

AMS YONKERS DOWNTOWN DEVELOPMENT – CHICKEN ISLAND, NORTH BROADWAY

YONKERS, NY

PEDESTRIAN WIND STUDY

RWDI # 2102437

September 30, 2021

SUBMITTED TO

Peter Feroe, AICP

Senior Technical Director / Planning

pferoe@akrf.com

AKRF, Inc.

34 South Broadway

Suite 401

White Plains, NY 10601

Main: 914.922.2370

SUBMITTED BY

Sreeyuth Lal, Ph.D.

Technical Coordinator

Sreeyuth.Lal@rwdi.com

Hanqing Wu, Ph.D., P.Eng.

Senior Technical Director / Principal

Hanqing.Wu@rwdi.com

Edyta Chruscinski, P. Eng., PMP, LEED AP

Senior Project Manager / Associate

Edyta.Chruscinski@rwdi.com

RWDI

600 Southgate Drive

Guelph, Ontario, Canada N1G 4P6

T: 519.823.1311



EXECUTIVE SUMMARY

RWDI was retained to conduct a pedestrian wind assessment for the proposed AMS Yonkers Downtown Development – Chicken Island and North Broadway Sites in Yonkers, NY. Based on our wind-tunnel testing for the proposed development under the Existing and Proposed configurations, and the local wind records, the potential wind comfort and safety conditions are predicted as shown on site plans in Figures 1A through 3B, while the associated wind speeds are listed in Table 1. These results can be summarized as follows:

- Existing wind speeds around the two sites, including at sidewalks and parking lots, are comfortable for the intended usage throughout the year.
- The addition of the proposed buildings on the two sites leads to generally higher wind speeds in the vicinity of the proposed buildings while not having a significant impact on wind speeds outside of the sites. Wind speeds continue to remain generally suitable for the intended usage on and around the sites during the summer. During the winter, higher-than-desired wind speeds are anticipated at multiple locations on the two sites.
- Higher-than-desired wind speeds are anticipated at most main entrances of the proposed buildings on both sites either during the winter or throughout the year.
- During the summer, generally calm wind speeds that are suitable for the intended usage are anticipated at the sheltered areas of the terraces on both sites. Higher-than-desired wind speeds are anticipated at all other terrace areas.
- Wind speeds that meet the RWDI Wind Safety Criterion are anticipated at all assessed locations in the Existing configuration. At the grade level, the addition of the proposed development leads to wind speeds that exceed the safety criterion at three locations on the North Broadway site and at one location on the Chicken Island site. However, wind speeds that meet the safety criterion continue to be anticipated at all offsite locations.
- Wind speeds that exceed the safety criterion are anticipated at multiple locations on the terraces of buildings on both sites; however, these exceedances are anticipated to occur primarily during the winter when limited use of these terraces is expected.



TABLE OF CONTENTS

EXECUTIVE SUMMARY

- 1 INTRODUCTION1**
 - 1.1 Project Description 1**
 - 1.2 Objectives 1**
- 2 BACKGROUND AND APPROACH.....2**
 - 2.1 Wind Tunnel Study Model2**
 - 2.2 Meteorological Data6**
 - 2.3 RWDI Pedestrian Wind Criteria.....7**
 - 2.4 Generalized Wind Flows 8**
- 3 RESULTS AND DISCUSSION9**
 - 3.1 Grade Level (Locations 1 through 202).....9**
 - 3.1.1 Existing Configuration 9
 - 3.1.2 Proposed Configuration 9
 - 3.2 Above-Grade Levels (Locations 203 through 261)11**
- 4 APPLICABILITY OF RESULTS13**
- 5 REFERENCES 14**



LIST OF FIGURES

Figure 1A:	Pedestrian Wind Comfort Conditions – Existing – Summer
Figure 1B:	Pedestrian Wind Comfort Conditions – Proposed – Summer
Figure 2A:	Pedestrian Wind Comfort Conditions – Existing – Winter
Figure 2B:	Pedestrian Wind Comfort Conditions – Proposed – Winter
Figure 3A:	Pedestrian Wind Safety Conditions – Existing – Annual
Figure 3B:	Pedestrian Wind Safety Conditions – Proposed – Annual

LIST OF TABLES

Table 1:	Pedestrian Wind Comfort and Safety Conditions
----------	---

1 INTRODUCTION

RWDI was retained to conduct a pedestrian wind assessment for the proposed AMS Yonkers Downtown Development – Chicken Island and North Broadway sites in Yonkers, NY. This report presents the project objectives, approach and the main results from RWDI's assessment and provides conceptual wind control measures, where necessary.

1.1 Project Description

The proposed development will consist of multiple residential, retail and parking buildings spread across the Chicken Island and North Broadway sites (Image 1), the tallest of which is approximately 415 ft above grade.

1.2 Objectives

The objective of the study was to assess the effect of the proposed development on local conditions in pedestrian areas on and around the study site and provide recommendations for minimizing adverse effects, if needed. This quantitative assessment was based on wind speed measurements on a scale model of the project and its surroundings in one of RWDI's boundary-layer wind tunnels. These measurements were combined with the local wind records and compared to appropriate criteria for gauging wind comfort and safety in pedestrian areas. The assessment focused on critical pedestrian areas, including building entrances, public sidewalks and terraces.



Image 1: Aerial View of Site and Surroundings (Photo Courtesy of Google™ Earth)



2 BACKGROUND AND APPROACH

2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed project, a 1:400 scale model of the project site and surroundings was constructed for the wind tunnel tests of the following configurations:

- A - Existing: Existing site with existing surroundings (Image 2A), and,
- B - Proposed: Proposed project with existing surroundings (Image 2B).

The wind tunnel model included all relevant surrounding buildings and topography within an approximately 1600 ft radius of the study site. The wind and turbulence profiles in the atmospheric boundary layer beyond the modeled area were also simulated in RWDI's wind tunnel. The wind tunnel model was instrumented with 245 wind speed sensors to measure mean and gust speeds at a full-scale height of approximately 5 ft above local grade in pedestrian areas throughout the study site. Wind speeds were measured for 36 directions in 10-degree increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model. The placement of wind measurement locations was based on our experience and understanding of the pedestrian usage for this site and reviewed by the design team.

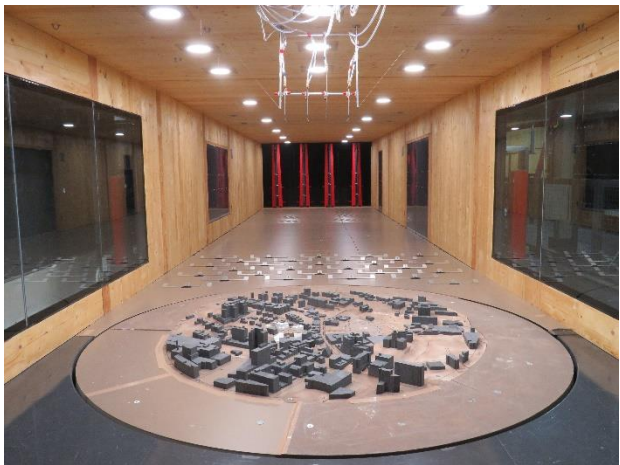


Image 2A: Wind Tunnel Study Model for the Existing Configuration

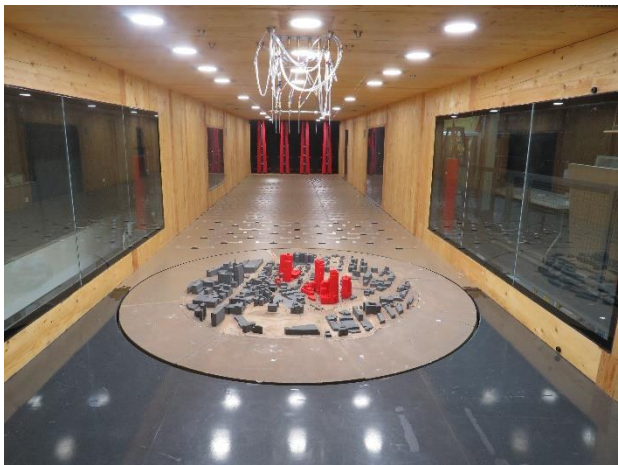
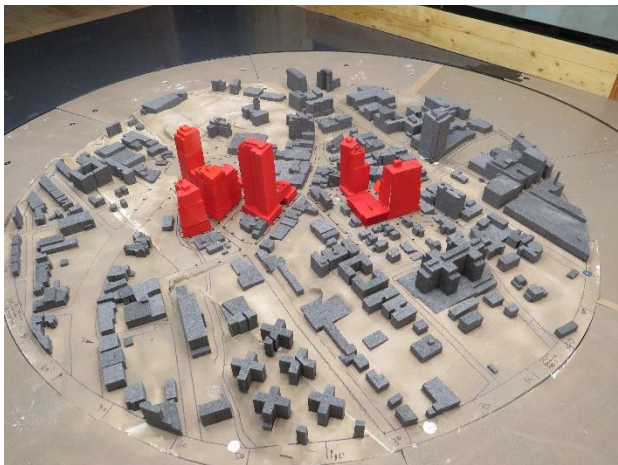


Image 2B: Wind Tunnel Study Model for the Proposed Configuration (continued next page)

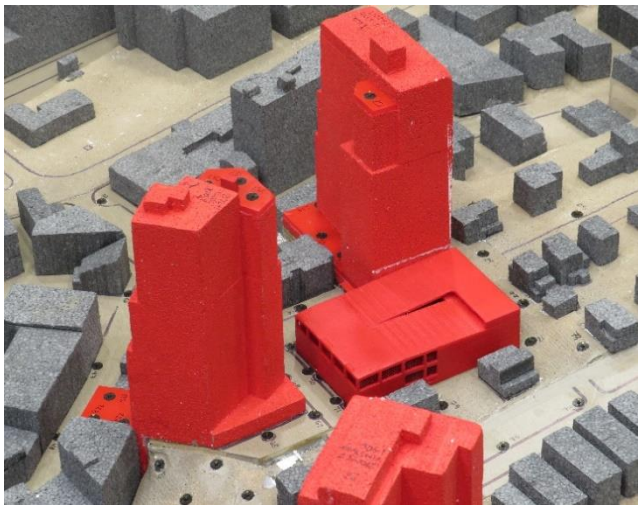
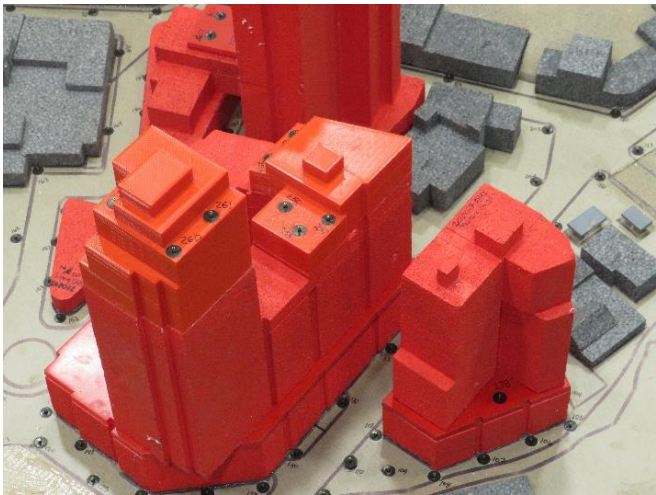


Image 2B: Wind Tunnel Study Model for the Proposed Configuration (continued from previous page)

2.2 Meteorological Data

Wind statistics recorded at LaGuardia International Airport between 1988 and 2018, inclusive, were analyzed for the Summer (May through October) and Winter (November through April) seasons. Image 3 graphically depicts the directional distributions of wind frequencies and speeds for these two seasons. Winds from the northeast, northwest and south directions are predominant throughout the year as indicated by the wind roses. Strong winds of a mean speed greater than 20 mph (red bands in Image 3) measured at the airport (at an anemometer height of 30 ft) occur for 3.7% and 11.4% of the time during the summer and winter seasons, respectively, and they are primarily from the aforesaid directions throughout the year, and additionally from the west during the winter.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the wind criteria for pedestrian comfort and safety.

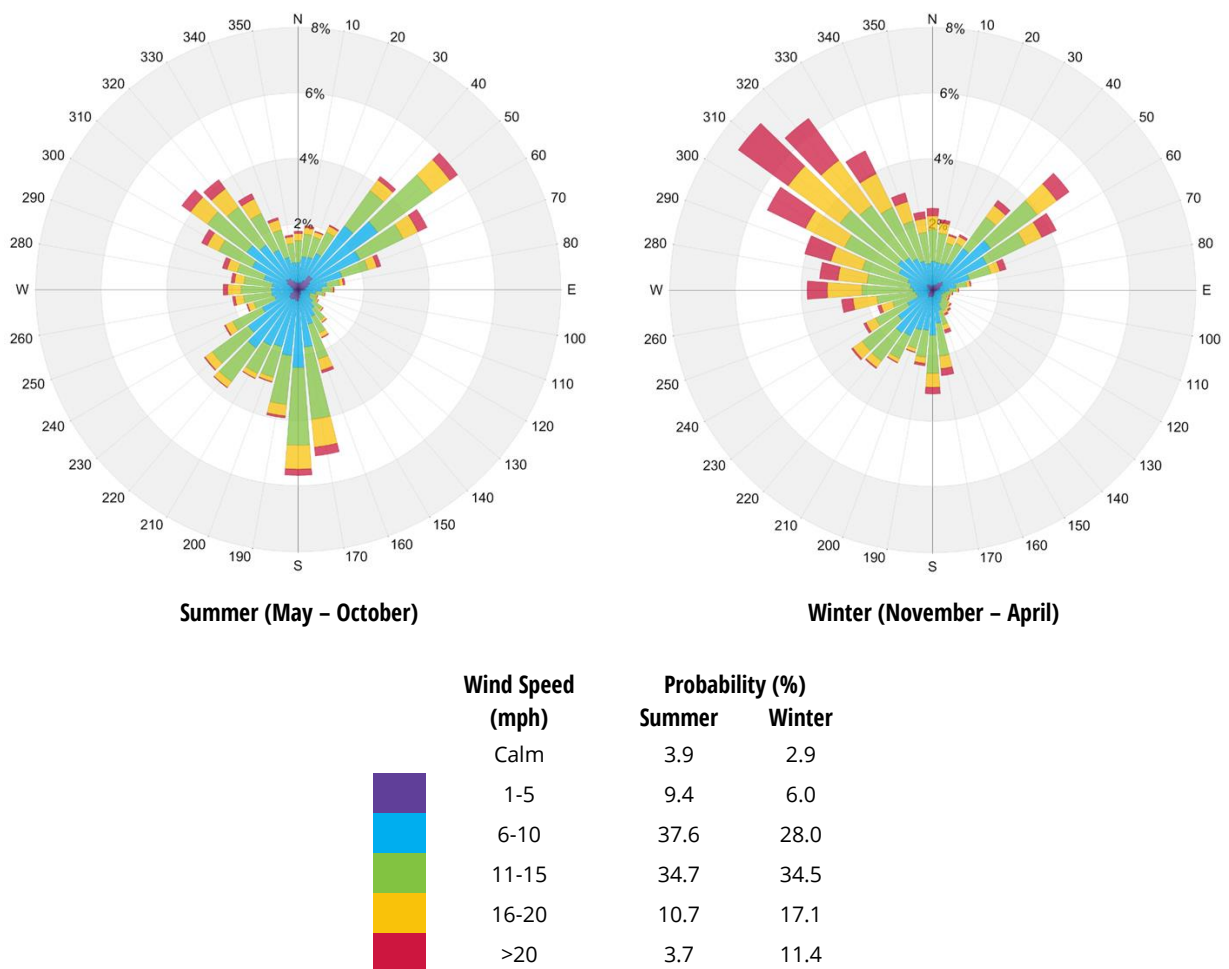


Image 3: Directional Distribution of Winds Approaching LaGuardia International Airport between 1988 and 2018

2.3 RWDI Pedestrian Wind Criteria

The RWDI pedestrian wind criteria, which have been developed by RWDI through research and consulting practice since 1974, are used in the current study. These criteria have been widely accepted by municipal authorities as well as by the building design and city planning community. Regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can affect a person's perception of the wind climate. Therefore, comparisons of wind speeds for the existing and proposed building configurations are the most objective way in assessing local pedestrian wind conditions. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM).

Comfort Category	GEM Speed (mph)	Description
Sitting	≤ 6	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 8	Gentle breezes suitable for main building entrances, bus stops, and other places where pedestrians may linger
Strolling	≤ 10	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 12	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 12	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

Notes:

- (1) GEM Speed = max (Mean Speed, Gust Speed/1.85) and Gust Speed = Mean Speed + 3*RMS Speed;
- (2) Wind conditions are considered to be comfortable if the predicted GEM speeds are within the respective thresholds for at least 80% of the time between 6:00 and 23:00. Nightly hours between 0:00 and 5:00 are excluded from the wind analysis for comfort since limited usage of outdoor spaces is anticipated; and,
- (3) Instead of standard four seasons, two periods of summer (May to October) and winter (November to April) are adopted in the wind analysis, because in a cold climate such as that found in Yonkers, there are distinct differences in pedestrian outdoor behaviors between these two-time periods.

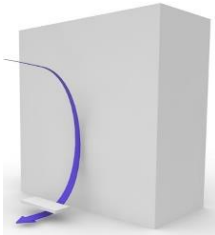
Safety Criterion	Gust Speed (mph)	Description
Exceeded	> 56	Excessive gust speeds that can adversely affect a pedestrian's balance and footing. Wind mitigation is typically required.

Notes:

- (1) Based on an annual exceedance of 9 hours or 0.1% of the time for 24 hours a day; and,
- (2) Only gust speeds need to be considered in the wind safety criterion. These are usually rare events but deserve special attention in city planning and building design due to their potential safety impact on pedestrians.

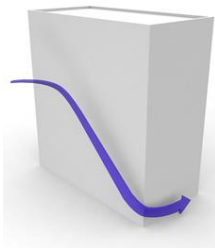
2.4 Generalized Wind Flows

In our discussion of wind conditions, reference may be made to the following generalized wind flows (Image 4):



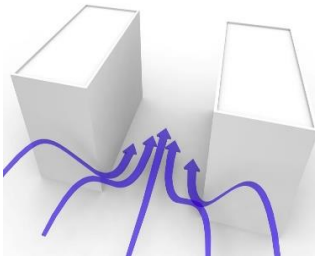
DOWNWASHING

Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level. This is often the main cause for wind accelerations around large buildings at the pedestrian level.



CORNER ACCELERATION

When winds approach at an oblique angle to a tall façade and are deflected down, a localized increase in the wind activity or corner acceleration can be expected around the exposed building corners at pedestrian level.



CHANNELING EFFECT

When two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to channeling effect caused by the narrow gap.

Image 4: Generalized Wind Flows

If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity. Design details such as setting back a tall tower from the edges of a podium, deep canopies close to ground level, wind screens, tall trees with dense landscaping, etc. (Image 5) can help reduce wind speeds. The choice and effectiveness of these measures would depend on the exposure and orientation of the site with respect to the prevailing wind directions and the size and massing of the proposed buildings.

Podium/tower setback, canopy, landscaping and wind screens (left to right)

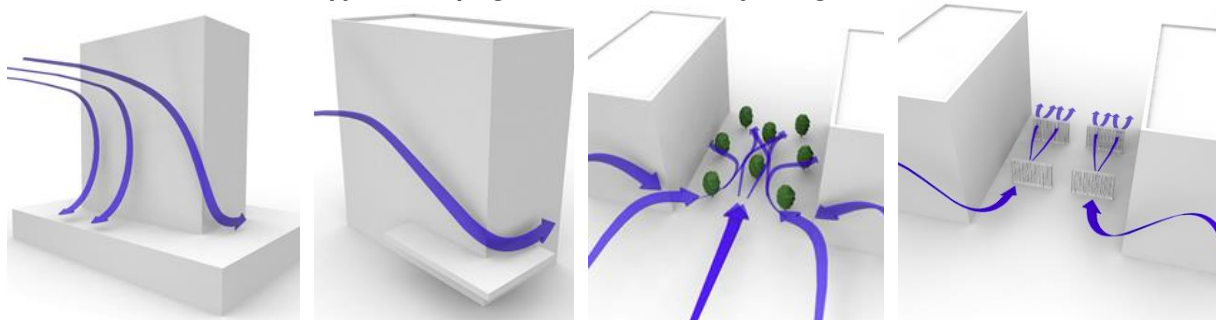


Image 5: Common Wind Control Measures

3 RESULTS AND DISCUSSION

The predicted wind conditions are shown on site plans in Figures 1A through 3B located in the “Figures” section of this report. These conditions and the associated wind speeds are also presented in Table 1, located in the “Tables” section of this report. The following is a detailed discussion of the suitability of the predicted wind conditions for the anticipated pedestrian use of each area of interest.

Wind conditions comfortable for walking or strolling are appropriate for sidewalks and walkways as pedestrians will be active and less likely to remain in one area for prolonged periods of time. Lower wind speeds conducive to sitting or standing are preferred at main entrances where pedestrians are apt to linger. Wind speeds comfortable for sitting are preferred for areas intended for passive activities, such as plaza areas and terraces. During the winter, plazas and terraces would not be used frequently and increased wind activity at these areas would be considered acceptable.

3.1 Grade Level (Locations 1 through 202)

3.1.1 Existing Configuration

Existing wind speeds at the sidewalks on and around the two sites are generally suitable for sitting or standing during the summer (Figure 1A) and walking or better during the winter (Figure 2A), which is suitable for the intended usage.

Existing wind speeds on and around the two sites meet the RWDI wind safety criterion (Figure 3A).

3.1.2 Proposed Configuration

Sidewalks

With the addition of the proposed buildings on the two sites, wind speeds along the sidewalks are generally anticipated to remain suitable for the intended usage during the summer, with the exception of locally high wind speeds rated uncomfortable at two locations along Overlook Terrace and Palisade Avenue (Locations 63 and 192, respectively, in Figure 1B). During the winter, wind speeds rated uncomfortable are anticipated at several locations on and around the two sites (Figure 2B). These locations are primarily in the vicinity of the proposed buildings, and wind speeds at offsite locations are anticipated to generally remain suitable for the intended usage even during the winter. Wind speeds that exceed the RWDI wind safety criterion are anticipated at three onsite locations on the North Broadway site and one onsite location on the Chicken Island site (Figure 3B), while wind speeds are anticipated to meet the safety criteria at all off-site locations.

The elevated wind speeds on the two sites, which are to be expected as the proposed buildings are significantly taller than their immediate neighborhood (see Image 2B), are due to a combination of the various wind flow mechanisms explained in Image 4. General mitigation strategies to reduce wind speeds in the vicinity of the proposed buildings may range from massing changes to landscape elements, as shown by a few examples in Image 5.

Main entrances

Main entrances of the proposed buildings are situated near Locations 1, 8 and 36 on the North Broadway site, and near Locations 93, 116, 129, 133 and 189 on the Chicken Island site. Calm wind conditions appropriate for sitting are anticipated throughout the year at the main entrance near Location 36 (Figures 1B and 2B), which is suitable for the intended usage. Higher-than-desired wind speeds are anticipated at all other entrances either only during the winter (Locations 8, 133 and 189) or throughout the year (Locations 1, 93, 116 and 129), as seen in Figures 1B and 2B. It is our understanding that the design team is open to recessing the entrances into the façade. If those entrances are recessed by at least 5 ft into the facade, wind speeds comfortable for the intended usage can be anticipated there. An alternate approach is to add wind control measures such as wind screens or landscaping on either side of affected entrances. Example images of these measures are shown in Image 6.

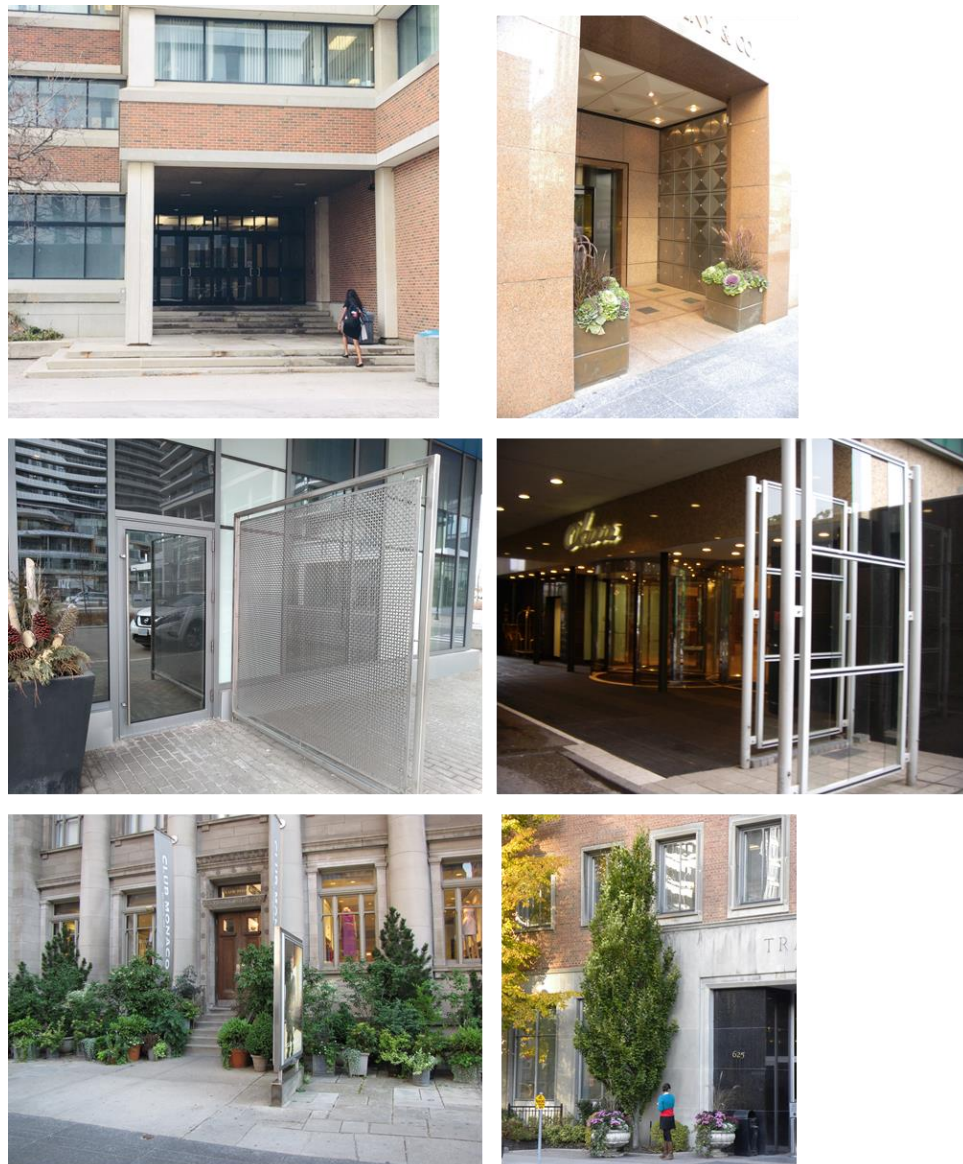


Image 6: Example Images of Recessed Entrances and Wind Screens/Landscaping at Entrances

3.2 Above-Grade Levels (Locations 203 through 261)

On the terraces, during the summer when they are anticipated to be used the most, wind speeds suitable for sitting are recommended for all designated seating areas while wind speeds suitable for standing are recommended for all other areas. On the project sites, during the summer, generally calm wind speeds that are suitable for the intended usage are anticipated on the sheltered areas of the terraces, while higher-than-desired wind speeds are anticipated at all other terraces (Figure 1B). Wind speeds that exceed the RWDI wind safety criterion are also anticipated at several locations on the terraces (Figure 3B). However, these exceedances are anticipated to occur primarily during the winter when limited use of these terraces is expected

To assist the design team in understanding wind conditions on the terraces, the predominant wind directions on all affected terraces at the two sites is given in Image 7. General strategies to achieve lower wind speeds on terraces include tall guardrails along the exposed terrace edges, trellises at the base of upper building elements, wind screens and landscaping around designated seating areas, example images of which are given in Image 8. As the building design and the programming of the terrace areas evolve, RWDI can provide specific recommendations to achieve comfortable wind conditions at all terrace areas.



Image 7: Predominant Wind Directions (Blue Arrows) on the Terraces of the Proposed Development

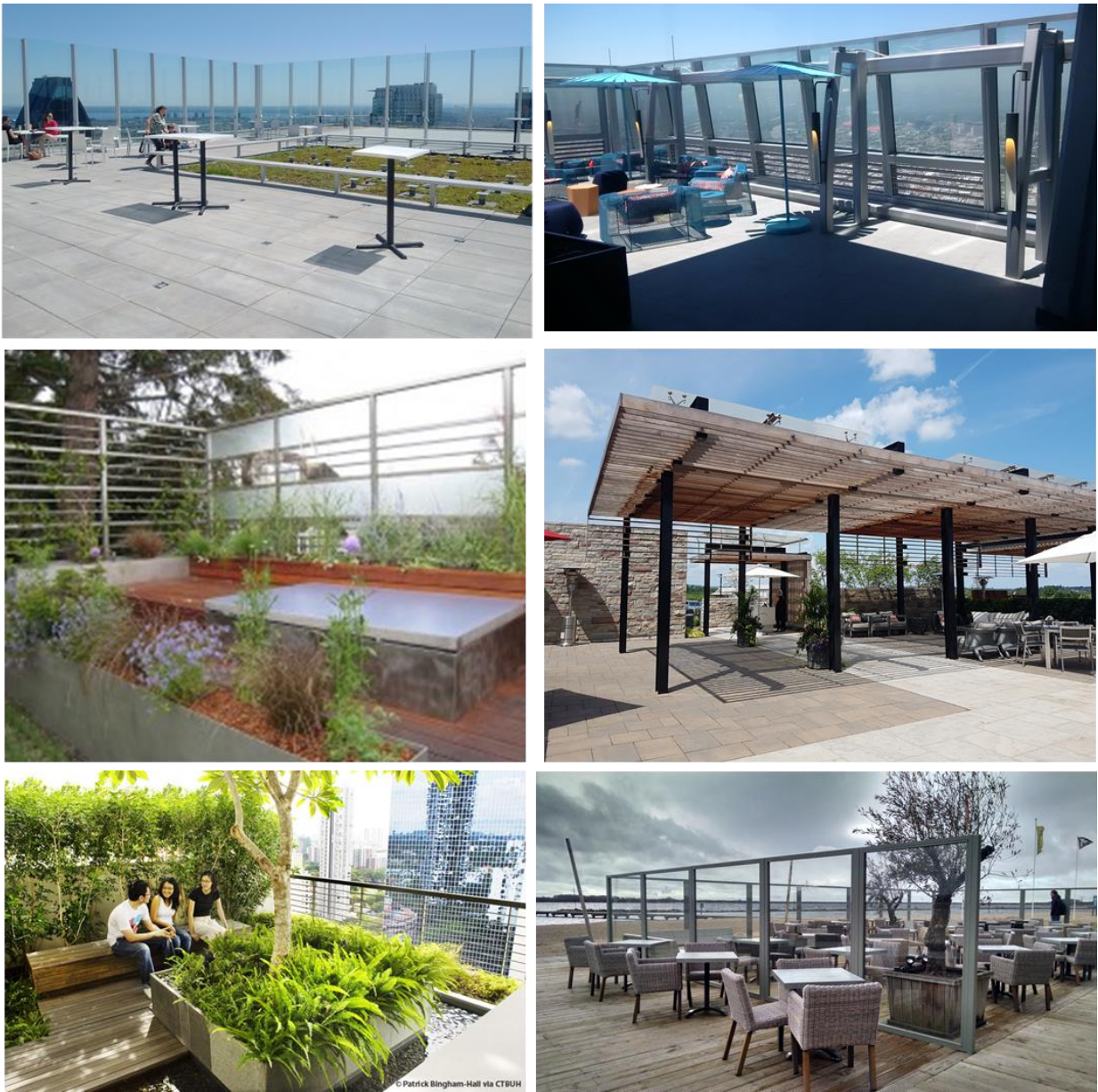


Image 8: Example Images of Wind Control Measures on Terraces such as Tall Guardrails, Wind Screens, Landscaping and Trellises



4 APPLICABILITY OF RESULTS

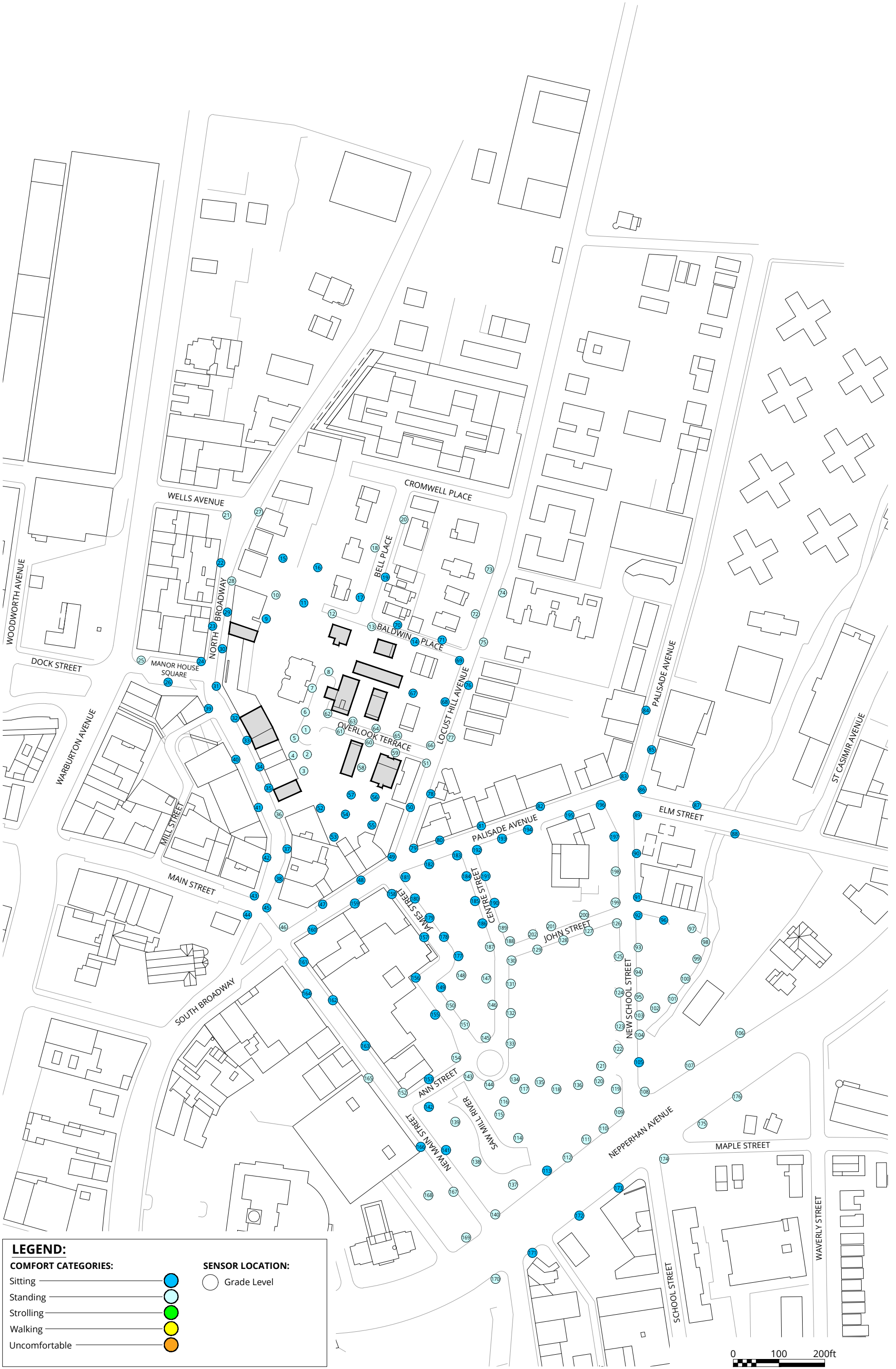
The wind conditions presented in this report pertain to the model of the AMS Yonkers – Chicken Island and North Broadway sites constructed using the drawings and information listed below. Should there be any design changes that deviate from this list of drawings, the wind condition predictions presented may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (dd/mm/yyyy)
Yonkers Master Plan Massing model- Proposed B4_OPENINGS	Rhino (.3dm)	24/06/2021
Yonkers Master Plan Massing model- Proposed Alternate City Hall Site	Rhino (.3dm)	20/04/2021
Yonkers Master Plan Massing model- Proposed B4	Rhino (.3dm)	20/04/2021

5 REFERENCES

1. ASCE Task Committee on Outdoor Human Comfort (2004). *Outdoor Human Comfort and Its Assessment*, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.
2. Williams, C.J., Hunter, M.A. and Waechter, W.F. (1990). "Criteria for Assessing the Pedestrian Wind Environment," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.36, pp.811-815.
3. Williams, C.J., Soligo M.J. and Cote, J. (1992). "A Discussion of the Components for a Comprehensive Pedestrian Level Comfort Criteria," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.41-44, pp.2389-2390.
4. Soligo, M.J., Irwin, P.A., and Williams, C.J. (1993). "Pedestrian Comfort Including Wind and Thermal Effects," *Third Asia-Pacific Symposium on Wind Engineering*, Hong Kong.
5. Soligo, M.J., Irwin, P.A., Williams, C.J. and Schuyler, G.D. (1998). "A Comprehensive Assessment of Pedestrian Comfort Including Thermal Effects," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.77&78, pp.753-766.
6. Williams, C.J., Wu, H., Waechter, W.F. and Baker, H.A. (1999). "Experiences with Remedial Solutions to Control Pedestrian Wind Problems," *Tenth International Conference on Wind Engineering*, Copenhagen, Denmark.
7. Lawson, T.V. (1973). "Wind Environment of Buildings: A Logical Approach to the Establishment of Criteria", *Report No. TVL 7321*, Department of Aeronautic Engineering, University of Bristol, Bristol, England.
8. Durgin, F. H. (1997). "Pedestrian Level Wind Criteria Using the Equivalent average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66, pp.215-226.
9. Wu, H. and Kriksic, F. (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.104-106, pp.397-407.
10. Wu, H., Williams, C.J., Baker, H.A. and Waechter, W.F. (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004*, Nashville, Tennessee.

FIGURES



LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level

Pedestrian Wind Comfort Conditions

Existing Configuration
Summer (May to October, 6:00 to 23:00)

AMS Yonkers Downtown Development - Chicken Island, North Broadway, Teutonia - Yonkers, NY

True North

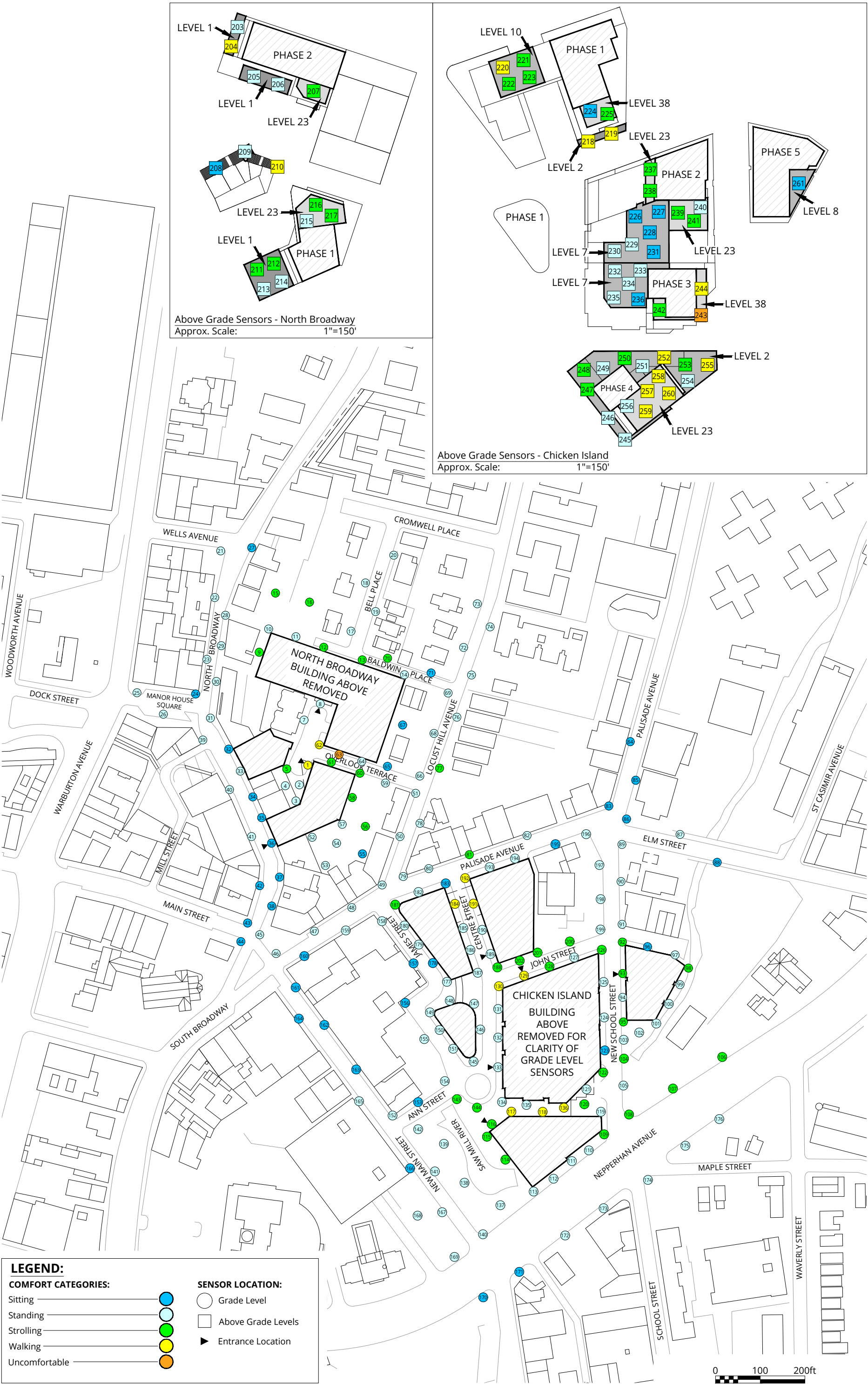


Drawn by: GRE Figure: 1A

Approx. Scale: 1"=200'

Date Revised: May 12, 2021





Pedestrian Wind Comfort Conditions
Proposed Configuration
Summer (May to October, 6:00 to 23:00)

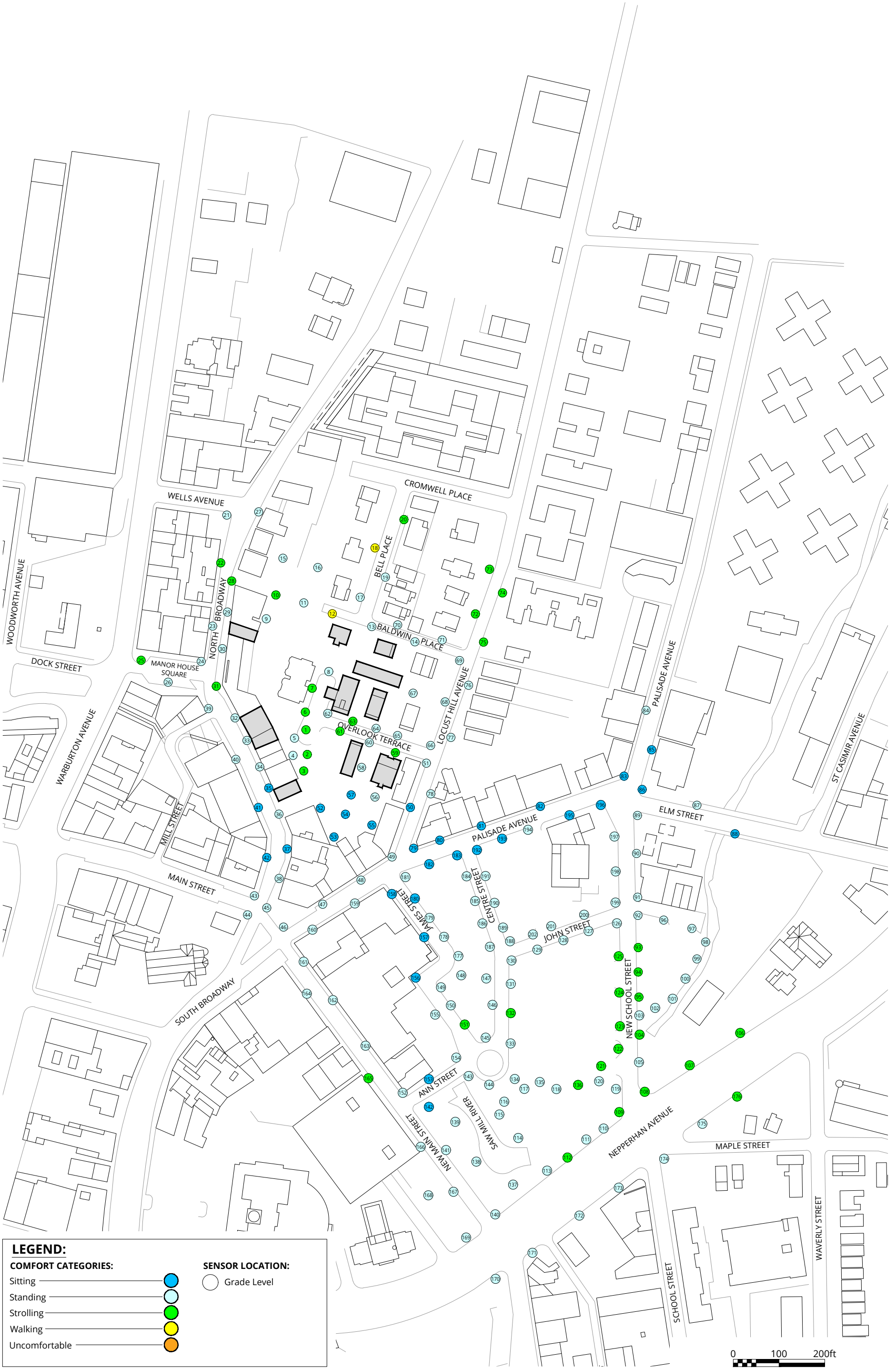
AMS Yonkers Downtown Development - Chicken Island, North Broadway, Teutonia - Yonkers, NY



Drawn by: GRE Figure: 1B
Approx. Scale: 1"=200'
Date Revised: Sept. 29, 2021








Project #2102437




LEGEND:

COMFORT CATEGORIES:

- Sitting 
- Standing 
- Strolling 
- Walking 
- Uncomfortable 

SENSOR LOCATION:

-  Grade Level

Pedestrian Wind Comfort Conditions

Existing Configuration
Winter (November to April, 6:00 to 23:00)

AMS Yonkers Downtown Development - Chicken Island, North Broadway, Teutonia - Yonkers, NY

True North



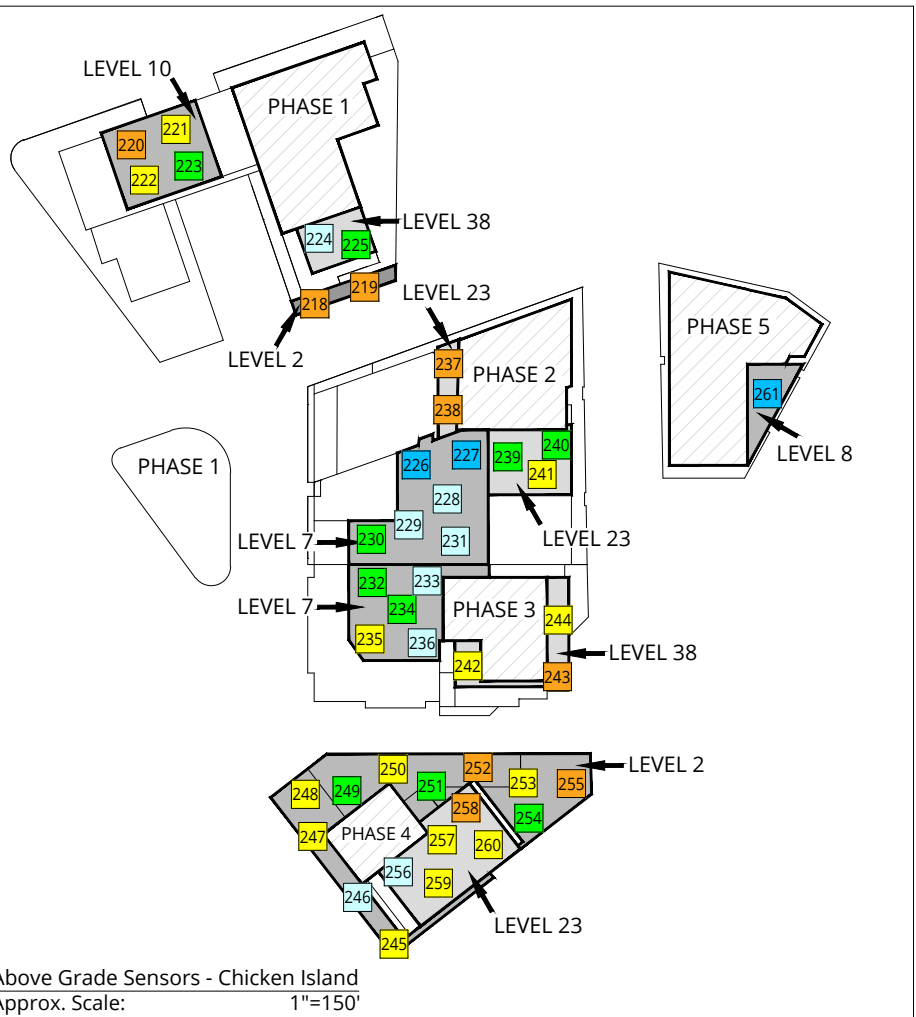
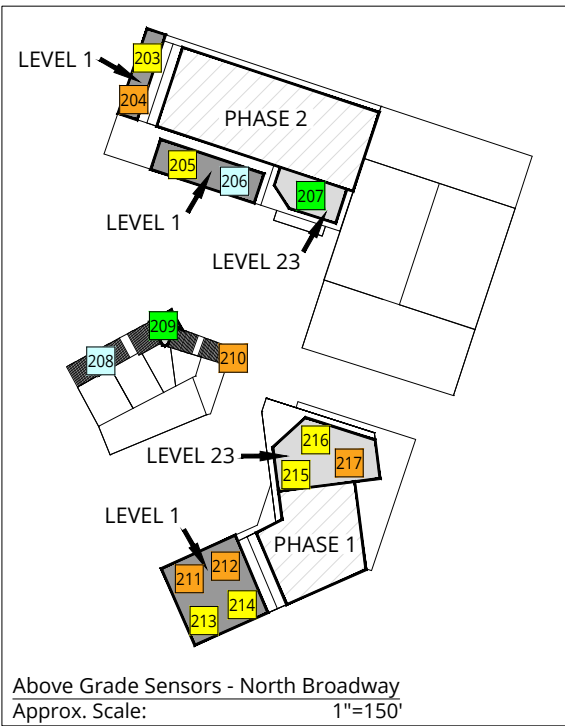
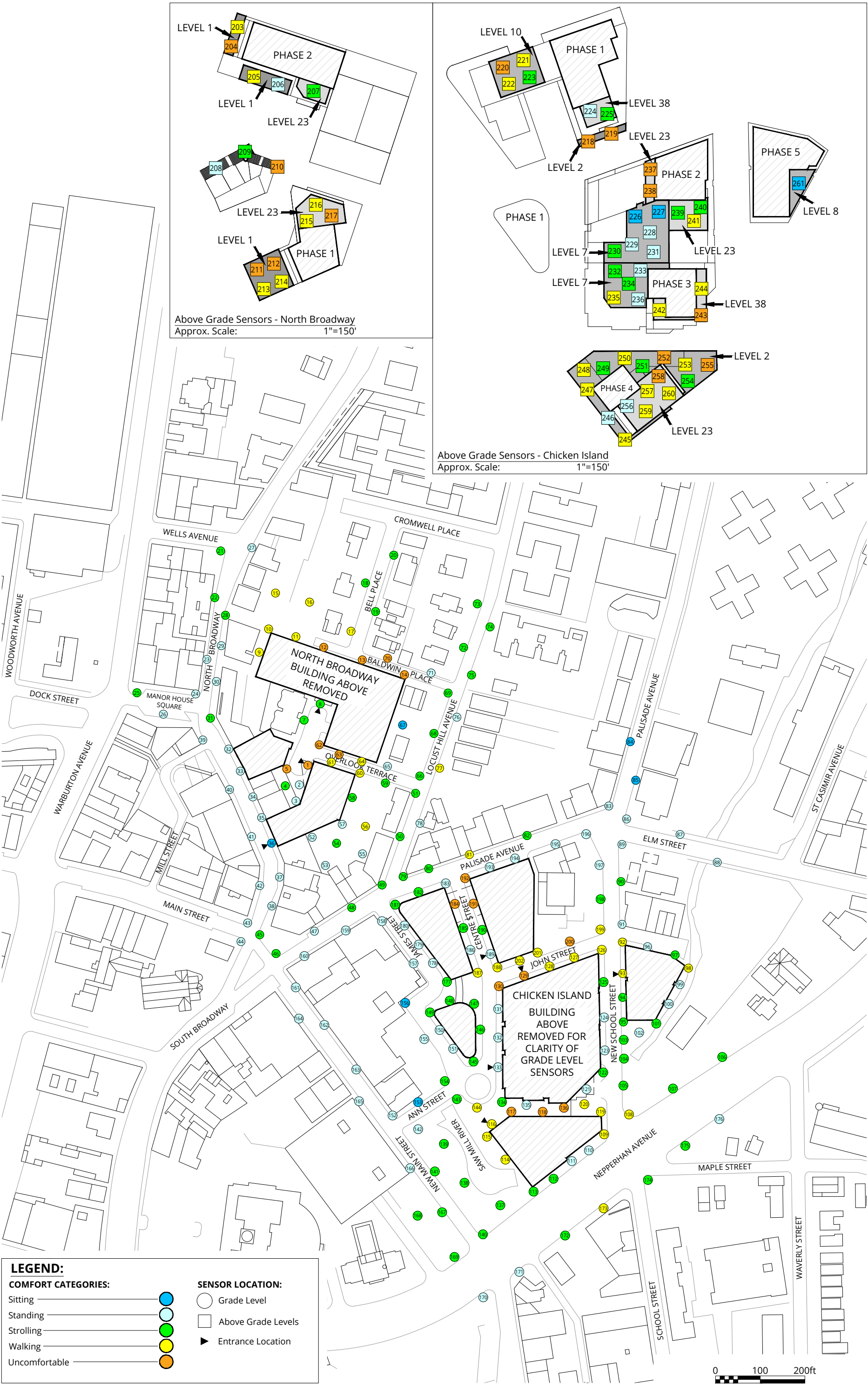
Drawn by: GRE Figure: 2A

Approx. Scale: 1"=200'

Date Revised: May 12, 2021



Project #2102437



LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Above Grade Levels
- Entrance Location

Pedestrian Wind Comfort Conditions

Proposed Configuration
Winter (November to April, 6:00 to 23:00)

AMS Yonkers Downtown Development - Chicken Island, North Broadway, Teutonia - Yonkers, NY

True North



Drawn by: GRE Figure: 2B

Approx. Scale: 1"=200'

Date Revised: Sept. 29, 2021





LEGEND:

SAFETY CATEGORIES:

Pass ———— ○
Exceeded ———— ●

SENSOR LOCATION:

○ Grade Level

Pedestrian Wind Safety Conditions

Existing Configuration
Annual (January to December, 0:00 to 23:00)

AMS Yonkers Downtown Development - Chicken Island, North Broadway, Teutonia - Yonkers, NY

True North

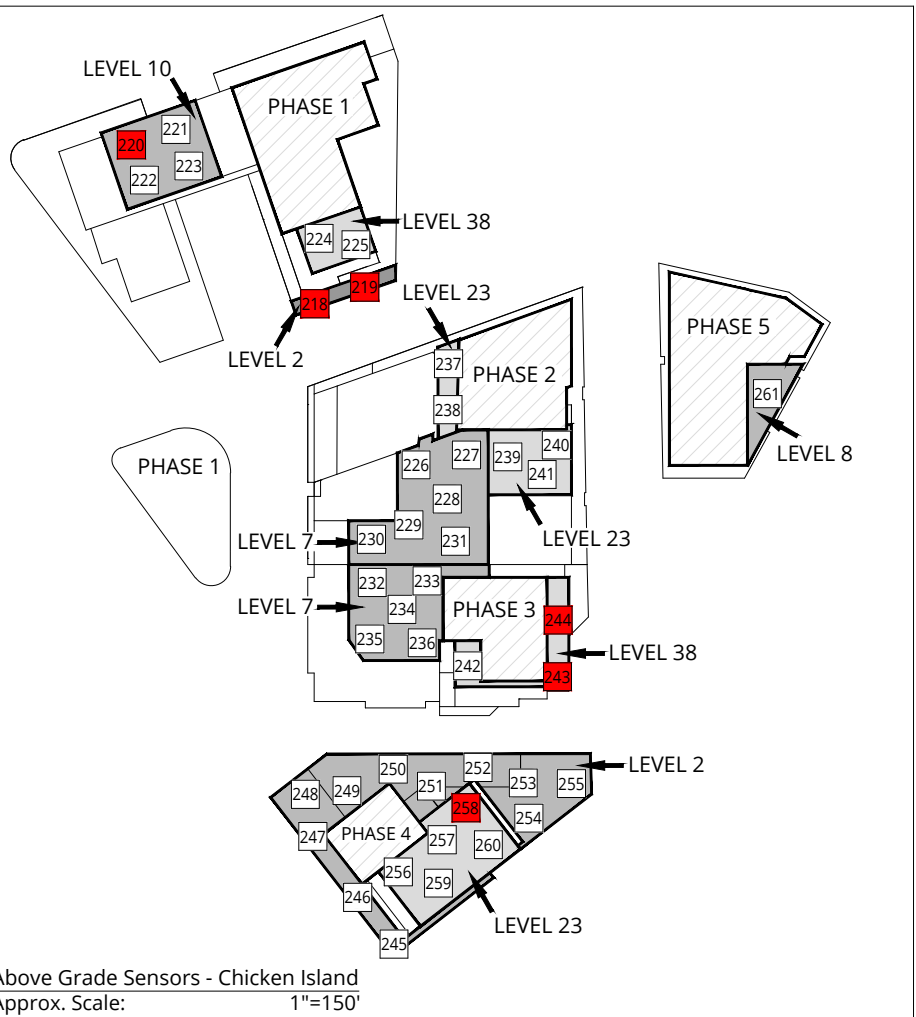
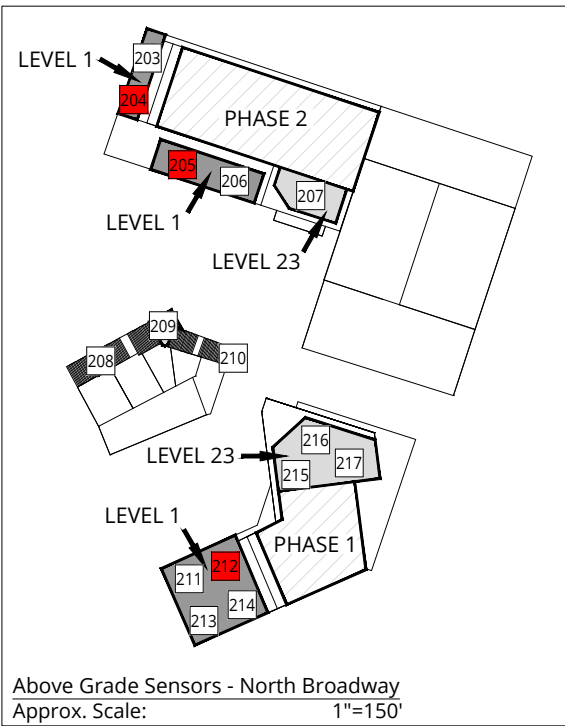
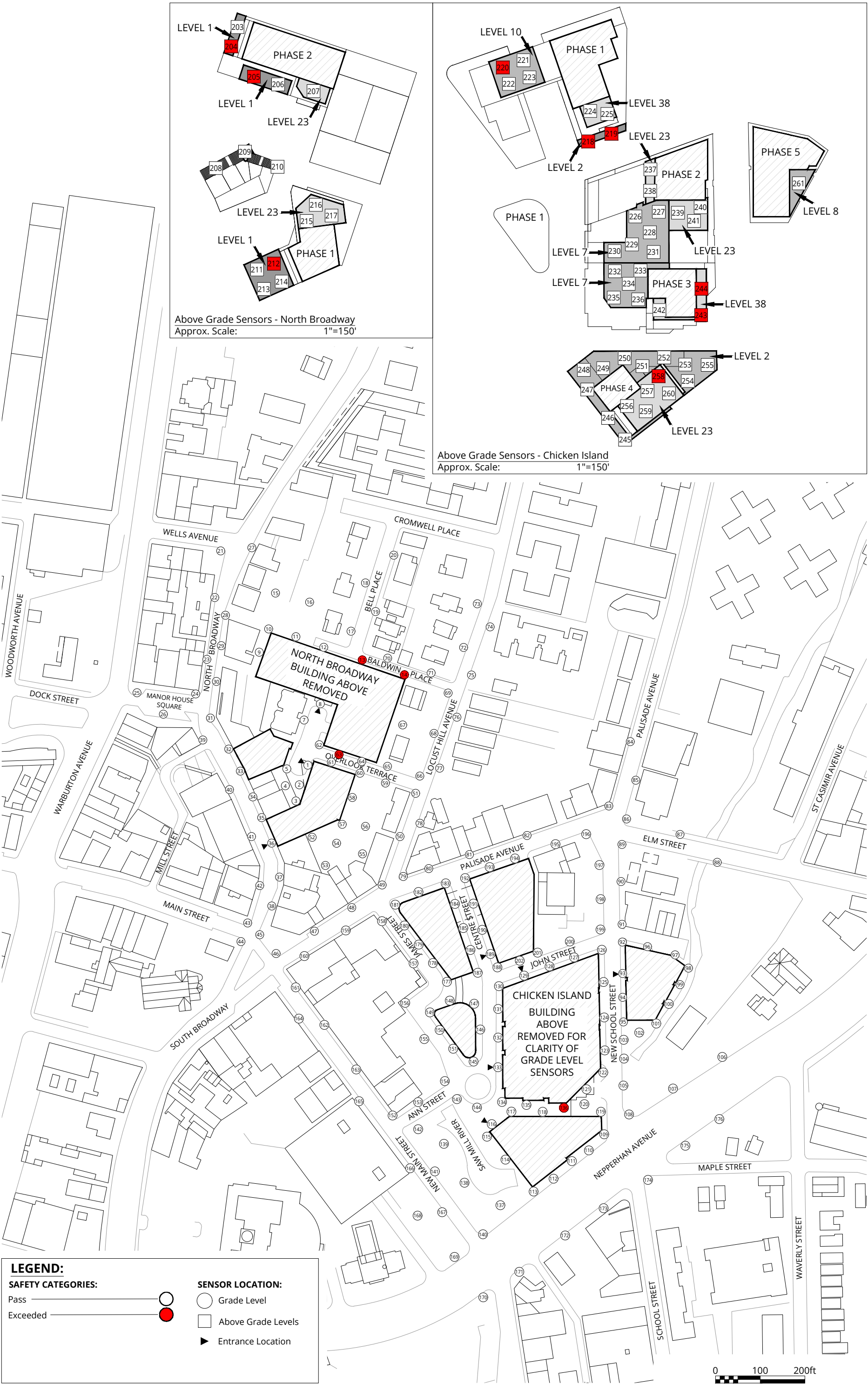


Drawn by: GRE Figure: 3A

Approx. Scale: 1"=200'

Date Revised: May 12, 2021





LEGEND:

SAFETY CATEGORIES:

Pass ———— ○

Exceeded ———— ●

SENSOR LOCATION:

○ Grade Level

□ Above Grade Levels

► Entrance Location

A decorative graphic on the left side of the page. It features a solid blue right-angled triangle in the top-left corner. A large, light-grey circle overlaps the triangle and extends across the middle and bottom of the page. The word 'TABLES' is written in blue capital letters within the grey circle.

TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
1	Existing	7	Standing	10	Strolling	39	Pass
	Proposed	11	Walking	16	Uncomfortable	54	Pass
2	Existing	7	Standing	9	Strolling	35	Pass
	Proposed	7	Standing	8	Standing	32	Pass
3	Existing	7	Standing	9	Strolling	38	Pass
	Proposed	7	Standing	8	Standing	34	Pass
4	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	10	Strolling	43	Pass
5	Existing	7	Standing	8	Standing	32	Pass
	Proposed	10	Strolling	13	Uncomfortable	50	Pass
6	Existing	7	Standing	10	Strolling	42	Pass
	Proposed	-	-	-	-	-	-
7	Existing	7	Standing	9	Strolling	38	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
8	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	10	Strolling	39	Pass
9	Existing	6	Sitting	8	Standing	36	Pass
	Proposed	10	Strolling	12	Walking	46	Pass
10	Existing	7	Standing	10	Strolling	39	Pass
	Proposed	8	Standing	11	Walking	45	Pass
11	Existing	6	Sitting	8	Standing	36	Pass
	Proposed	8	Standing	11	Walking	56	Pass
12	Existing	7	Standing	11	Walking	45	Pass
	Proposed	9	Strolling	14	Uncomfortable	50	Pass
13	Existing	7	Standing	8	Standing	34	Pass
	Proposed	10	Strolling	16	Uncomfortable	58	Exceeded
14	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	8	Standing	15	Uncomfortable	62	Exceeded
15	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	9	Strolling	11	Walking	44	Pass
16	Existing	6	Sitting	8	Standing	34	Pass
	Proposed	9	Strolling	12	Walking	47	Pass
17	Existing	6	Sitting	8	Standing	30	Pass
	Proposed	8	Standing	11	Walking	50	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
18	Existing	7	Standing	11	Walking	50	Pass
	Proposed	8	Standing	10	Strolling	38	Pass
19	Existing	5	Sitting	7	Standing	33	Pass
	Proposed	8	Standing	10	Strolling	50	Pass
20	Existing	7	Standing	10	Strolling	43	Pass
	Proposed	7	Standing	10	Strolling	43	Pass
21	Existing	7	Standing	8	Standing	35	Pass
	Proposed	8	Standing	9	Strolling	42	Pass
22	Existing	6	Sitting	9	Strolling	43	Pass
	Proposed	7	Standing	9	Strolling	40	Pass
23	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	7	Standing	8	Standing	39	Pass
24	Existing	6	Sitting	8	Standing	35	Pass
	Proposed	6	Sitting	8	Standing	33	Pass
25	Existing	7	Standing	10	Strolling	39	Pass
	Proposed	7	Standing	10	Strolling	38	Pass
26	Existing	6	Sitting	8	Standing	34	Pass
	Proposed	7	Standing	8	Standing	37	Pass
27	Existing	7	Standing	8	Standing	35	Pass
	Proposed	6	Sitting	8	Standing	32	Pass
28	Existing	7	Standing	9	Strolling	40	Pass
	Proposed	8	Standing	10	Strolling	39	Pass
29	Existing	5	Sitting	7	Standing	27	Pass
	Proposed	7	Standing	8	Standing	42	Pass
30	Existing	6	Sitting	8	Standing	37	Pass
	Proposed	7	Standing	8	Standing	42	Pass
31	Existing	6	Sitting	9	Strolling	35	Pass
	Proposed	8	Standing	10	Strolling	44	Pass
32	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	6	Sitting	7	Standing	32	Pass
33	Existing	5	Sitting	7	Standing	27	Pass
	Proposed	7	Standing	8	Standing	34	Pass
34	Existing	6	Sitting	7	Standing	26	Pass
	Proposed	6	Sitting	7	Standing	28	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
35	Existing	5	Sitting	6	Sitting	24	Pass
	Proposed	6	Sitting	7	Standing	27	Pass
36	Existing	7	Standing	8	Standing	32	Pass
	Proposed	5	Sitting	6	Sitting	24	Pass
37	Existing	4	Sitting	6	Sitting	21	Pass
	Proposed	5	Sitting	7	Standing	27	Pass
38	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	6	Sitting	8	Standing	35	Pass
39	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	7	Standing	8	Standing	37	Pass
40	Existing	6	Sitting	7	Standing	31	Pass
	Proposed	7	Standing	8	Standing	42	Pass
41	Existing	5	Sitting	6	Sitting	25	Pass
	Proposed	7	Standing	8	Standing	36	Pass
42	Existing	5	Sitting	6	Sitting	29	Pass
	Proposed	6	Sitting	7	Standing	30	Pass
43	Existing	6	Sitting	7	Standing	26	Pass
	Proposed	6	Sitting	7	Standing	27	Pass
44	Existing	6	Sitting	7	Standing	28	Pass
	Proposed	6	Sitting	7	Standing	30	Pass
45	Existing	6	Sitting	8	Standing	31	Pass
	Proposed	7	Standing	9	Strolling	37	Pass
46	Existing	7	Standing	8	Standing	39	Pass
	Proposed	7	Standing	9	Strolling	35	Pass
47	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	7	Standing	8	Standing	33	Pass
48	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	7	Standing	10	Strolling	39	Pass
49	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	8	Standing	10	Strolling	40	Pass
50	Existing	6	Sitting	6	Sitting	30	Pass
	Proposed	8	Standing	9	Strolling	37	Pass
51	Existing	7	Standing	7	Standing	33	Pass
	Proposed	8	Standing	10	Strolling	43	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
52	Existing	4	Sitting	5	Sitting	26	Pass
	Proposed	7	Standing	7	Standing	33	Pass
53	Existing	4	Sitting	5	Sitting	22	Pass
	Proposed	7	Standing	8	Standing	39	Pass
54	Existing	5	Sitting	6	Sitting	24	Pass
	Proposed	8	Standing	10	Strolling	45	Pass
55	Existing	5	Sitting	6	Sitting	28	Pass
	Proposed	6	Sitting	7	Standing	32	Pass
56	Existing	6	Sitting	8	Standing	34	Pass
	Proposed	9	Strolling	11	Walking	45	Pass
57	Existing	6	Sitting	6	Sitting	25	Pass
	Proposed	8	Standing	8	Standing	37	Pass
58	Existing	7	Standing	8	Standing	37	Pass
	Proposed	9	Strolling	10	Strolling	47	Pass
59	Existing	7	Standing	9	Strolling	37	Pass
	Proposed	7	Standing	9	Strolling	42	Pass
60	Existing	7	Standing	8	Standing	34	Pass
	Proposed	9	Strolling	12	Walking	51	Pass
61	Existing	7	Standing	10	Strolling	43	Pass
	Proposed	10	Strolling	11	Walking	47	Pass
62	Existing	7	Standing	8	Standing	35	Pass
	Proposed	11	Walking	14	Uncomfortable	52	Pass
63	Existing	7	Standing	9	Strolling	36	Pass
	Proposed	13	Uncomfortable	18	Uncomfortable	65	Exceeded
64	Existing	7	Standing	8	Standing	33	Pass
	Proposed	8	Standing	12	Walking	50	Pass
65	Existing	7	Standing	8	Standing	33	Pass
	Proposed	6	Sitting	7	Standing	32	Pass
66	Existing	7	Standing	8	Standing	35	Pass
	Proposed	8	Standing	10	Strolling	45	Pass
67	Existing	6	Sitting	7	Standing	35	Pass
	Proposed	5	Sitting	6	Sitting	30	Pass
68	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	8	Standing	9	Strolling	40	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
69	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
70	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	10	Strolling	14	Uncomfortable	53	Pass
71	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	6	Sitting	8	Standing	30	Pass
72	Existing	7	Standing	10	Strolling	45	Pass
	Proposed	8	Standing	10	Strolling	47	Pass
73	Existing	8	Standing	10	Strolling	38	Pass
	Proposed	8	Standing	10	Strolling	37	Pass
74	Existing	8	Standing	10	Strolling	39	Pass
	Proposed	8	Standing	10	Strolling	38	Pass
75	Existing	7	Standing	9	Strolling	42	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
76	Existing	5	Sitting	7	Standing	29	Pass
	Proposed	7	Standing	8	Standing	37	Pass
77	Existing	7	Standing	8	Standing	35	Pass
	Proposed	9	Strolling	11	Walking	52	Pass
78	Existing	6	Sitting	7	Standing	32	Pass
	Proposed	7	Standing	8	Standing	36	Pass
79	Existing	6	Sitting	6	Sitting	25	Pass
	Proposed	7	Standing	10	Strolling	42	Pass
80	Existing	4	Sitting	5	Sitting	22	Pass
	Proposed	8	Standing	10	Strolling	40	Pass
81	Existing	4	Sitting	4	Sitting	17	Pass
	Proposed	10	Strolling	11	Walking	45	Pass
82	Existing	6	Sitting	6	Sitting	27	Pass
	Proposed	7	Standing	9	Strolling	40	Pass
83	Existing	6	Sitting	6	Sitting	25	Pass
	Proposed	6	Sitting	7	Standing	30	Pass
84	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	6	Sitting	6	Sitting	29	Pass
85	Existing	5	Sitting	6	Sitting	23	Pass
	Proposed	5	Sitting	6	Sitting	23	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
86	Existing	6	Sitting	6	Sitting	25	Pass
	Proposed	6	Sitting	7	Standing	29	Pass
87	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	7	Standing	7	Standing	31	Pass
88	Existing	5	Sitting	6	Sitting	27	Pass
	Proposed	6	Sitting	7	Standing	28	Pass
89	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	7	Standing	7	Standing	30	Pass
90	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	8	Standing	10	Strolling	44	Pass
91	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	8	Standing	8	Standing	37	Pass
92	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	10	Strolling	12	Walking	48	Pass
93	Existing	7	Standing	9	Strolling	33	Pass
	Proposed	10	Strolling	12	Walking	45	Pass
94	Existing	7	Standing	9	Strolling	34	Pass
	Proposed	8	Standing	10	Strolling	39	Pass
95	Existing	7	Standing	9	Strolling	34	Pass
	Proposed	9	Strolling	10	Strolling	41	Pass
96	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	6	Sitting	7	Standing	31	Pass
97	Existing	7	Standing	8	Standing	31	Pass
	Proposed	7	Standing	10	Strolling	40	Pass
98	Existing	7	Standing	8	Standing	31	Pass
	Proposed	10	Strolling	11	Walking	47	Pass
99	Existing	7	Standing	8	Standing	32	Pass
	Proposed	7	Standing	7	Standing	33	Pass
100	Existing	7	Standing	8	Standing	31	Pass
	Proposed	7	Standing	7	Standing	34	Pass
101	Existing	7	Standing	8	Standing	31	Pass
	Proposed	8	Standing	9	Strolling	42	Pass
102	Existing	7	Standing	8	Standing	34	Pass
	Proposed	7	Standing	8	Standing	35	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
103	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	10	Strolling	39	Pass
104	Existing	7	Standing	9	Strolling	34	Pass
	Proposed	9	Strolling	10	Strolling	43	Pass
105	Existing	6	Sitting	8	Standing	31	Pass
	Proposed	8	Standing	10	Strolling	43	Pass
106	Existing	7	Standing	10	Strolling	38	Pass
	Proposed	9	Strolling	10	Strolling	41	Pass
107	Existing	7	Standing	10	Strolling	40	Pass
	Proposed	9	Strolling	10	Strolling	40	Pass
108	Existing	8	Standing	10	Strolling	39	Pass
	Proposed	10	Strolling	12	Walking	44	Pass
109	Existing	8	Standing	10	Strolling	39	Pass
	Proposed	10	Strolling	12	Walking	43	Pass
110	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	8	Standing	39	Pass
111	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	8	Standing	39	Pass
112	Existing	8	Standing	10	Strolling	34	Pass
	Proposed	8	Standing	10	Strolling	40	Pass
113	Existing	6	Sitting	7	Standing	25	Pass
	Proposed	7	Standing	9	Strolling	30	Pass
114	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	12	Walking	34	Pass
115	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	12	Walking	34	Pass
116	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	12	Walking	34	Pass
117	Existing	7	Standing	8	Standing	33	Pass
	Proposed	11	Walking	13	Uncomfortable	40	Pass
118	Existing	7	Standing	8	Standing	34	Pass
	Proposed	11	Walking	13	Uncomfortable	50	Pass
119	Existing	7	Standing	8	Standing	33	Pass
	Proposed	8	Standing	12	Walking	46	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
120	Existing	7	Standing	8	Standing	33	Pass
	Proposed	10	Strolling	12	Walking	47	Pass
121	Existing	8	Standing	9	Strolling	35	Pass
	Proposed	7	Standing	8	Standing	33	Pass
122	Existing	7	Standing	9	Strolling	35	Pass
	Proposed	9	Strolling	10	Strolling	41	Pass
123	Existing	8	Standing	9	Strolling	35	Pass
	Proposed	6	Sitting	7	Standing	34	Pass
124	Existing	7	Standing	9	Strolling	35	Pass
	Proposed	7	Standing	8	Standing	37	Pass
125	Existing	7	Standing	9	Strolling	34	Pass
	Proposed	8	Standing	9	Strolling	42	Pass
126	Existing	7	Standing	8	Standing	31	Pass
	Proposed	9	Strolling	12	Walking	45	Pass
127	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	12	Walking	46	Pass
128	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	12	Walking	45	Pass
129	Existing	7	Standing	8	Standing	34	Pass
	Proposed	11	Walking	13	Uncomfortable	47	Pass
130	Existing	7	Standing	8	Standing	33	Pass
	Proposed	12	Walking	13	Uncomfortable	48	Pass
131	Existing	7	Standing	8	Standing	34	Pass
	Proposed	7	Standing	7	Standing	32	Pass
132	Existing	7	Standing	9	Strolling	36	Pass
	Proposed	7	Standing	8	Standing	34	Pass
133	Existing	7	Standing	8	Standing	34	Pass
	Proposed	7	Standing	8	Standing	37	Pass
134	Existing	7	Standing	8	Standing	33	Pass
	Proposed	8	Standing	9	Strolling	39	Pass
135	Existing	7	Standing	8	Standing	36	Pass
	Proposed	8	Standing	8	Standing	41	Pass
136	Existing	7	Standing	9	Strolling	35	Pass
	Proposed	12	Walking	14	Uncomfortable	57	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
137	Existing	7	Standing	8	Standing	30	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
138	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
139	Existing	7	Standing	7	Standing	30	Pass
	Proposed	7	Standing	10	Strolling	39	Pass
140	Existing	7	Standing	8	Standing	30	Pass
	Proposed	7	Standing	10	Strolling	41	Pass
141	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	7	Standing	9	Strolling	35	Pass
142	Existing	6	Sitting	6	Sitting	25	Pass
	Proposed	7	Standing	8	Standing	32	Pass
143	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	10	Strolling	41	Pass
144	Existing	7	Standing	8	Standing	36	Pass
	Proposed	9	Strolling	12	Walking	45	Pass
145	Existing	7	Standing	8	Standing	35	Pass
	Proposed	7	Standing	9	Strolling	40	Pass
146	Existing	7	Standing	8	Standing	34	Pass
	Proposed	8	Standing	9	Strolling	42	Pass
147	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	10	Strolling	39	Pass
148	Existing	7	Standing	7	Standing	30	Pass
	Proposed	8	Standing	10	Strolling	45	Pass
149	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
150	Existing	7	Standing	8	Standing	32	Pass
	Proposed	7	Standing	7	Standing	33	Pass
151	Existing	7	Standing	9	Strolling	36	Pass
	Proposed	8	Standing	8	Standing	35	Pass
152	Existing	7	Standing	8	Standing	38	Pass
	Proposed	7	Standing	7	Standing	32	Pass
153	Existing	5	Sitting	6	Sitting	24	Pass
	Proposed	5	Sitting	6	Sitting	24	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
154	Existing	7	Standing	8	Standing	33	Pass
	Proposed	8	Standing	9	Strolling	35	Pass
155	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	7	Standing	8	Standing	34	Pass
156	Existing	4	Sitting	4	Sitting	19	Pass
	Proposed	4	Sitting	5	Sitting	23	Pass
157	Existing	4	Sitting	6	Sitting	23	Pass
	Proposed	6	Sitting	7	Standing	29	Pass
158	Existing	4	Sitting	5	Sitting	27	Pass
	Proposed	7	Standing	8	Standing	35	Pass
159	Existing	6	Sitting	8	Standing	31	Pass
	Proposed	7	Standing	8	Standing	35	Pass
160	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	6	Sitting	8	Standing	32	Pass
161	Existing	6	Sitting	8	Standing	32	Pass
	Proposed	6	Sitting	7	Standing	31	Pass
162	Existing	6	Sitting	8	Standing	40	Pass
	Proposed	6	Sitting	7	Standing	34	Pass
163	Existing	6	Sitting	7	Standing	32	Pass
	Proposed	6	Sitting	7	Standing	26	Pass
164	Existing	6	Sitting	8	Standing	34	Pass
	Proposed	5	Sitting	7	Standing	29	Pass
165	Existing	8	Standing	9	Strolling	39	Pass
	Proposed	7	Standing	8	Standing	34	Pass
166	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	6	Sitting	7	Standing	31	Pass
167	Existing	7	Standing	8	Standing	35	Pass
	Proposed	7	Standing	9	Strolling	36	Pass
168	Existing	7	Standing	8	Standing	39	Pass
	Proposed	7	Standing	9	Strolling	38	Pass
169	Existing	7	Standing	8	Standing	33	Pass
	Proposed	7	Standing	9	Strolling	36	Pass
170	Existing	7	Standing	8	Standing	31	Pass
	Proposed	6	Sitting	8	Standing	32	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
171	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	6	Sitting	8	Standing	31	Pass
172	Existing	6	Sitting	8	Standing	34	Pass
	Proposed	8	Standing	10	Strolling	40	Pass
173	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	8	Standing	11	Walking	45	Pass
174	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	9	Strolling	37	Pass
175	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	9	Strolling	36	Pass
176	Existing	7	Standing	9	Strolling	33	Pass
	Proposed	7	Standing	8	Standing	35	Pass
177	Existing	6	Sitting	7	Standing	29	Pass
	Proposed	8	Standing	10	Strolling	41	Pass
178	Existing	6	Sitting	7	Standing	28	Pass
	Proposed	6	Sitting	7	Standing	31	Pass
179	Existing	5	Sitting	7	Standing	26	Pass
	Proposed	7	Standing	7	Standing	30	Pass
180	Existing	5	Sitting	6	Sitting	24	Pass
	Proposed	7	Standing	7	Standing	32	Pass
181	Existing	6	Sitting	7	Standing	26	Pass
	Proposed	10	Strolling	10	Strolling	41	Pass
182	Existing	5	Sitting	6	Sitting	26	Pass
	Proposed	8	Standing	10	Strolling	40	Pass
183	Existing	5	Sitting	6	Sitting	25	Pass
	Proposed	6	Sitting	8	Standing	35	Pass
184	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	11	Walking	13	Uncomfortable	48	Pass
185	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	8	Standing	10	Strolling	45	Pass
186	Existing	6	Sitting	7	Standing	30	Pass
	Proposed	7	Standing	8	Standing	51	Pass
187	Existing	7	Standing	8	Standing	32	Pass
	Proposed	8	Standing	11	Walking	43	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
188	Existing	7	Standing	8	Standing	33	Pass
	Proposed	10	Strolling	12	Walking	47	Pass
189	Existing	7	Standing	8	Standing	31	Pass
	Proposed	7	Standing	8	Standing	37	Pass
190	Existing	6	Sitting	8	Standing	31	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
191	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	12	Walking	14	Uncomfortable	53	Pass
192	Existing	5	Sitting	6	Sitting	27	Pass
	Proposed	12	Walking	13	Uncomfortable	48	Pass
193	Existing	6	Sitting	6	Sitting	27	Pass
	Proposed	7	Standing	8	Standing	36	Pass
194	Existing	6	Sitting	7	Standing	32	Pass
	Proposed	7	Standing	8	Standing	39	Pass
195	Existing	4	Sitting	5	Sitting	22	Pass
	Proposed	6	Sitting	8	Standing	34	Pass
196	Existing	5	Sitting	6	Sitting	26	Pass
	Proposed	7	Standing	8	Standing	34	Pass
197	Existing	6	Sitting	7	Standing	27	Pass
	Proposed	7	Standing	8	Standing	34	Pass
198	Existing	7	Standing	8	Standing	30	Pass
	Proposed	8	Standing	10	Strolling	42	Pass
199	Existing	7	Standing	8	Standing	30	Pass
	Proposed	8	Standing	11	Walking	47	Pass
200	Existing	7	Standing	8	Standing	32	Pass
	Proposed	10	Strolling	13	Uncomfortable	52	Pass
201	Existing	7	Standing	8	Standing	33	Pass
	Proposed	10	Strolling	12	Walking	50	Pass
202	Existing	7	Standing	8	Standing	33	Pass
	Proposed	9	Strolling	11	Walking	43	Pass
203	Existing	-	-	-	-	-	-
	Proposed	8	Standing	12	Walking	50	Pass
204	Existing	-	-	-	-	-	-
	Proposed	12	Walking	15	Uncomfortable	59	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
205	Existing Proposed	- 8	- Standing	- 11	- Walking	- 62	- Exceeded
206	Existing Proposed	- 7	- Standing	- 8	- Standing	- 39	- Pass
207	Existing Proposed	- 9	- Strolling	- 10	- Strolling	- 43	- Pass
208	Existing Proposed	- 6	- Sitting	- 7	- Standing	- 30	- Pass
209	Existing Proposed	- 7	- Standing	- 10	- Strolling	- 45	- Pass
210	Existing Proposed	- 11	- Walking	- 14	- Uncomfortable	- 48	- Pass
211	Existing Proposed	- 9	- Strolling	- 13	- Uncomfortable	- 53	- Pass
212	Existing Proposed	- 9	- Strolling	- 14	- Uncomfortable	- 62	- Exceeded
213	Existing Proposed	- 8	- Standing	- 12	- Walking	- 49	- Pass
214	Existing Proposed	- 8	- Standing	- 11	- Walking	- 48	- Pass
215	Existing Proposed	- 8	- Standing	- 11	- Walking	- 43	- Pass
216	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 53	- Pass
217	Existing Proposed	- 10	- Strolling	- 13	- Uncomfortable	- 53	- Pass
218	Existing Proposed	- 12	- Walking	- 14	- Uncomfortable	- 63	- Exceeded
219	Existing Proposed	- 12	- Walking	- 14	- Uncomfortable	- 63	- Exceeded
220	Existing Proposed	- 12	- Walking	- 14	- Uncomfortable	- 58	- Exceeded
221	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 47	- Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
222	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 51	- Pass
223	Existing Proposed	- 9	- Strolling	- 10	- Strolling	- 47	- Pass
224	Existing Proposed	- 6	- Sitting	- 7	- Standing	- 36	- Pass
225	Existing Proposed	- 10	- Strolling	- 10	- Strolling	- 50	- Pass
226	Existing Proposed	- 4	- Sitting	- 6	- Sitting	- 23	- Pass
227	Existing Proposed	- 4	- Sitting	- 5	- Sitting	- 28	- Pass
228	Existing Proposed	- 6	- Sitting	- 8	- Standing	- 39	- Pass
229	Existing Proposed	- 7	- Standing	- 8	- Standing	- 36	- Pass
230	Existing Proposed	- 7	- Standing	- 10	- Strolling	- 38	- Pass
231	Existing Proposed	- 6	- Sitting	- 7	- Standing	- 28	- Pass
232	Existing Proposed	- 8	- Standing	- 10	- Strolling	- 41	- Pass
233	Existing Proposed	- 7	- Standing	- 8	- Standing	- 34	- Pass
234	Existing Proposed	- 8	- Standing	- 10	- Strolling	- 42	- Pass
235	Existing Proposed	- 8	- Standing	- 11	- Walking	- 43	- Pass
236	Existing Proposed	- 6	- Sitting	- 7	- Standing	- 27	- Pass
237	Existing Proposed	- 10	- Strolling	- 14	- Uncomfortable	- 55	- Pass
238	Existing Proposed	- 10	- Strolling	- 14	- Uncomfortable	- 56	- Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
239	Existing Proposed	- 9	- Strolling	- 10	- Strolling	- 47	- Pass
240	Existing Proposed	- 8	- Standing	- 10	- Strolling	- 54	- Pass
241	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 53	- Pass
242	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 50	- Pass
243	Existing Proposed	- 14	- Uncomfortable	- 13	- Uncomfortable	- 68	- Exceeded
244	Existing Proposed	- 11	- Walking	- 11	- Walking	- 64	- Exceeded
245	Existing Proposed	- 8	- Standing	- 11	- Walking	- 49	- Pass
246	Existing Proposed	- 7	- Standing	- 8	- Standing	- 35	- Pass
247	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 47	- Pass
248	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 46	- Pass
249	Existing Proposed	- 7	- Standing	- 9	- Strolling	- 39	- Pass
250	Existing Proposed	- 9	- Strolling	- 11	- Walking	- 46	- Pass
251	Existing Proposed	- 8	- Standing	- 10	- Strolling	- 42	- Pass
252	Existing Proposed	- 11	- Walking	- 14	- Uncomfortable	- 53	- Pass
253	Existing Proposed	- 10	- Strolling	- 12	- Walking	- 50	- Pass
254	Existing Proposed	- 8	- Standing	- 9	- Strolling	- 49	- Pass
255	Existing Proposed	- 11	- Walking	- 13	- Uncomfortable	- 52	- Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
256	Existing Proposed	- 8	- Standing	- 8	- Standing	- 44	- Pass
257	Existing Proposed	- 11	- Walking	- 11	- Walking	- 48	- Pass
258	Existing Proposed	- 12	- Walking	- 13	- Uncomfortable	- 57	- Exceeded
259	Existing Proposed	- 12	- Walking	- 12	- Walking	- 53	- Pass
260	Existing Proposed	- 11	- Walking	- 12	- Walking	- 54	- Pass
261	Existing Proposed	- 6	- Sitting	- 6	- Sitting	- 29	- Pass

Season	Months	Hours	Comfort Speed (mph)	Safety Speed (mph)
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)	(0.1% Annual Exceedance)
Winter	November - April	6:00 - 23:00 for comfort	≤ 6 Sitting	≤ 56 Pass
Annual	January - December	0:00 - 23:00 for safety	7 - 8 Standing	> 56 Exceeded
Configurations			9 - 10 Strolling	
Existing	Existing site and surroundings		11 - 12 Walking	
Proposed	Project with existing surroundings		> 12 Uncomfortable	