.10	Pass

— End of measurement results-

-- End ofReport--

Signatory: *Ha.rri¥*

Larson Davis, a division of PCB Piezotronics, Inc
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716-684-0001

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LARSONDAVIS
A PCB PIEZOTRONICS DIV.



APPENDIX A

New York City Landmarks Preservation Commission

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-K
Project:
Date received: 1/24/2018

Properties with no Architectural or Archaeological significance:
1) ADDRESS: 3485 ATLANTIC AVENUE, BBL: 3041510001
2) ADDRESS: 3513 ATLANTIC AVENUE, BBL: 3041510054

Gina Santucci 2/21/18

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 33064_FSO_DNP_01312018.doc

APPENDIX B
Jamaica Bay Watershed Form

Print Form

Jamaica Bay Watershed Protection Plan
Project Tracking Form

The Jamaica Bay Watershed Protection Plan, developed pursuant to Local Law 71 of 2005, mandates that the New York City Department of Environmental Protection (DEP) work with the Mayor's Office of Environmental Coordination (MOEC) to review and track proposed development projects in the Jamaica Bay Watershed (http://www.nyc.gov/html/oec/downloads/pdf/ceqr/Jamaica_Bay_Watershed_Map.jpg) that are subject to CEQR in order to monitor growth and trends. If a project is located in the Jamaica Bay Watershed, (the applicant should complete this form and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC.

The information below will be used for tracking purposes only. It is not intended to indicate whether further CEQR analysis is needed to substitute for the guidance offered in the relevant chapters of the CEQR Technical Manual.

A. GENERAL PROJECT INFORMATION

1. CEQR Number: 18DCP180K 1a. Modification ☐
2. Project Name: 3513 Atlantic Ave
3. Project Description:

The applicant seeks a zoning map amendment that would include three adjacent lots (Block 4151, Lots 1, 54 and 107). The proposed rezoning would facilitate the development of a one-story commercial building on Lot 54.

4. Project Sponsor: Leemilt's Petroleum Inc.
5. Required approvals: Zoning Map Amendment
6. Project schedule (build year and construction schedule): 18 month construction, build year 2021

B. PROJECT LOCATION:

1. Street address: 3513 Atlantic Ave
2. Tax block(s): 4151 Tax Lot(s): Lots 1, 54 and 107
3. Identify existing land use and zoning on the project site: commercial; R5
4. Identify proposed land use and zoning on the project site: Commercial; R5/C2-4
5. Identify land use of adjacent sites (include any open space): Commercial/Residential/Mixed
6. Describe existing density on the project site and the proposed density:

Existing Condition	Proposed Condition
Lot 1: 0.04 FAR; Lot 54: 0.34 FAR	Lot 1: 0.04 FAR; Lot 54: 0.56 FAR

7. Is project within 100 or 500 year floodplain (specify)? ☐ **100 Year** ☐ **500 Year** ☒ **No**

C. GROUND AND GROUNDWATER

1. Total area of in-ground disturbance, if any (in square feet): 10,496
2. Will soil be removed (if so, what is the volume in cubic yards)? 3,499
3. Subsurface soil classification:
   (per the New York City Soil and Water Conservation Board): 211. Pavement & Buildings-Flatbush
4. If project would change site grade, provide land contours (**attach** map showing existing in 1' contours and proposed in 1' contours).
5. Will groundwater be used (list volumes/rates)? ☐ **Yes** ☒ **No**

   Volumes: Rates:
6. Will project involve dewatering (list volumes/rates)? ☐ **Yes** ☒ **No**

   Volumes: Rates:
7. Describe site elevation above seasonal high groundwater:

   The seasonal high water table is rarely higher than 40 inches from the surface for any significant period during the growing season.

D. HABITAT

1. Will vegetation be removed, particularly native vegetation? ☐ **Yes** ☒ **No**

   If YES,
   - **Attach** a detailed list (species, size and location on site) of vegetation to be removed (including trees >2" caliper, shrubs, understory planting and groundcover).
   - **List** species to remain on site.
   - **Provide** a detailed list (species and sizes) of proposed landscape restoration plan (including any wetland restoration plans).
2. Is the site used or inhabited by any rare, threatened or endangered species? ☐ **Yes** ☒ **No**
3. Will the project affect habitat characteristics? ☐ **Yes** ☒ **No**

   If YES, describe existing wildlife use and habitat classification using "Ecological Communities of New York State." at http://www.dec.ny.gov/animals/29392.html.
4. Will pesticides, rodenticides or herbicides be used during construction? ☐ **Yes** ☒ **No**

   If YES, estimate quantity, area and duration of application.
5. Will additional lighting be installed? ☐ **Yes** ☒ **No**

   If YES and near existing open space or natural areas, what measures would be taken to reduce light penetration into these areas?

E. SURFACE COVERAGE AND CHARACTERISTICS

(describe the following for both the existing and proposed condition):

	Existing Condition	Proposed Condition
1. ***Surface area:***		
Roof:	6,350	10,469
Pavement/walkway:	12,410	8,291
Grass/softscape:	none	none
Other (describe):		
2. ***Wetland*** (regulated or non-regulated) area and classification:	none	none
3. ***Water surface area:***	none	none

4. ***Stormwater management*** (describe):

Existing – how is the site drained?

Storm water drains overland into sewers in adjacent streets

Proposed – describe, including any infrastructure improvements necessary off-site:

Storm water would continue to drain overland into sewers in adjacent streets. No off-site inrastructure improvements are planned or necessary.

APPENDIX C

New York City
Department of Environmental Protection
Bureau of Sustainability
Correspondence

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

October 4, 2018

Laura Kenny
Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 3513 Atlantic Avenue
Block 4151, Lots 1 and 54
CEQR # 18DCP180K

Dear Ms. Kenny:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the June 2018 Environmental Assessment Statement (EAS) and the March 2018 Phase I Environmental Site Assessment (Phase I) prepared by Environmental Studies Corporation, on behalf of Leemilt's Petroleum Inc. (applicant) for the above referenced project. It is our understanding that the applicant is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to Zoning Map 18a that would include adjacent Lots 1 and 54 of Block 4151 (affected area) to facilitate the development of a one-story commercial building on Block 4151, Lot 54 (Projected Development Site 1). The proposed zoning map amendment would rezone the affected area from an R5 zoning district to an R5/C2-4 zoning overlay. Lot 54 is currently improved with a gasoline filling station, car wash, and convenience store. In the future with the proposed action, Block 4151, Lot 1 (Projected Development Site 2) would be redeveloped with a one-story commercial building. The affected area encompasses the entire block front on the northern side of Atlantic Avenue between Grant Avenue and Nichols Avenue in the East New York neighborhood of Brooklyn Community District 5.

Block 4151, Lot 54

The March 2018 Phase I report revealed that historical on-site and surrounding area land uses consisted of a variety of residential and commercial uses including a gasoline filling station, a convenience store, a car wash, a garage and repair shop, residential dwellings, retail stores, auto houses, a printer, an auto body shop, a radio repair shop, a cement blocks yard, used auto sales, dry cleaners, etc. Based on the age of the subject building, asbestos containing materials and lead based paints could be present in the on-site structure. Regulatory databases identified 9 spills within 1/8 mile; 6 underground storage tank sites and 6 aboveground storage tank sites within 1/4 mile; and 20 leaking storage tank sites within 1/2 mile of the project site.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

Projected Development Site 1: Block 4151, Lot 54 (Site under the control or ownership of the applicant) and Projected Development Site 2: Block 4151, Lot 1 (Site not under the control or ownership of the applicant)

- Based on prior on-site and/or surrounding area land uses which could result in environmental contamination, DEP concurs with the EAS recommendation that an (E) designation for hazardous materials should be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the subject properties. The (E) designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation.

Future correspondence and submittals related to this project should include the following CEQR # **18DCP180K**. If you have any questions, you may contact Mohammad Khaja-Moinuddin at (718) 595-4445.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard
M. Khaja-Moinuddin
T. Estesen
M. Wimbish
R. Dobruskin – DCP
O. Abinader – DCP
M. Bertini – OER

APPENDIX D
Noise Backup Data and Calibration Certificate

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.030
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 07:52:03
Stop Time	Tuesday, 2019 January 15 08:52:20
Duration	01:00:16.3
Run Time	01:00:16.3
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 07:51:10
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		68.5	dB
LAFmax	2019 Jan 15 07:58:27	87.9	dB
LApeak (max)	2019 Jan 15 08:42:10	102.4	dB
LAFmin	2019 Jan 15 08:02:42	52.0	dB
LCeq		76.2	dB
LAeq		68.5	dB
LCeq - LAeq		7.7	dB
LAIeq		70.3	dB
LAeq		68.5	dB
LAIeq - LAeq		1.8	dB
Ldn		68.5	dB
LDay 07:00-22:00		68.5	dB
LNight 22:00-07:00		---	dB
Lden		68.5	dB
LDay 07:00-19:00		68.5	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		104.1	dB
EA		2.844	mPa²h
EA8		22.65	mPa²h
EA40		113.3	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAF5.00		73.4	dBA
LAF10.00		71.9	dBA
LAF33.30		67.7	dBA
LAF50.00		65.3	dBA
LAF66.60		62.9	dBA
LAF90.00		59.2	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)		2 / 2.6	s
LAF > 115.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)		0 / 0.0	s

Dose

Name	OSHA-1	
Dose	---	%
Projected Dose	---	%
TWA (Projected)	---	dBA
TWA (t)	---	dBA
Lep (t)	59.5	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.2	dB
Under Range Peak	97.2	dB
Noise Floor	33.1	dB
Overload	140.9	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	55.2	62.8	72.3	71.5	69.9	67.3	65.4	64.4	59.9	54.7	51.7	47.7
LZFmax	79.0	84.1	89.3	94.7	91.7	91.1	88.0	86.2	79.1	80.5	82.9	78.9
LZFmin	31.7	47.4	59.2	52.4	52.7	49.2	45.1	44.5	41.2	34.2	25.6	24.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3
PRMLxT2	09 Jan 2019 17:29:30	-47.3
PRMLxT2	09 Jan 2019 16:21:30	-47.2

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.031
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 12:02:11
Stop Time	Tuesday, 2019 January 15 13:02:42
Duration	01:00:30.8
Run Time	01:00:30.8
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 12:01:44
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		65.1	dB
LAFmax	2019 Jan 15 12:25:39	86.6	dB
LApeak (max)	2019 Jan 15 12:25:39	99.3	dB
LAFmin	2019 Jan 15 12:57:16	44.8	dB
LCeq		74.0	dB
LAeq		65.1	dB
LCeq - LAeq		8.8	dB
LAIeq		67.4	dB
LAeq		65.1	dB
LAIeq - LAeq		2.3	dB
Ldn		65.1	dB
LDay 07:00-22:00		65.1	dB
LNight 22:00-07:00		---	dB
Lden		65.1	dB
LDay 07:00-19:00		65.1	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		100.7	dB
EA		1.310	mPa²h
EA8		10.39	mPa²h
EA40		51.94	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAF5.00		70.6	dBA
LAF10.00		67.9	dBA
LAF33.30		62.5	dBA
LAF50.00		59.3	dBA
LAF66.60		55.8	dBA
LAF90.00		51.2	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)		1 / 0.7	s
LAF > 115.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)		0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)		0 / 0.0	s

Dose

Name	OSHA-1	
Dose	---	%
Projected Dose	---	%
TWA (Projected)	---	dBA
TWA (t)	---	dBA
Lep (t)	56.1	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.2	dB
Under Range Peak	97.2	dB
Noise Floor	33.1	dB
Overload	141.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	53.3	57.1	65.6	70.6	68.6	65.0	61.8	61.4	55.6	48.3	43.9	39.4
LZFmax	74.6	83.6	83.7	96.6	91.8	90.5	86.3	82.8	76.6	70.2	72.1	72.9
LZFmin	29.1	37.1	48.8	48.1	45.6	42.4	41.2	38.9	32.9	24.0	22.6	24.2

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 12:01:40	-47.3
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3
PRMLxT2	09 Jan 2019 17:29:30	-47.3

General Information

Serial Number	02230
Model	SoundTrack LxT®
Firmware Version	2.302
Filename	LxT_Data.032
User	
Job Description	
Location	
Measurement Description	
Start Time	Tuesday, 2019 January 15 16:30:40
Stop Time	Tuesday, 2019 January 15 17:30:47
Duration	01:00:07.5
Run Time	01:00:07.5
Pause	00:00:00.0
Pre Calibration	Tuesday, 2019 January 15 16:28:28
Post Calibration	None
Calibration Deviation	---

Note

Overall Data

LAeq		69.7	dB
LAFmax	2019 Jan 15 17:21:11	98.0	dB
LApeak (max)	2019 Jan 15 17:21:11	110.8	dB
LAFmin	2019 Jan 15 16:42:18	51.4	dB
LCeq		77.7	dB
LAeq		69.7	dB
LCeq - LAeq		8.0	dB
LAIeq		74.9	dB
LAeq		69.7	dB
LAIeq - LAeq		5.2	dB
Ldn		69.7	dB
LDay 07:00-22:00		69.7	dB
LNight 22:00-07:00		---	dB
Lden		69.7	dB
LDay 07:00-19:00		69.7	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		105.3	dB
EA		3.743	mPa²h
EA8		29.88	mPa²h
EA40		149.4	mPa²h
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		3	
OBA Overload Duration		6.5	s

Statistics

LAF5.00	70.9	dBA
LAF10.00	69.0	dBA
LAF33.30	65.2	dBA
LAF50.00	63.1	dBA
LAF66.60	60.1	dBA
LAF90.00	55.4	dBA
LAF > 85.0 dB (Exceedence Counts / Duration)	16 / 19.0	s
LAF > 115.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Dose

Name	OSHA-1	
Dose	0.03	%
Projected Dose	0.25	%
TWA (Projected)	46.9	dBA
TWA (t)	31.9	dBA
Lep (t)	60.7	dBA

Settings

Exchange Rate	5	dB
Threshold	90.0	dBA
Criterion Level	90.0	dBA
Criterion Duration	8.0	h
RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Fast	
Preamp	PRMLxT2	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 Octave	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Under Range Limit	46.3	dB
Under Range Peak	97.3	dB
Noise Floor	33.2	dB
Overload	141.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	57.0	64.1	73.6	72.6	72.3	68.4	66.7	66.7	58.9	53.3	47.8	40.7
LZFmax	78.9	78.8	85.5	101.9	101.9	98.6	97.3	96.2	89.9	85.1	83.0	74.0
LZFmin	33.5	53.6	62.7	53.5	52.5	49.1	47.4	45.4	43.1	39.3	30.6	25.7

Calibration History

Preamp	Date	dB re. 1V/Pa
PRMLxT2	15 Jan 2019 16:28:14	-47.3
PRMLxT2	15 Jan 2019 12:01:40	-47.3
PRMLxT2	15 Jan 2019 07:51:05	-47.2
PRMLxT2	10 Jan 2019 17:11:43	-46.9
PRMLxT2	10 Jan 2019 16:49:29	-47.0
PRMLxT2	10 Jan 2019 16:28:37	-47.3
PRMLxT2	10 Jan 2019 12:44:39	-46.8
PRMLxT2	10 Jan 2019 12:22:17	-46.9
PRMLxT2	10 Jan 2019 11:58:03	-47.1
PRMLxT2	10 Jan 2019 08:51:46	-46.9
PRMLxT2	10 Jan 2019 07:57:12	-47.3

Calibration Certificate

Certificate Number 2018007854
Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	PRMLxT2	*Procedure Number*	D0001.8383		
Serial Number	013562	*Technician*	Ron Harris		
Test Results	**Pass**	*Calibration Date*	3 Aug 2018		
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019		
		Temperature	23.29 °C	± o.o1 °C	
Description	Larson Davis 1/2" Preamplifier for LxT Class 2 -15 dB	*Humidity*	49.6 %RH	± 0.5 %RH	
		Static Pressure	86.47 kPa	± 0.03 kPa	

Evaluation Method Tested electrically using an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 IJPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

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

The quality system is registered to ISO 9001:2008.

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

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

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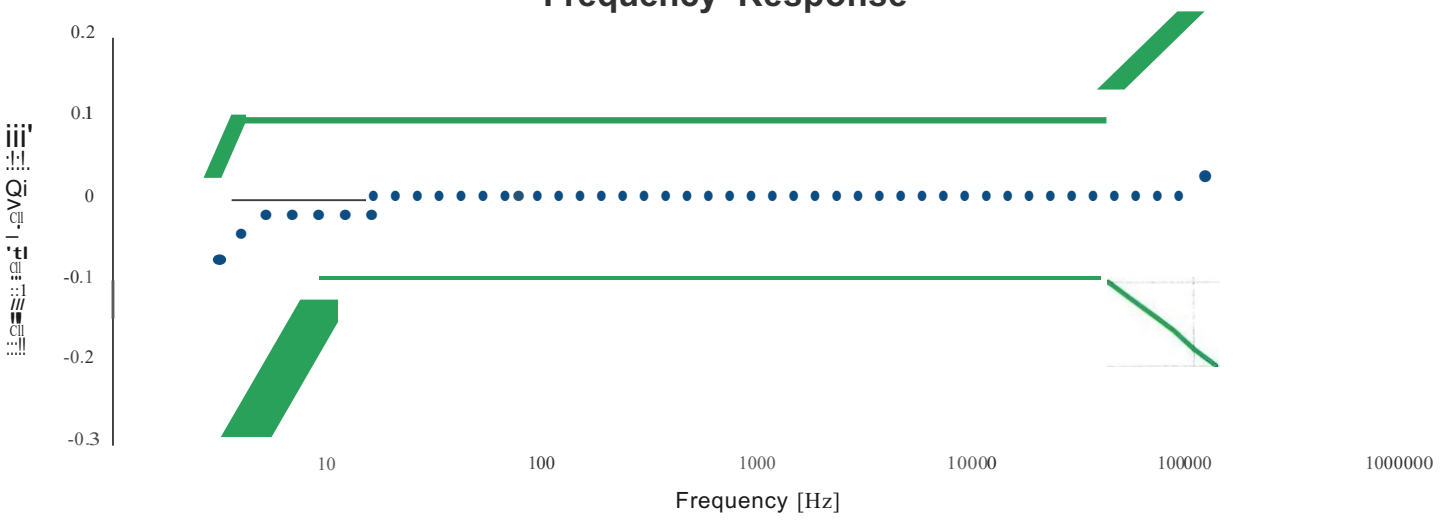
Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	03/07/2018	03/07/2019	003003
Hart Scientific 2626-H Temperatu re Probe	02/02/2018	02/02/2019	006767
Agilent 34401A DMM	06/29/2018	06/29/2019	007165
SRS DS360 Ultra Low Distortion Generator	10/05/2017	10/05/2018	007167

Frequency Response



Frequency response electrically tested at 120.0 dB re 1 iJV

Frequency [Hz]	Test Result [dB re 1kHz]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
2.50	-0.13	-0.29	0.03	0.09	Pass
3.20	-0.08	-0.22	0.08	0.09	Pass
4.00	-0.05	-0.18	0.10	0.09	Pass
5.00	-0.03	-0.15	0.10	0.09	Pass
6.30	-0.02	-0.13	0.10	0.09	Pass
7.90	-0.02	-0.11	0.10	0.09	Pass
10.00	-0.02	-0.10	0.10	0.09	Pass
12.60	-0.01	-0.10	0.10	0.09	Pass
15.80	-0.01	-0.10	0.10	0.09	Pass
20.00	0.00	-0.10	0.10	0.09	Pass
25.10	-0.01	-0.10	0.10	0.09	Pass
31.60	-0.01	-0.10	0.10	0.09	Pass
39.80	-0.01	-0.10	0.10	0.09	Pass
50.10	-0.01	-0.10	0.10	0.09	Pass
63.10	0.00	-0.10	0.10	0.09	Pass
79.40	-0.01	-0.10	0.10	0.09	Pass
100.00	-0.01	-0.10	0.10	0.09	Pass
125.90	0.00	-0.10	0.10	0.09	Pass
158.50	0.00	-0.10	0.10	0.09	Pass
199.50	0.00	-0.10	0.10	0.09	Pass
251.20	0.00	-0.10	0.10	0.09	Pass
316.20	0.00	-0.10	0.10	0.09	Pass
398.10	0.00	-0.10	0.10	0.09	Pass
501.20	0.01	-0.10	0.10	0.09	Pass
631.00	0.01	-0.10	0.10	0.09	Pass
794.30	0.01	-0.10	0.10	0.09	Pass
1,000.00	0.01	-0.10	0.10	0.09	Pass
1,258.90	0.00	-0.10	0.10	0.09	Pass
1,584.90	0.00	-0.10	0.10	0.09	Pass
1,995.30	0.00	-0.10	0.10	0.09	Pass
2,511.90	0.00	-0.10	0.10	0.09	Pass
3,162.30	0.00	-0.10	0.10	0.09	Pass

Frequency [Hz]	Test Result [dB re 1kHz)	Lower limit [dB)	Upper limit [dB[	Expanded Uncertainty (dB]	Result
3,981.10	0.00	-0.10	0.10	0.09	Pass
5,011.90	0.00	-0.10	0.10	0.09	Pass
6,309.60	0.00	-0.10	0.10	0.09	Pass
7,943.30	0.00	-0.10	0.10	0.09	Pass
10,000.00	0.00	-0.10	0.10	0.09	Pass
12,589.30	0.00	-0.10	0.10	0.09	Pass
15,848.90	0.00	-0.10	0.10	0.09	Pass
19,952.60	0.00	-0.10	0.10	0.09	Pass
25,118.90	0.00	-0.10	0.10	0.09	Pass
31,622.80	0.00	-0.10	0.10	0.09	Pass
39,810.70	0.00	-0.10	0.10	0.09	Pass
50,118.70	0.00	-0.12	0.12	0.09	Pass
63,095.70	0.00	-0.14	0.14	0.09	Pass
79,432.80	0.00	-0.16	0.16	0.09	Pass
100,000.00	0.01	-0.18	0.18	0.09	Pass
125,892.50	0.03	-0.20	0.20	0.11	Pass

Gain Measurement

Measurement	Test Result (dB]	Lower limit [dB[	Upper limit (dB)	Expanded Uncertainty (dB]	Result
Output Gain @ 1 kHz	-14.21	-15.40	-13.80	0.15	Pass

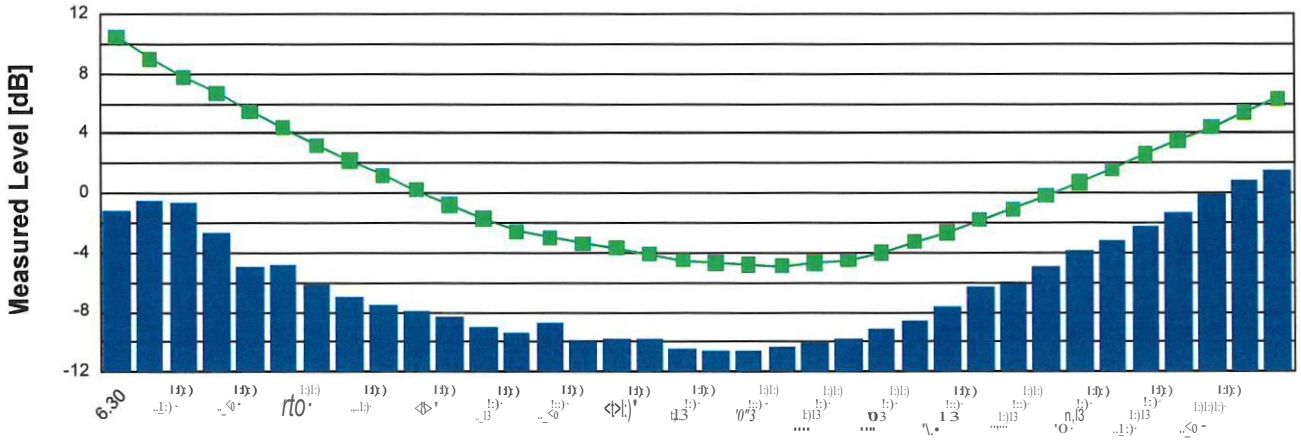
--End of measurement results--

DC Bias Measurement

Measurement	Test Result [V]	Lower limit [V)	Upper limit [V)	Expanded Uncertainty (V)	Result
DC Voltage	3.54	2.90	3.80	0.02	Pass

--End of measurement results--

1/3-0ctave Self-Generated Noise



Frequency [Hz)	Test Result [dB re 1 J1VJ	Upper limit [dB re 1 J1V1	Result
6.30	-1.18	10.50	Pass
8.00	-0.48	9.00	Pass
10.00	-0.68	7.80	Pass
12.50	-2.68	6.70	Pass
16.00	-4.98	5.50	Pass
20.00	-4.88	4.40	Pass
25.00	-6.18	3.20	Pass
31.50	-6.98	2.20	Pass
40.00	-7.58	1.20	Pass
50.00	-7.98	0.20	Pass
63.00	-8.28	-0.80	Pass
80.00	-8.98	-1.70	Pass
100.00	-9.38	-2.60	Pass
125.00	-8.78	-3.00	Pass
160.00	-9.98	-3.40	Pass
200.00	-9.78	-3.70	Pass
250.00	-9.78	-4.10	Pass
315.00	-10.48	-4.50	Pass
400.00	-10.58	-4.70	Pass
500.00	-10.68	-4.80	Pass
630.00	-10.38	-4.90	Pass
800.00	-10.08	-4.70	Pass
1,000.00	-9.78	-4.50	Pass
1,250.00	-9.18	-4.00	Pass
1,600.00	-8.58	-3.30	Pass
2,000.00	-7.68	-2.70	Pass
2,500.00	-6.28	-1.80	Pass
3,150.00	-5.98	-1.10	Pass
4,000.00	-4.98	-0.20	Pass
5,000.00	-3.88	0.70	Pass
6,300.00	-3.18	1.60	Pass
8,000.00	-2.28	2.60	Pass
10,000.00	-1.28	3.50	Pass
12,500.00	-0.18	4.40	Pass
16,000.00	0.82	5.40	Pass
20,000.00	1.52	6.30	Pass

-- **End** of measurement results--

Self-generated Noise

Bandwidth	Test Result [JlV)	Test Result [dB reI JlVJ	Upper limit)dB re 1 J1V]	Result
A-weighted (1 Hz - 20 kHz)	2.12	6.52	9.50	Pass
Broadband (1 Hz - 20 kHz)	3.03	9.62	13.50	Pass

-- End of measurement results--

Signatory: R""""-' Harrw

eLARSONDAVIS

Calibration Certificate

Certificate Number 2018007874

Customer:

Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2	*Procedure Number*	D0001.8384
Serial Number	0002230	*Technician*	Ron Harris
Test Results	Pass	*Calibration Date*	3 Aug 2018
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019
Description	SoundTrack LxT Class 2 Class 2 Sound Level Meter Firmware Revision: 2.302	*Temperature*	23.55 °C ± 0.25 °C
		Humidity	48.1 %RH ± 2.0 %RH
		Static Pressure	86.44 kPa ± 0.13 kPa

Evaluation Method — *Tested with:*

Larson Davis PRMLxT2. S/N 013562
PCB 375A02. S/N 010193
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Data reported in dB re 20 µPa.

Compliance Standards

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI S1.25 (R2007)
IEC 61672:2013 Class 2	ANSI S1.43 (R2007) Type 2

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

The quality system is registered to ISO 9001:2008.

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

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

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, l770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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

ACCREDITED Cert. #3622.01

GLARSONDAVIS
A PCB PIEZOTRONICS DIV.

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

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

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

No Pattern approvalfor IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013/ AN81/A8A 81.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013/ ANSI/A8A S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 2 specifications in IEC 61672-1:2013 / AN81/A8A 81.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013/ ANSI/A8A 81.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013/ AN81/A8A 81.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2017-09-19	2018-09-19	001250
SRS DS360 Ultra Low Distortion Generator	2018-06-21	2019-06-21	006311
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
Larson Davis CAL200 Acoustic Calibrator	2018-07-24	2019-07-24	007027
Larson Davis Model 831	2018-02-28	2019-02-28	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2018-03-07	2019-03-07	007185

Acoustic Calibration

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

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

As Received Level: 116.03
Adjusted Level: 114.00

--End of measurement results--

Acoustic Signal Tests, C-weighting

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

Frequency [Bzj	Test Result [dB]	Expected [dBJ	Lower Limit [dB)	Upper Limit [dB)	Expanded Uncertainty [dB]	Result
125	-0.67	-0.20	-1.70	1.30	0.23	Pass
1000	0.21	0.00	-1.00	1.00	0.23	Pass
8000	-5.74	-3.00	-8.00	2.00	0.32	Pass

--End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI 81.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	39.99

--End of measurement results--

-- End of Report--

Signatory: R0'11t; Harri¥

Calibration Certificate

Certificate Number 2018007860

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386		
Serial Number	6755	*Technician*	Scott Montgomery		
Test Results	Pass	*Calibration Date*	3 Aug 2018		
Initial Condition	Adjusted	*Calibration Due*	3 Aug 2019		
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	24	0C	± 0.3 °C
		Humidity	40	%RH	±3 %RH
		Static Pressure	101.3	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 Pa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated In the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO!IEC 17025:2005. Test points marked with a :1: In the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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

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

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilcnt 34401A DMM	09/06/2017	09/06/2018	001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	10/05/2018	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2017	08/08/2018	006507
1/2 inch Microphone - RI- 200V	10/23/2017	10/23/2018	006511
Pressul·c Transducer	10/20/2017	10/20/2018	007204

ACCREDITED Cert. #3622.01

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A PCB PIEZOTI'IONICS OIV.

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.3	114.02	113.80	114.20	0.14	Pass
94	101.3	94.01	93.80	94.20	0.14	Pass

--End of mensurcment results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.3	1,000.14	990.00	1,010.00	0.20	Pass
94	101.3	1,000.16	990.00	1,010.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion+ Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.3	0.39	0.00	2.00	0.25	Pass
94	101.3	0.42	0.00	2.00	0.25	Pass

--End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

			it 3]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04 +	Pass
101.3	101.5	0.00	-0.30	0.30	0.04 +	Pass
92.0	92.0	0.02	-0,30	0.30	0.04 +	Pass
83.0	83.1	0.01	-0.30	0.30	0.04j:	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04j:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 +	Pass

--End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00	0.20 ‡	Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20 +	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20j:	Pass

--End of measurement results--

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

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716-684-0001

Total Harmonic Distortion+ Noise (THD+N) Over Pressure

Tested at: 114 dB, 23 •c, 41 %RH

			Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25=1:	Pass
101.3	101.5	0.39	0.00	2.00	0.25=1:	Pass
92.0	92.0	0.40	0.00	2.00	0.25=1:	Pass
83.0	83.1	0.42	0.00	2.00	0.25 +	Pass
74.0	74.2	0.45	0.00	2.00	0.25 +	Pass
65.0	65.0	0.48	0.00	2.00	0.25 +	Pass

--End of measurement results--

Signatory: *_Sc&:ft:.LM:vl£, 'tll'[# 'WM","/j'f)'_* -

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Provo, UT 8460 I, United States

A PCB

DOOOI.8410

8/3/2018

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Initial Assessment

Certificate Number 2018007859

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, N.J 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386		
Serial*Number*	6755	*Technician*	Scott Montgomery		
Test Results	Pass	*Calibration Date*	3 Aug 2018		
Initial Condition	As Received	*Ca/lbration Due*	3 Aug 2019		
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	23	0C	± 0.3 0C
		Humidity	36	%RH	±3 %RH
		Static Pressure	101.2	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 Pa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otheiWise noted). It has been calibrated using measurement standards traceable to the 81 through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a+ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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

The uncertainties were computed in accordance with the 180 Guide to the Expression of Uncertainty in Measurement {GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM			001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	10/05/2018	006506
Larson Davis 1/2" Preamplifier ?wpin LEMO	08/08/2017	08/08/2018	006507
1/2 inch Microphone ▾ *RI* ▾ 200V	10123/2017	10/23/2018	006511
Pressure Transducer	10/20/2017	10/20/2018	007204

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.1	113.95	113.80	114.20	0.14	Pass
94	101.2	93.95	93.80	94.20	0.14	Pass

--End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.1	1,000.15	990.00	1,010.00	0.20	Pass
94	101.2	1,000.17	990.00	1.010.00	0.20	Pass

--End of measurement results--

Total Harmonic Distortion+ Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.1	0.39	0.00	2.00	0.25	Pass
94	101.2	0.43	0.00	2.00	0.25	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressur [kPa]			Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04j:	Pass
101.3	101.5	0.00	-0.30	0.30	0.04j:	Pass
92.0	92.0	0.02	-0.30	0.30	0.04j:	Pass
83.0	83.1	0.01	-0.30	0.30	0.04 ┼	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04:1:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 ┼	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00		Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20j:	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20 ┼	Pass

--End of measurement results--

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Provo, UT 84601, United States

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Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 23 'C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25 ±	Pass
101.3	101.5		0.00	2.00		Pass
92.0	92.0	0.40	0.00	2.00		Pass
83.0	83.1	0.42	0.00	2.00		Pass
74.0	74.2	0.45	0.00	2.00		Pass
65.0	65.0	0.48	0.00	2.00		Pass

-- End of measurement results--

Signatory: *Scott Montgomery*

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, Uniled States

Calibration Certificate

Certificate Number 2018007856

Customer:

Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2	*Procedure Number*	D0001.8378		
Serial Number	0002230	*Technician*	Ron Harris		
Test Results	**Pass**	*Calibration Date*	3 Aug 2018		
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019		
Description	SoundTrack LxT Class 2 Class 2 Sound Level Meter Firmware Revision: 2.302	*Temperature*	23.75	°C	± o.2s °C
		Humidity	51	%RH	± 2.0 %RH
		Static Pressure	86.45	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT2 S/N 013562 and an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 JJPa assuming a microphone sensitivity of 23.6 mV/P.

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI 81.25 (R2007)
IEC 61672:2013 Class 2	ANSI 81.43 (R2007) Type 2

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

The quality system is registered to ISO 9001:2008.

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

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

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, 1770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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

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

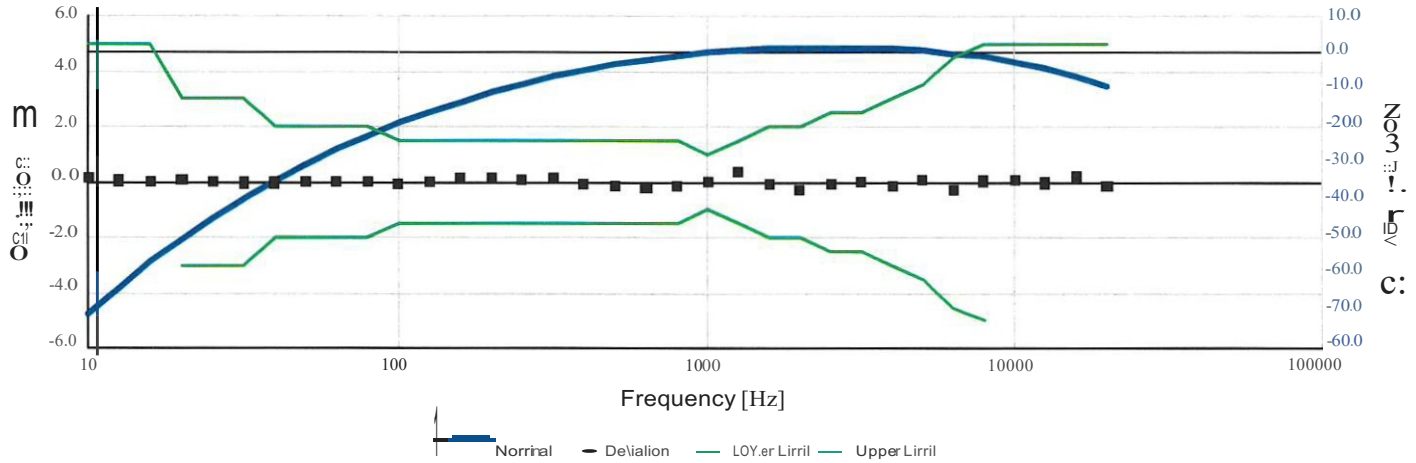
No Pattern approval for IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound levelmeter fully conformed to the class 2 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
SRS DS360 Ultra Low Distortion Generator	2018-06-28	2019-06-28	0071 18

A-weight Filter Response



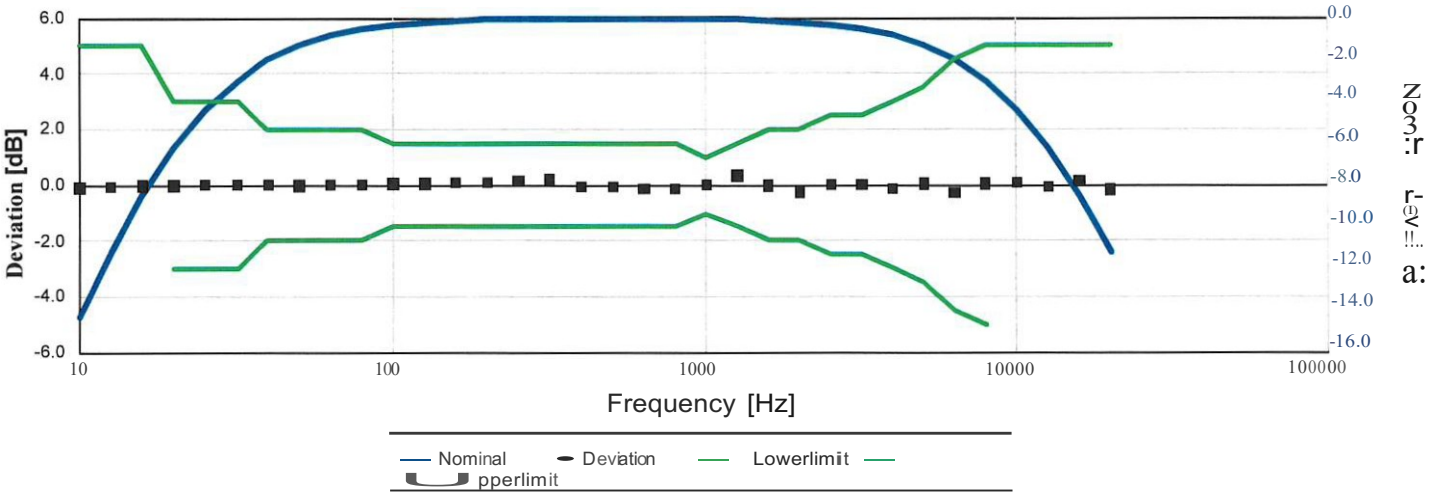
Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSIS1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSIS1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dB]	Result
10.00	-70.27	0.13	-inf	5.00	0.22	Pass
12.59	-63.35	0.05	-inf	5.00	0.22	Pass
15.85	-56.68	0.02	-inf	5.00	0.22	Pass
19.95	-50.43	0.07	-3.00	3.00	0.22	Pass
25.12	-44.70	0.00	-3.00	3.00	0.22	Pass
31.62	-39.43	-0.03	-3.00	3.00	0.22	Pass
39.81	-34.63	-0.03	-2.00	2.00	0.22	Pass
50.12	-30.20	0.00	-2.00	2.00	0.22	Pass
63.10	-26.17	0.03	-2.00	2.00	0.22	Pass
79.43	-22.46	0.04	-2.00	2.00	0.22	Pass
100.00	-19.14	-0.04	-1.50	1.50	0.22	Pass
125.89	-16.08	0.02	-1.50	1.50	0.22	Pass
158.49	-13.27	0.13	-1.50	1.50	0.22	Pass
199.53	-10.76	0.14	-1.50	1.50	0.22	Pass
251.19	-8.49	0.11	-1.50	1.50	0.22	Pass
316.23	-6.43	0.17	-1.50	1.50	0.22	Pass
398.11	-4.88	-0.08	-1.50	1.50	0.22	Pass
501.19	-3.31	-0.11	-1.50	1.50	0.22	Pass
630.96	-2.08	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.96	-0.16	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.95	0.35	-1.50	1.50	0.22	Pass
1,584.89	0.94	-0.06	-2.00	2.00	0.22	Pass
1,995.26	0.92	-0.28	-2.00	2.00	0.22	Pass
2,511.89	1.25	-0.05	-2.50	2.50	0.22	Pass
3,162.28	1.23	0.03	-2.50	2.50	0.22	Pass
3,981.07	0.83	-0.17	-3.00	3.00	0.22	Pass
5,011.87	0.59	0.09	-3.50	3.50	0.22	Pass
6,309.57	-0.41	-0.31	-4.50	4.50	0.22	Pass
7,943.28	-1.06	0.04	-5.00	5.00	0.22	Pass
10,000.00	-2.42	0.08	-inf	5.00	0.22	Pass
12,589.25	-4.33	-0.03	-inf	5.00	0.22	Pass
15,848.93	-6.41	0.19	-inf	5.00	0.22	Pass
19,952.62	-9.44	-0.14	-inf	5.00	0.22	Pass

-- End of measurement results--

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-000

C-weight Filter Response

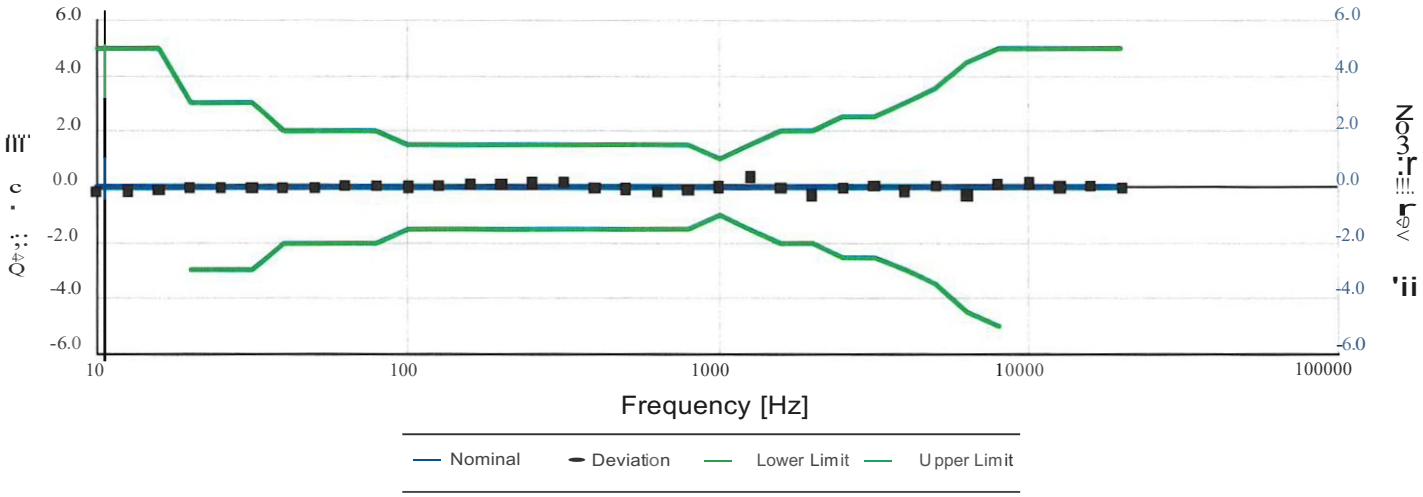


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
10.00	-14.39	-0.09	-inf	5.00	0.22	Pass
12.59	-11.27	-0.07	-inf	5.00	0.22	Pass
15.85	-8.53	-0.03	-inf	5.00	0.22	Pass
19.95	-6.22	-0.02	-3.00	3.00	0.22	Pass
25.12	-4.40	0.00	-3.00	3.00	0.22	Pass
31.62	-3.01	-0.01	-3.00	3.00	0.22	Pass
39.81	-1.99	0.01	-2.00	2.00	0.22	Pass
50.12	-1.33	-0.03	-2.00	2.00	0.22	Pass
63.10	-0.80	0.00	-2.00	2.00	0.22	Pass
79.43	-0.46	0.04	-2.00	2.00	0.22	Pass
100.00	-0.25	0.05	-1.50	1.50	0.22	Pass
125.89	-0.15	0.05	-1.50	1.50	0.22	Pass
158.49	0.00	0.10	-1.50	1.50	0.22	Pass
199.53	0.09	0.09	-1.50	1.50	0.22	Pass
251.19	0.13	0.13	-1.50	1.50	0.22	Pass
316.23	0.20	0.20	-1.50	1.50	0.22	Pass
398.11	-0.04	-0.05	-1.50	1.50	0.22	Pass
501.19	-0.04	-0.04	-1.50	1.50	0.22	Pass
630.96	-0.15	-0.15	-1.50	1.50	0.22	Pass
794.33	-0.11	-0.11	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.33	0.33	-1.50	1.50	0.22	Pass
1,584.89	-0.12	-0.02	-2.00	2.00	0.22	Pass
1,995.26	-0.45	-0.25	-2.00	2.00	0.22	Pass
2,511.89	-0.31	-0.01	-2.50	2.50	0.22	Pass
3,162.28	-0.47	0.03	-2.50	2.50	0.22	Pass
3,981.07	-0.95	-0.15	-3.00	3.00	0.22	Pass
5,011.87	-1.24	0.06	-3.50	3.50	0.22	Pass
6,309.57	-2.28	-0.28	-4.50	4.50	0.22	Pass
7,943.28	-2.95	0.05	-5.00	5.00	0.22	Pass
10,000.00	-4.33	0.07	-inf	5.00	0.22	Pass
12,589.25	-6.24	-0.04	-inf	5.00	0.22	Pass
15,848.93	-8.34	0.16	-inf	5.00	0.22	Pass
19,952.62	-11.37	-0.17	-inf	5.00	0.22	Pass

-- End of measurement results--

Z-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1:5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-0.18	-0.18	-inf	5.00	0.22	Pass
12.59	-0.16	-0.16	-inf	5.00	0.22	Pass
15.85	-0.09	-0.09	-inf	5.00	0.22	Pass
19.95	-0.06	-0.06	-3.00	3.00	0.22	Pass
25.12	-0.06	-0.06	-3.00	3.00	0.22	Pass
31.62	-0.05	-0.05	-3.00	3.00	0.22	Pass
39.81	-0.03	-0.03	-2.00	2.00	0.22	Pass
50.12	-0.04	-0.04	-2.00	2.00	0.22	Pass
63.10	0.01	0.01	-2.00	2.00	0.22	Pass
79.43	0.03	0.03	-2.00	2.00	0.22	Pass
100.00	0.00	0.00	-1.50	1.50	0.22	Pass
125.89	0.01	0.01	-1.50	1.50	0.22	Pass
158.49	0.08	0.08	-1.50	1.50	0.22	Pass
199.53	0.11	0.11	-1.50	1.50	0.22	Pass
251.19	0.14	0.14	-1.50	1.50	0.22	Pass
316.23	0.18	0.18	-1.50	1.50	0.22	Pass
398.11	-0.07	-0.07	-1.50	1.50	0.22	Pass
501.19	-0.08	-0.08	-1.50	1.50	0.22	Pass
630.96	-0.18	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.13	-0.13	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.36	0.36	-1.50	1.50	0.22	Pass
1,584.89	-0.04	-0.04	-2.00	2.00	0.22	Pass
1,995.26	-0.29	-0.29	-2.00	2.00	0.22	Pass
2,511.89	-0.03	-0.03	-2.50	2.50	0.22	Pass
3,162.28	0.02	0.02	-2.50	2.50	0.22	Pass
3,981.07	-0.15	-0.15	-3.00	3.00	0.22	Pass
5,011.87	0.03	0.03	-3.50	3.50	0.22	Pass
6,309.57	-0.29	-0.29	-4.50	4.50	0.22	Pass
7,943.28	0.08	0.08	-5.00	5.00	0.22	Pass
10,000.00	0.13	0.13	-inf	5.00	0.22	Pass
12,589.25	0.00	0.00	-inf	5.00	0.22	Pass
15,848.93	0.05	0.05	-inf	5.00	0.22	Pass
19,952.62	-0.04	-0.04	-inf	5.00	0.22	Pass

--End of measurement results--

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High Level Stability

Electrical signal test of high level stability performed according to IEC 61672-3:2013 21 and ANSI S1.4-2014 Part 3: 21 for compliance to IEC 61672-1:2013 5.15 and ANSI S1.4-2014 Part 1: 5.15

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit (dB(	Expanded Uncertainty (dB]	Result
High Level Stability	0.00	-0.30	0.30	0.01	Pass

-- End of measurement results--

Long-Term Stability

Electrical signal test of long term stability performed according to IEC 61672-3:2013 15 and ANSI S1.4-2014 Part 3: 15 for compliance to ISC 61672-1:2013 5.14 and ANSI S1.4-2014 Part 1:5.14

Test Duration [minj	Test Result (dB(	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dBJ	Result
36	0.00	-0.30	0.30	0.07	Pass

-- End of measurement results--

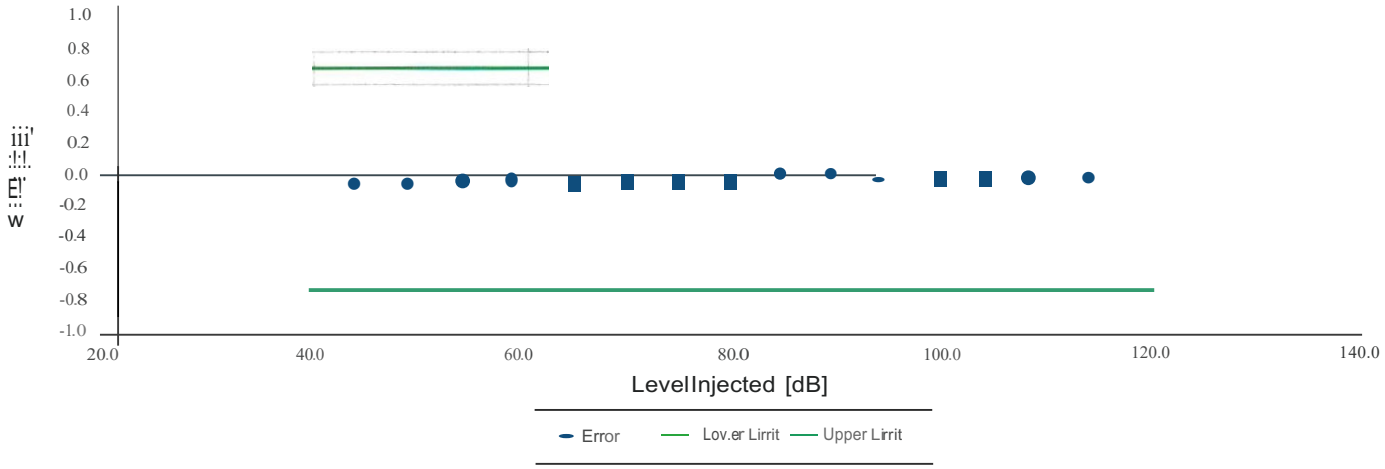
1 kHz Reference Levels

Frequency weightings and time weightings at 1 kHz (reference is A weighted Fast) performed according to IEC 61672-3:2013 14 and ANSI S1.4-2014 Part 3: 14 for compliance to IEC 61672-1:2013 5.5.9 and 5.8.3 and ANSI S1.4-2014 Part 1: 5.5.9 and 5.8.3

Measuremen t	Test Result [dB]	Lower limit [dB(	Upper limit (dBJ	Expanded Uncertainty [dB]	Result
C weight	105.80	105.60	106.00	0.09	Pass
Z weight	105.80	105.60	106.00	0.09	Pass
Slow	105.80	105.70	105.90	0.09	Pass
Impulse	105.80	105.70	105.90	0.09	Pass

-- End of measurement results--

A-weighted Broadband Log Linearity: 8,000.00 Hz

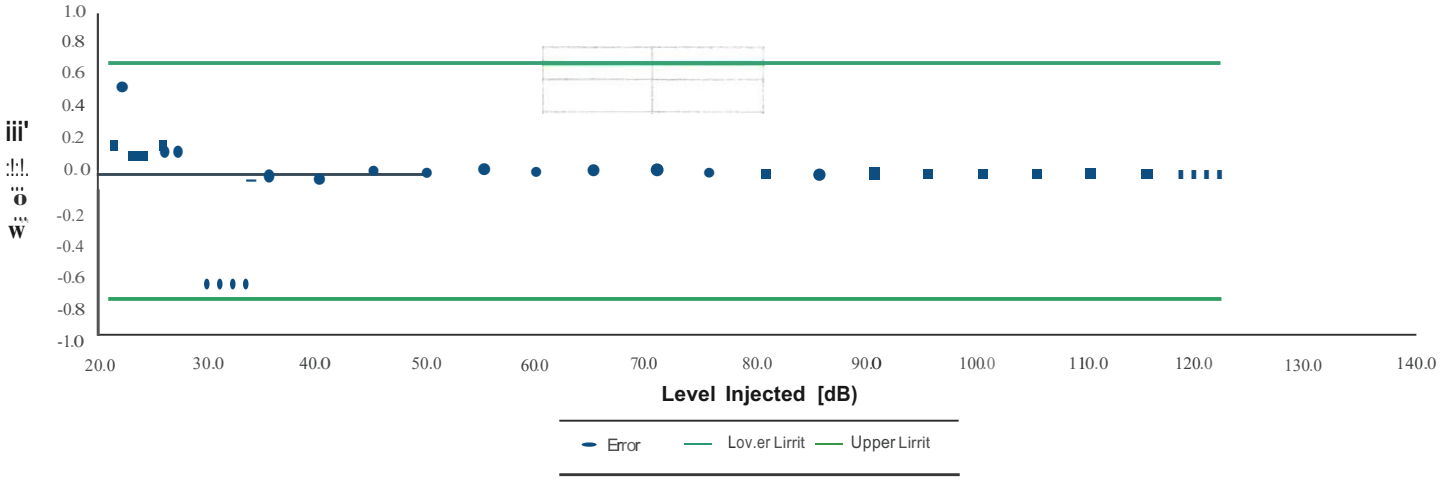


Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dBI	Error [dBJ	Lower limit [dBI	Upper limit JdB]	Expanded Uncertainty [dB)	Result
33.00	0.00	-0.70	0.70	0.09	Pass
34.00	-0.04	-0.70	0.70	0.09	Pass
39.00	-0.05	-0.70	0.70	0.09	Pass
44.00	-0.04	-0.70	0.70	0.09	Pass
49.00	-0.04	-0.70	0.70	0.09	Pass
54.00	-0.04	-0.70	0.70	0.09	Pass
59.00	-0.05	-0.70	0.70	0.09	Pass
64.00	-0.05	-0.70	0.70	0.09	Pass
69.00	-0.05	-0.70	0.70	0.09	Pass
74.00	-0.04	-0.70	0.70	0.09	Pass
79.00	-0.05	-0.70	0.70	0.09	Pass
84.00	0.01	-0.70	0.70	0.09	Pass
89.00	0.02	-0.70	0.70	0.09	Pass
94.00	0.00	-0.70	0.70	0.09	Pass
99.00	-0.01	-0.70	0.70	0.09	Pass
104.00	-0.01	-0.70	0.70	0.09	Pass
109.00	-0.01	-0.70	0.70	0.09	Pass
114.00	0.00	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.01	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass
122.00	-0.01	-0.70	0.70	0.09	Pass

-- End of measurement results--

1/1 Octave Log Linearity: 1,000.00 Hz



1/1 octave level linearity at normal range performed according to IEC 61260:2001 4.6, ANSI S.11 (R2009) 4.6

Level(dB)	Error (dB)	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty [dB)	Result
21.00	0.20	-0.70	0.70	0.09	Pass
22.00	0.53	-0.70	0.70	0.09	Pass
23.00	0.21	-0.70	0.70	0.09	Pass
24.00	0.22	-0.70	0.70	0.09	Pass
25.00	0.26	-0.70	0.70	0.09	Pass
26.00	0.12	-0.70	0.70	0.09	Pass
27.00	0.12	-0.70	0.70	0.09	Pass
28.00	0.00	-0.70	0.70	0.09	Pass
29.00	0.00	-0.70	0.70	0.10	Pass
30.00	0.10	-0.70	0.70	0.10	Pass
31.00	0.07	-0.70	0.70	0.09	Pass
32.00	0.07	-0.70	0.70	0.10	Pass
33.00	0.01	-0.70	0.70	0.09	Pass
34.00	0.02	-0.70	0.70	0.09	Pass
35.00	-0.04	-0.70	0.70	0.09	Pass
40.00	-0.01	-0.70	0.70	0.09	Pass
45.00	0.02	-0.70	0.70	0.09	Pass
50.00	0.05	-0.70	0.70	0.09	Pass
55.00	0.01	-0.70	0.70	0.09	Pass
60.00	0.02	-0.70	0.70	0.09	Pass
65.00	0.01	-0.70	0.70	0.09	Pass
70.00	0.00	-0.70	0.70	0.09	Pass
75.00	0.01	-0.70	0.70	0.09	Pass
80.00	0.01	-0.70	0.70	0.09	Pass
85.00	0.01	-0.70	0.70	0.09	Pass
90.00	0.01	-0.70	0.70	0.09	Pass
95.00	-0.01	-0.70	0.70	0.09	Pass
100.00	-0.01	-0.70	0.70	0.09	Pass
105.00	-0.01	-0.70	0.70	0.09	Pass
110.00	-0.02	-0.70	0.70	0.09	Pass
115.00	-0.01	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.02	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass

Level[dBI	Error [dB]	Lower limit [dB[	Upper limit [dBJ	Expanded Uncertainty [dB]	Result
122.00	-0.01	-0.70	0.70	0.09	Pass

-- End of measurement results--

Slow Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB	Upper limit [dB[	Expanded Uncertainty [dB]	Result
136.00	200	-7.53	-8.42	-6.42	0.09	Pass
	2	-27.14	-31.99	-25.99	0.09	Pass

--End of measurement results--

Fast Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB[	Duration [msJ	Test Result [dB]	Lower limit [dBJ	Upper limit [dB]	Expanded Uncertainty [dB]	Result
136.00	200.00	-1.06	-1.98	0.02	0.23	Pass
	2.00	-18.44	-20.49	-16.99	0.09	Pass
	0.25	-27.22	-31.99	-25.49	0.09	Pass

-- End of measurement results--

Sound Exposure Level

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB[	Duration [ms]	Test Result [dBJ	Lower limit [dB]	Upper limit [dBJ	Expanded Uncertainty [dBJ	Result
136.00	200.00	-7.01	-7.99	-5.99	0.09	Pass
	2.00	-27.03	-29.49	-25.99	0.09	Pass
	0.25	-36.14	-41.02	-34.52	0.09	Pass

--End of measurement results--

Peak C-weight

C-weighted peak sound level performed according to IEC 61672-3:2013 19 and ANSI S1.4-2014 Part 3: 19 for compliance to IEC 61672-1:2013 5.13 and ANSI S1.4-2014 Part 1: 5.13

Level [dBJ	Frequency [Hz[	Test Result [dB)	Lower limit [dB[	Upper limit [dB)	Expanded Uncertainty [dBJ	Result
134.00	31.50	137.18	133.50	139.50	0.09	Pass
134.00	500.00	137.56	135.50	139.50	0.09	Pass
134.00	8,000.00	136.73	134.40	140.40	0.10	Pass
134.00, Negative	500.00	136.18	134.40	138.40	0.09	Pass
134.00, Positive	500.00	136.18	134.40	138.40	0.09	Pass

--End of measurement results--

Peak Z-weight

Z-weighted peak sound level performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration(JIS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB(	Result
135.20	100	Negative Pulse	127.34	125.00	129.00	0.09	Pass
	100	Positive Pulse	127.34	125.00	129.00	0.09	Pass
125.20	100	Negative Pulse	117.34	115.00	119.00	0.09	Pass
	100	Positive Pulse	117.33	115.01	119.01	0.09	Pass
115.20	100	Negative Pulse	107.33	104.99	108.99	0.09	Pass
	100	Positive Pulse	107.34	104.99	108.99	0.09	Pass
105.20	100	Negative Pulse	97.37	95.03	99.03	0.09	Pass
	100	Positive Pulse	97.36	95.04	99.04	0.09	Pass

-- End of measurement results--

Overload Detector

Overload indication performed according to IEC 61672-3:2013 20 and ANSIS1.4-2014 Part 3: 20 for compliance to IEC 61672-1:2013 5.11, IEC 60804:2000 9.3.5, IEC 61252:2002 11, ANSI S1.4 (R2006) 5.8, and ANSI S1.4-2014 Part 1: 5.11, ANSI S1.25 (R2007) 7.6, ANSIS1.43 (R2007) 7

Measurement	Test Result (dB]	Lower limit [dB)	Upper limit [dB]	Expanded Uncertainty (dB]	Result
Positive	131.30	130.80	132.80	0.09	Pass
Negative	131.20	130.80	132.80	0.09	Pass
Difference	0.10	-1.50	1.50	0.09	Pass

-- End of measurement results--

Peak Rise Time

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSIS1.4:1983 (R2006) 8.4.4

Amplitude (dB]	Duration [JIS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB]	Result
139.00	40	Negative Pulse	130.28	128.80	130.80	0.09	Pass
		Positive Pulse	130.28	128.80	130.80	0.09	Pass
	30	Negative Pulse	129.31	128.80	130.80	0.09	Pass
		Positive Pulse	129.34	128.80	130.80	0.09	Pass

--End of measurement results--

Positive Pulse Crest Factor

200 IJS pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB)	Crest Factor	Test Result]dB)	Limits [dB]	Expanded Uncertainty [dB)	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.12	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.11	Pass
117.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass

-- End of measurement results--

Negative Pulse Crest Factor

200 s pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB[	Crest Factor	Test Result [dB[	Limits [dB[	Expanded Uncertainty [dB[	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.11	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass
117.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.13	± 1.00	0.09	Pass

-- End of measurement results-

Tone Burst

2kHz tone burst tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Tone burst response measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB)	Limits [dB[	Expanded Uncertainty [dB]	Result
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.05	± 1.00	0.09	Pass
	5	-0.04	± 1.00	0.09	Pass
117.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.03	± 1.00	0.09	Pass
107.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.02	± 1.00	0.09	Pass

-- End of measurement results--

Impulse Detector- Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repitition Rate [Hz)	Test Result [dB]	Lower limit [dB[	Upper limit [dB]	Expanded Uncertainty [dB]	Result
139	100.00	-2.81	-4.71	-0.71	0.09	Pass
	20.00	-7.61	-9.57	-5.57	0.16	Pass
	2.00	-8.82	-11.76	-5.76	0.09	Pass
Step	2.00	4.97	4.00	6.00	0.09	Pass

– End of measurement results–

Impulse Detector- Single

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB)	Duration [ms]	Test Result [dB]	Lower limit [dBJ	Upper limit [dB)	Expanded Uncertainty dBl	Result
139	20.00	-3.72	-5.61	-1.61	0.09	Pass
	5.00	-8.92	-11.76	-5.76	(.10	Pass
Step	5.00	5.05	4.00	6.00	0.10	Pass

-- End of measurement results--

Gain

Gain measured according to IEC 61672-3:2013 17.3 and 17.4 and ANSI S1.4-2014 Part 3: 17.3 and 17.4

Measurement	Test Result [dB]	Lower limit (dB]	Upper limit (dB)	Expanded Uncertainty (dBJ	Result
0 dB Gain	104.02	103.90	104.10	0.09	Pass
0 dB Gain, Linearity	41.07	40.30	41.70	0.09	Pass
OBA Low Range	104.00	103.90	104.10	0.09	Pass
OBA Normal Range	104.00	103.20	104.80	0.09	Pass

-- End of measurement results--

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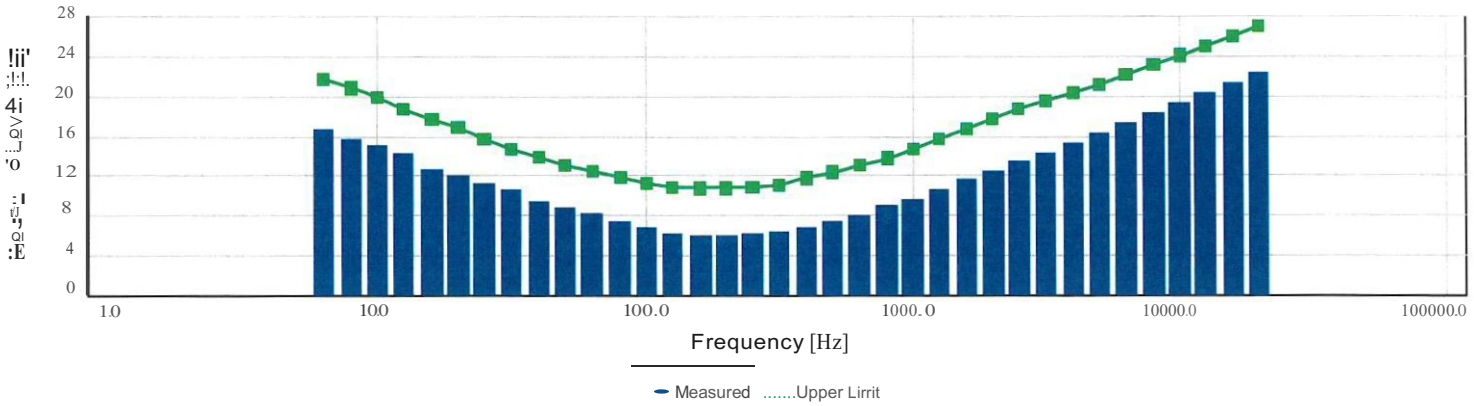
1/3-0ctave Self-Generated Noise



Th ɜ SLM is set to low range.

Frequency (Hz)	Test Result (dB]	Upper limit (dB)	Result
6.30	16.72	21.80	Pass
8.00	15.67	20.90	Pass
10.00	15.07	20.00	Pass
12.50	14.29	18.80	Pass
16.00	12.68	17.80	Pass
20.00	12.09	16.90	Pass
25.00	11.24	15.70	Pass
31.50	10.63	14.80	Pass
40.00	9.54	13.90	Pass
50.00	8.84	13.10	Pass
63.00	8.16	12.50	Pass
80.00	7.55	11.90	Pass
100.00	6.88	11.30	Pass
125.00	6.31	10.90	Pass
160.00	6.00	10.80	Pass
200.00	6.03	10.80	Pass
250.00	6.26	10.90	Pass
315.00	6.40	11.10	Pass
400.00	6.92	11.80	Pass
500.00	7.44	12.40	Pass
630.00	8.09	13.10	Pass
800.00	8.98	13.80	Pass
1,000.00	9.77	14.80	Pass
1,250.00	10.70	15.70	Pass
1,600.00	11.65	16.70	Pass
2,000.00	12.56	17.70	Pass
2,500.00	13.52	18.70	Pass
3,150.00	14.40	19.50	Pass
4,000.00	15.38	20.30	Pass
5,000.00	16.34	21.20	Pass
6,300.00	17.43	22.20	Pass
8,000.00	18.27	23.20	Pass
10,000.00	19.34	24.10	Pass
12,500.00	20.30	25.10	Pass
16,000.00	21.35	26.10	Pass
20,000.00	22.31	27.10	Pass

-- End of measurement results--

Broadband Noise Floor

Self- enerated noise measured accordin to IEC 61672-3:2013 11.2 and ANSI S1.4-2014 Part 3: 11.2

Measurement	Test Result (dB(	Upper limit (dB]	Result
A-weight Noise Floor	26.83	36.00	Pass
C-weight Noise Floor	26.05	35.00	Pass
Z-weight Noise Floor	33.30	39.00	Pass

-- End of measurement results--

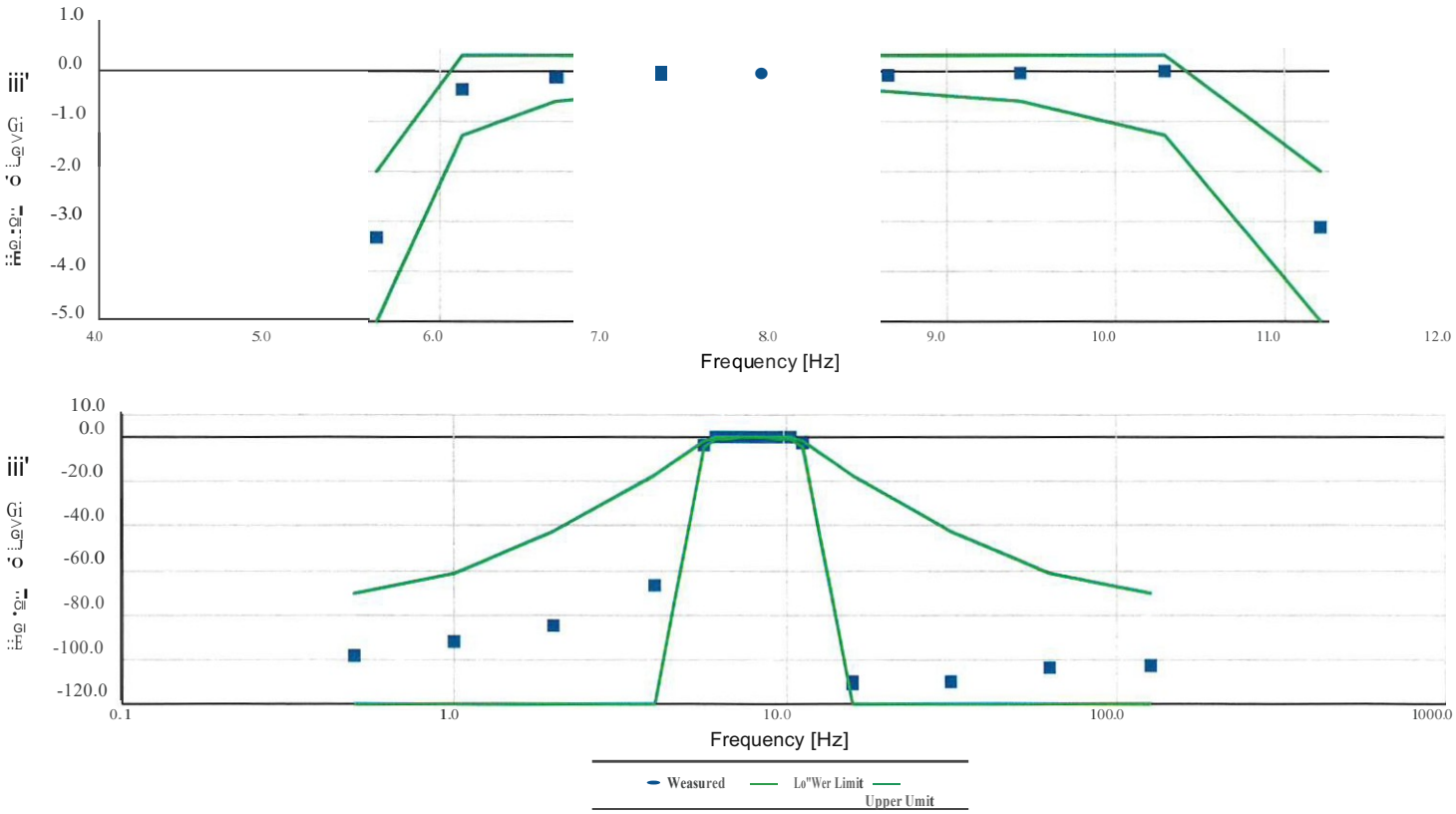
Total Harmonic Distortion

Measured using 1/3-0ctave filters

Measurement	Test Result [dB]	Lower Limit (dB]	Upper Limit (dB]	Expanded Uncertainty (dB]	Result
10 Hz Signal	137.42	136.40	138.00	0.09	Pass
THO	-68.42		-58.00	0.01	Pass
THD+N	-63.87		-58.00	0.01	Pass

-- End of measurement results--

1/1 Octave Filter: 8.0 Hz

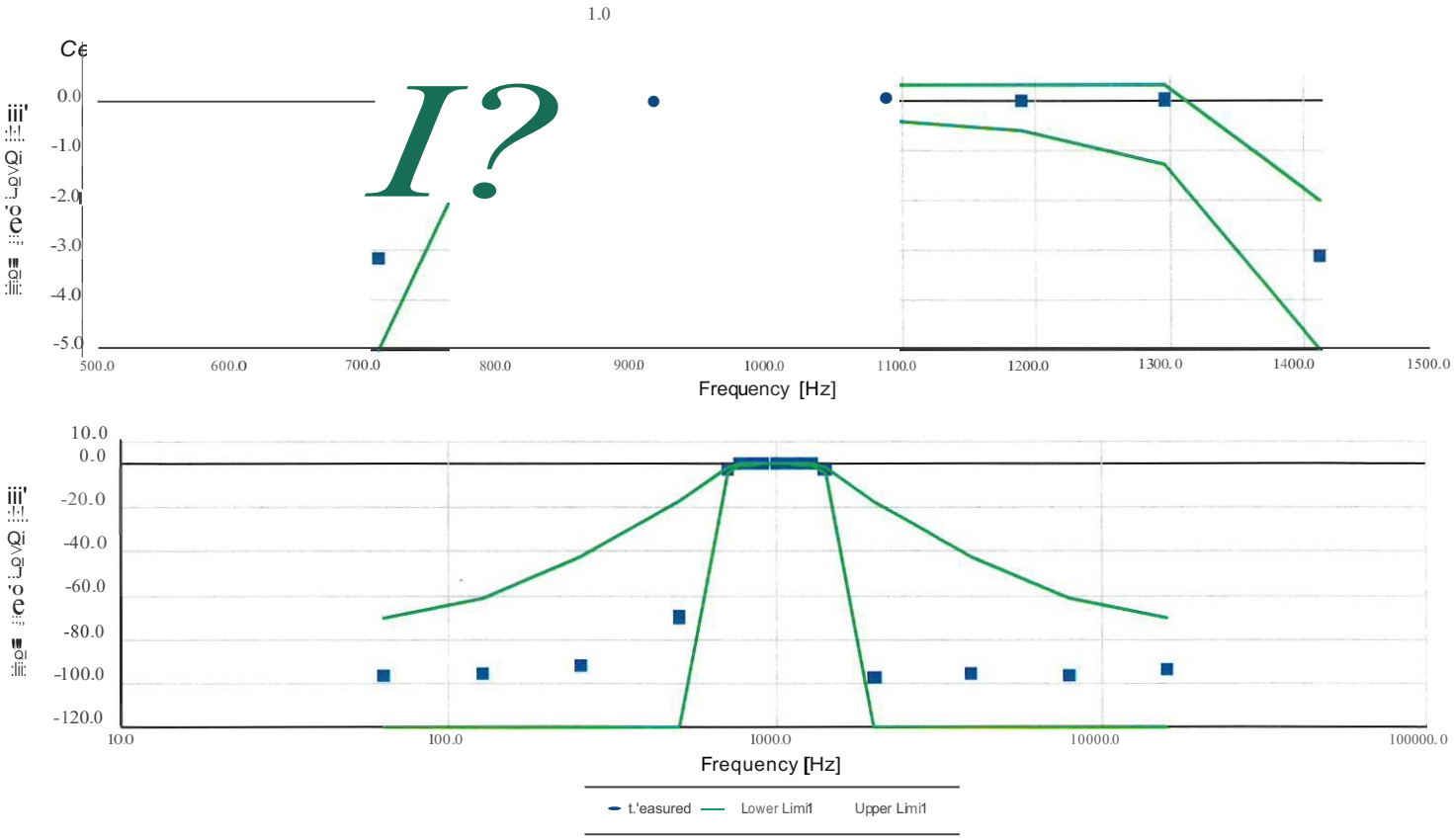


The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSIS1.11:2004

Freq uency IHzl	Test Result [dB]	Lower limit ldBI	Upper limit [dB)	Expanded Uncertainty [dB]	Result
0.50	-98.36	-inf	-70.00	2.70	Pass
1.00	-91.70	-inf	-61.00	2.00	Pass
2.00	-84.24	-inf	-42.00	0.26	Pass
3.98	-66.99	-inf	-17.50	0.31	Pass
5.62	-3.32	-5.00	-2.00	0.09	Pass
6.13	-0.37	-1.30	0.30	0.09	Pass
6.68	-0.13	-0.60	0.30	0.09	Pass
7.29	-0.11	-0.40	0.30	0.09	Pass
7.94	-0.10	-0.30	0.30	0.09	Pass
8.66	-0.08	-0.40	0.30	0.09	Pass
9.44	-0.05	-0.60	0.30	0.09	Pass
10.29	-0.01	-1.30	0.30	0.09	Pass
11.22	-3.10	-5.00	-2.00	0.09	Pass
15.85	-110.26	-inf	-17.50	1.30	Pass
31.62	-109.99	-inf	-42.00	1.70	Pass
63.10	-103.64	-inf	-61.00	1.50	Pass
125.89	-102.78	-inf	-70.00	1.60	Pass

--End of measurement results-

1/1 Octave Filter: 1 kHz

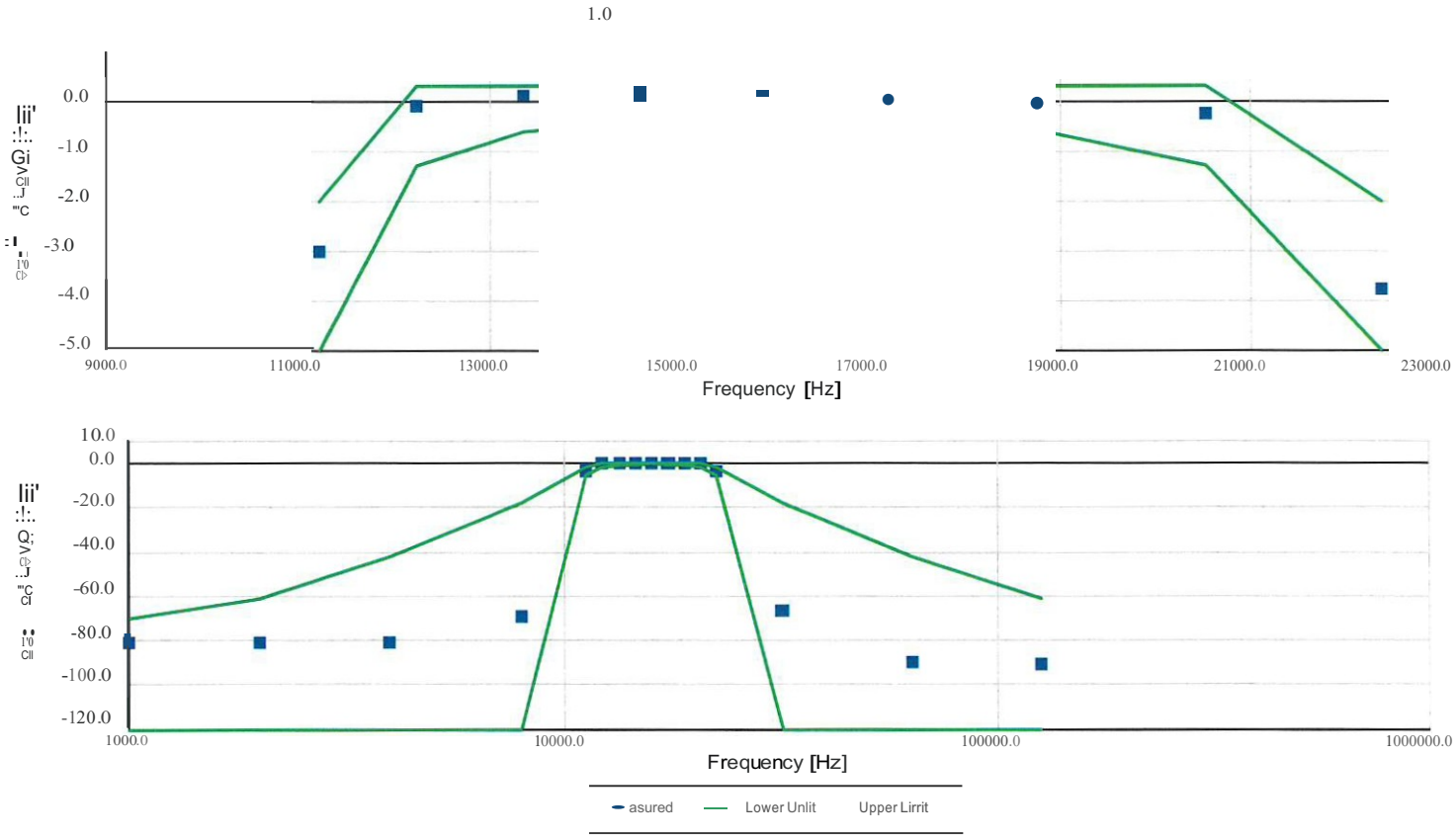


The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty (dB)	Result
63.10	-96.28	-inf	-70.00	0.24	Pass
125.89	-95.48	-inf	-61.00	0.25	Pass
251.19	-92.08	-inf	-42.00	0.13	Pass
501.19	-69.79	-inf	-17.50	0.09	Pass
707.95	-3.15	-5.00	-2.00	0.09	Pass
771.79	-0.22	-1.30	0.30	0.09	Pass
841.40	-0.02	-0.60	0.30	0.09	Pass
917.28	-0.01	-0.40	0.30	0.09	Pass
1,000.00	0.00	-0.30	0.30	0.09	Pass
1,090.18	-0.02	-0.40	0.30	0.09	Pass
1,188.50	-0.02	-0.60	0.30	0.09	Pass
1,295.69	0.00	-1.30	0.30	0.09	Pass
1,412.54	-3.14	-5.00	-2.00	0.09	Pass
1,995.26	-96.82	-inf	-17.50	0.25	Pass
3,981.07	-95.79	-inf	-42.00	0.29	Pass
7,943.28	-96.01	-inf	-61.00	0.23	Pass
15,848.93	-93.42	-inf	-70.00	0.23	Pass

--End of measurement results-

1/1 Octave Filter: 16kHz



The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency fHzJ	Test Result [dB]	Lower limit JdBJ	Upper limit JdBJ	Expanded Uncertainty [dB]	Result
1,000.00	-80.95	-inf	-70.00	0.10	Pass
1,995.26	-80.73	-inf	-61.00	0.11	Pass
3,981.07	-80.59	-inf	-42.00	0.09	Pass
7,943.28	-69.20	-inf	-17.50	0.12	Pass
11,220.18	-3.00	-5.00	-2.00	0.09	Pass
12,232.07	-0.09	-1.30	0.30	0.09	Pass
13,335.21	0.12	-0.60	0.30	0.09	Pass
14,537.84	0.08	-0.40	0.30	0.09	Pass
15,848.93	0.04	-0.30	0.30	0.09	Pass
17,278.26	-0.02	-0.40	0.30	0.09	Pass
18,836.49	-0.13	-0.60	0.30	0.09	Pass
20,535.25	-0.26	-1.30	0.30	0.09	Pass
22,387.21	-3.76	-5.00	-2.00	0.09	Pass
31,622.78	-66.77	-inf	-17.50	0.09	Pass
63,095.73	-89.72	-inf	-42.00	0.10	Pass
125,892.54	-90.58	-inf	-61.00	0.10	Pass

— End of measurement results-

-- End ofReport--

Signatory: *Ha.rri¥*

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