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Memorandum

To:	Saint Vincents Campus Redevelopment Files
From:	Philip C. Sears, Chi K. Chan, Stephen S. Rosen, Kenneth Mui, Weixiong Wu, Charles Fields,
Date:	May 24, 2012
Re:	Changes in Construction Methodologies
cc:	John Menz, Rudin Management; Melanie Meyers, Fried, Frank, Harris, Shriver & Jacobson; Anne Locke, AKRF

When construction started on the East Site of the Saint Vincents Campus Redevelopment Project, the construction managers found that certain construction methods that were part of the Environmental Impact Statement's analyses of potential construction impacts could not be used. The construction managers have proposed several changes in construction methodology, primarily for safety reasons. This technical memorandum explains the requested modifications to the construction methods and analyzes any potential significant adverse impacts that could be caused by the changes. Since the changes involve only construction methods, no analysis of operational impacts is included in this technical memorandum.

DESCRIPTION OF CHANGES

CONSTRUCTION FENCING AND PEDESTRIANS

In the Final Environmental Impact Statement (FEIS), it was assumed that the construction fencing would be at the property line and pedestrians would have protected access on all three sides of the East Site. However, the construction managers have found that they do not have sufficient space along the side streets to be able to deconstruct and reconstruct the buildings while protecting pedestrians as originally proposed. Safe pedestrian access along Seventh Avenue can be maintained. The deconstruction crews need to load the debris directly onto the trucks for transport from the site. Therefore, a lane next to the buildings is needed for the trucks. The original concept was to route the pedestrians in a protected walkway on the street side of the construction truck lane. However, West 11th and 12th Streets are not wide enough to allow for (1) a construction truck lane, (2) a protective barrier between the construction trucks and pedestrians, (3) a pedestrian walkway, (4) a protective barrier between the pedestrian and vehicles, and (5) a vehicular travel lane. The primary cause is the width of the support for the noise barriers, which have to be much wider than originally thought. New York City Department of Transportation will not allow the base of the noise barriers to be secured into the streets. Therefore, the noise barriers have to use a heavy base to prevent the barriers from being blown over in high winds. Additional width in the base is necessary to achieve the required weight and stability.

LOCATION OF HOISTS

The double hoist was originally located on Seventh Avenue in FEIS analysis. Based on the logistics of constructing the buildings and the number of facades remaining on West 12th Street, locating the hoist on West 12th Street makes the construction more efficient and reduces the amount of disruption.

HEIGHT OF CONSTRUCTION FENCING

In the FEIS, the noise analysis assumed that the noise barriers would be 15 feet high, above the street grade. As discussed above, the height of the noise barriers, which act as large sails, requires a great deal of weight for stability. Reducing the height of the noise barriers from 15-foot to 11-foot around the perimeter lessens the width of the base and allows for more space for the pedestrian walkways, where possible, and vehicular travel lanes. However, 15 feet high noise barrier will be erected on the east side of the courtyard.

POTENTIAL IMPACTS

TRAFFIC

The above construction logistics would not necessitate the diversion of vehicular traffic on West 11th Street, West 12th Street, and Seventh Avenue. During the entire construction period, one moving lane would be maintained along West 11th and West 12th Streets between Sixth and Seventh Avenues, as is available presently. Similarly, all moving lanes would be maintained along Seventh Avenue between West 11th and West 12th Streets. Thus, the construction fencing along the perimeter of the East Site over the duration of construction would not result in any significant adverse traffic impacts.

PEDESTRIANS

The above construction logistics would necessitate the diversion of pedestrian traffic from sidewalks and crosswalks along and adjacent to the north side of West 11th Street and the south side of West 12th Street. A flagger will be used at the east end of the diversions to help pedestrian movements. Along the east side of Seventh Avenue, pedestrian traffic would be maintained within a temporary sidewalk located on the existing lay-by lane. The discussion below presents how the modified construction logistics may affect pedestrian circulation surrounding the East Site construction. Based on the assessment results, there would not be any temporary or significant adverse impacts to pedestrian conditions attributed to the currently contemplated construction logistics.

Existing and Proposed Construction Pedestrian Environments

2012 Existing Conditions

Baseline pedestrian levels of sidewalks and crosswalks on Seventh Avenue, West 11th Street, and West 12th Street adjacent to the East Site construction area were established based on data collected on May 10 and May 17, 2012 during the hours of 7:30 to 10:00 AM, 12:00 to 2:00 PM and 4:00 to 6:30 PM, as summarized in **Table 1**. These counts also included pedestrian turning movements at the southeast corner of Seventh Avenue and West 12th Street and the northeast corner of Seventh Avenue and West 11th Street to provide information on direction patterns for the purpose of the trip diversion analysis. Peak hours for pedestrian activity were determined by comparing rolling hourly averages and the highest 15-minute volumes within the peak hours were selected for analysis. The existing peak 15-minute weekday AM, midday, and PM pedestrian analysis networks are presented in **Figures 1** through **3**.

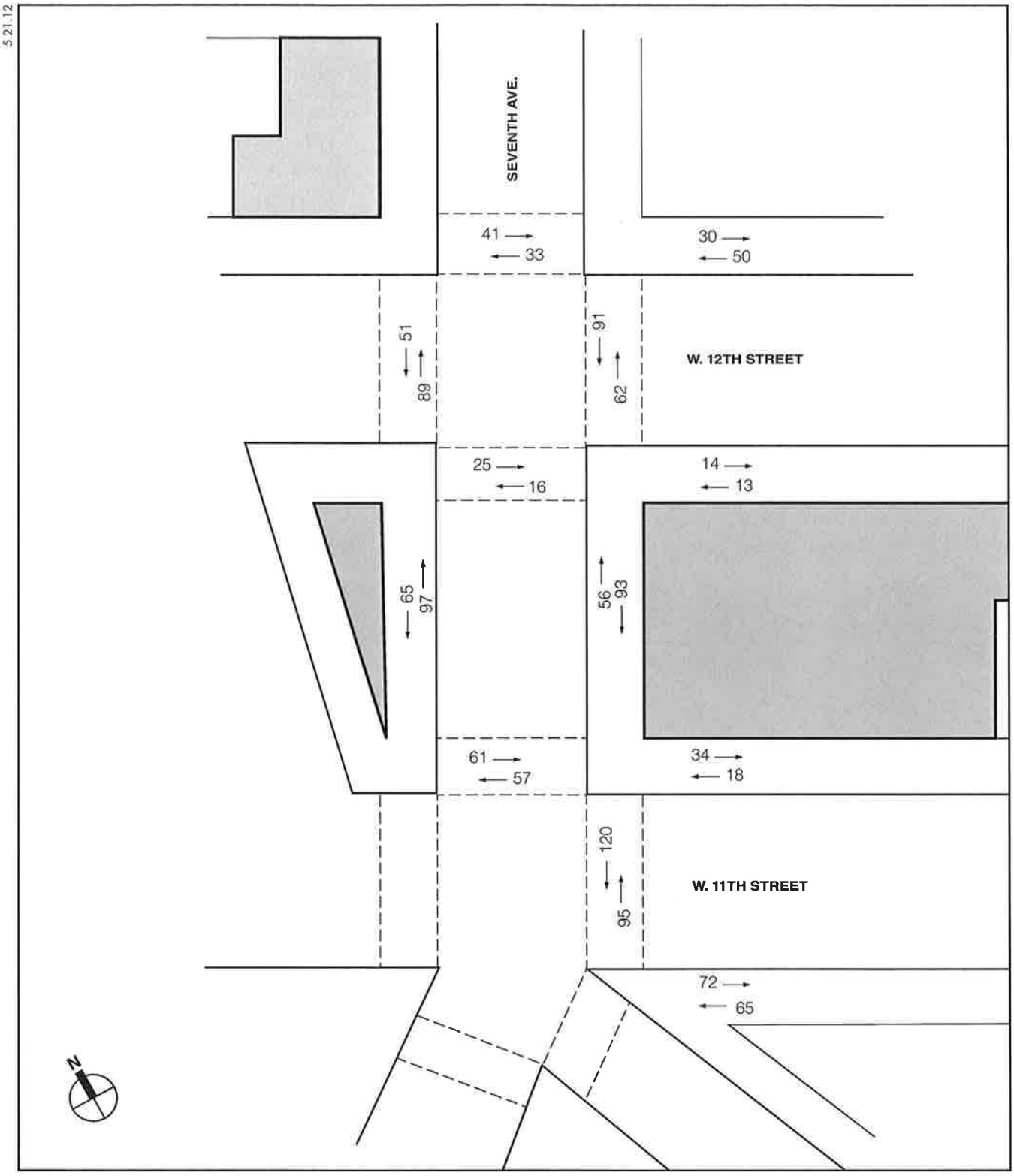


Figure 1
Existing (2012) Pedestrian Volumes
Weekday AM Peak 15 Minutes

SAINT VINCENTS CAMPUS REDEVELOPMENT

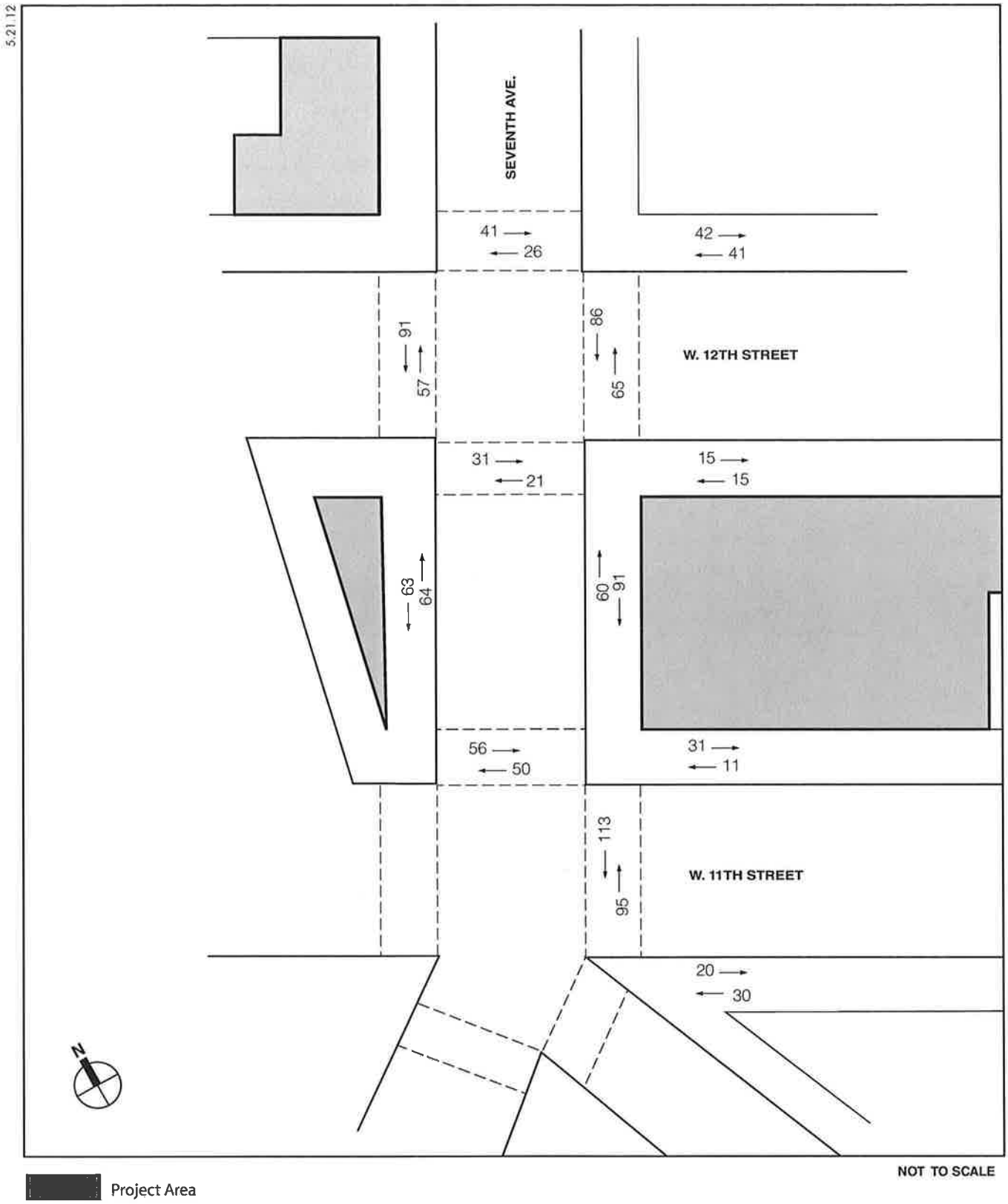


Figure 2
Existing (2012) Pedestrian Volumes
Weekday Midday Peak 15 Minutes

SAINT VINCENTS CAMPUS REDEVELOPMENT

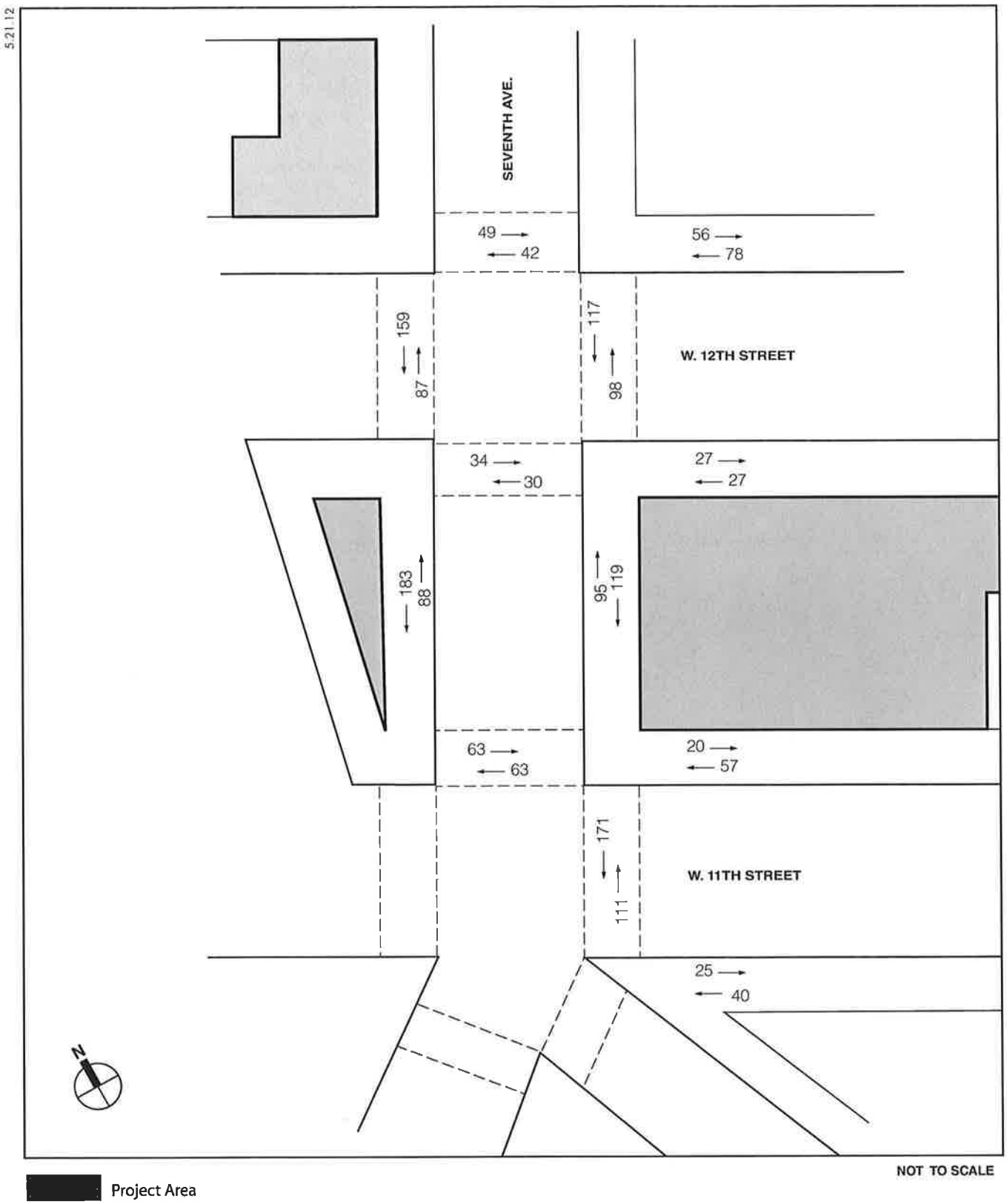


Figure 3
Existing (2012) Pedestrian Volumes
Weekday PM Peak 15 Minutes

Table 1
Pedestrian Count Locations

Sidewalks		
Intersection No.	**Location**	**Sidewalk**
1	West 12th Street between Seventh Avenue and Sixth Avenue	North
		South
	Seventh Avenue between West 11th Street and West 12th Street	East
		West
2	West 11th Street between Seventh Avenue and Sixth Avenue	North
		South
Crosswalks		
Intersection No.	**Location**	**Crosswalk**
1	Seventh Avenue and West 12th Street	East
		West
		North
		South
2	Seventh Avenue and West 11th Street	East
		North

Construction Conditions

Construction of the East Site and the proposed logistics would continue through the middle of 2015. To represent the extent of anticipated growth of pedestrian volumes in the study area during the construction period (2012 to 2015), existing pedestrian volumes were adjusted to the future 2015 levels. As per the *CEQR Technical Manual* guidelines, this adjustment was performed by applying an annual background growth rate of 0.25 percent for an overall compounded growth of approximately 0.75 percent by 2015. In addition, to assess the anticipated changes in pedestrian circulation patterns due to the proposed closure of the sidewalks on West 11th and West 12th Streets adjacent to the East Site construction area, the 2015 pedestrian volumes were reassigned to account for the expected diversion of pedestrian traffic, as follows:

West 12th Street (South Sidewalk)

- Westbound pedestrians who turn left at the southeast corner of the Seventh Avenue and West 12th Street intersection were reassigned to the north sidewalk of West 12th Street between Sixth and Seventh Avenues. At the northeast corner of the West 12th Street and Seventh Avenue intersection, these pedestrians would cross the east crosswalk to continue southbound on Seventh Avenue.
- Westbound pedestrians who use the south crosswalk of the Seventh Avenue and West 12th Street intersection were reassigned to the north sidewalk of West 12th Street between Sixth and Seventh Avenues. At the northeast corner of West 12th Street and Seventh Avenue intersection, these pedestrians would first cross the north crosswalk and then cross the west crosswalk.
- Westbound pedestrians who turn right at the southeast corner of the Seventh Avenue and West 12th Street intersection to use the east crosswalk to continue northbound were reassigned to the north sidewalk of West 12th Street between Sixth and Seventh Avenues.
- Half of the eastbound pedestrians who use the south crosswalk of the Seventh Avenue and West 12th Street intersection were first reassigned to the west crosswalk and then to the north crosswalk to continue eastbound on West 12th Street. The other half would continue to cross at the south crosswalk but would then cross the east crosswalk to get to the north side of West 12th Street.
- Northbound pedestrians who turn right at the southeast corner of the Seventh Avenue and West 12th Street intersection would first continue northbound on the east crosswalk and then would turn right at the northeast corner to continue eastbound on the north side of West 12th Street.

- Southbound pedestrians using the east crosswalk and turning left at the southeast corner of the Seventh Avenue and West 12th Street intersection would instead turn left at the northeast corner and continue eastbound on the north side of West 12th Street.

West 11th Street (North Sidewalk)

- Eastbound pedestrians who use the north crosswalk of the Seventh Avenue and West 11th Street intersection and continue eastbound were reassigned first to the east crosswalk, then to the south sidewalk to continue eastbound on West 11th Street between Sixth and Seventh Avenues.
- Southbound pedestrians who turn left at the northeast corner of Seventh Avenue and West 11th Street were first reassigned to cross the east crosswalk, then turn left and continue eastbound along the south sidewalk of West 11th Street.
- Westbound pedestrians who turn right at the northeast corner of Seventh Avenue and West 11th Street were first reassigned to the south sidewalk, then to the east crosswalk to continue northbound along the east side of Seventh Avenue between West 11th and West 12th Streets.
- Westbound pedestrians who use the north side of West 11th Street and continue through the north crosswalk of Seventh Avenue and West 11th Street were reassigned to the south sidewalk, then to the east crosswalk to cross northbound, followed by crossing the north crosswalk to continue westbound.
- Westbound pedestrians who turn left at the northeast corner of Seventh Avenue and West 11th Street were reassigned to the south sidewalk of West 11th Street between Sixth and Seventh Avenues.
- Northbound pedestrians who use the east crosswalk of Seventh Avenue and West 11th Street, then turn right to continue eastbound would be diverted to the south sidewalk of West 11th Street between Sixth and Seventh Avenues to continue eastbound.

The projected pedestrian volumes during construction for the peak 15-minute weekday AM, midday, and PM pedestrian analysis periods are presented in **Figures 4** through **6**.

Pedestrian Analysis

The adequacy of the study area's sidewalks and crosswalks in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2000 *Highway Capacity Manual* (HCM), pursuant to procedures detailed in the *CEQR Technical Manual*. Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk level of service (LOS) analysis. The determination of walkway LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Crosswalk LOS is a function of time and space. Crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian (SFP). The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks and crosswalks are summarized in **Table 2**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

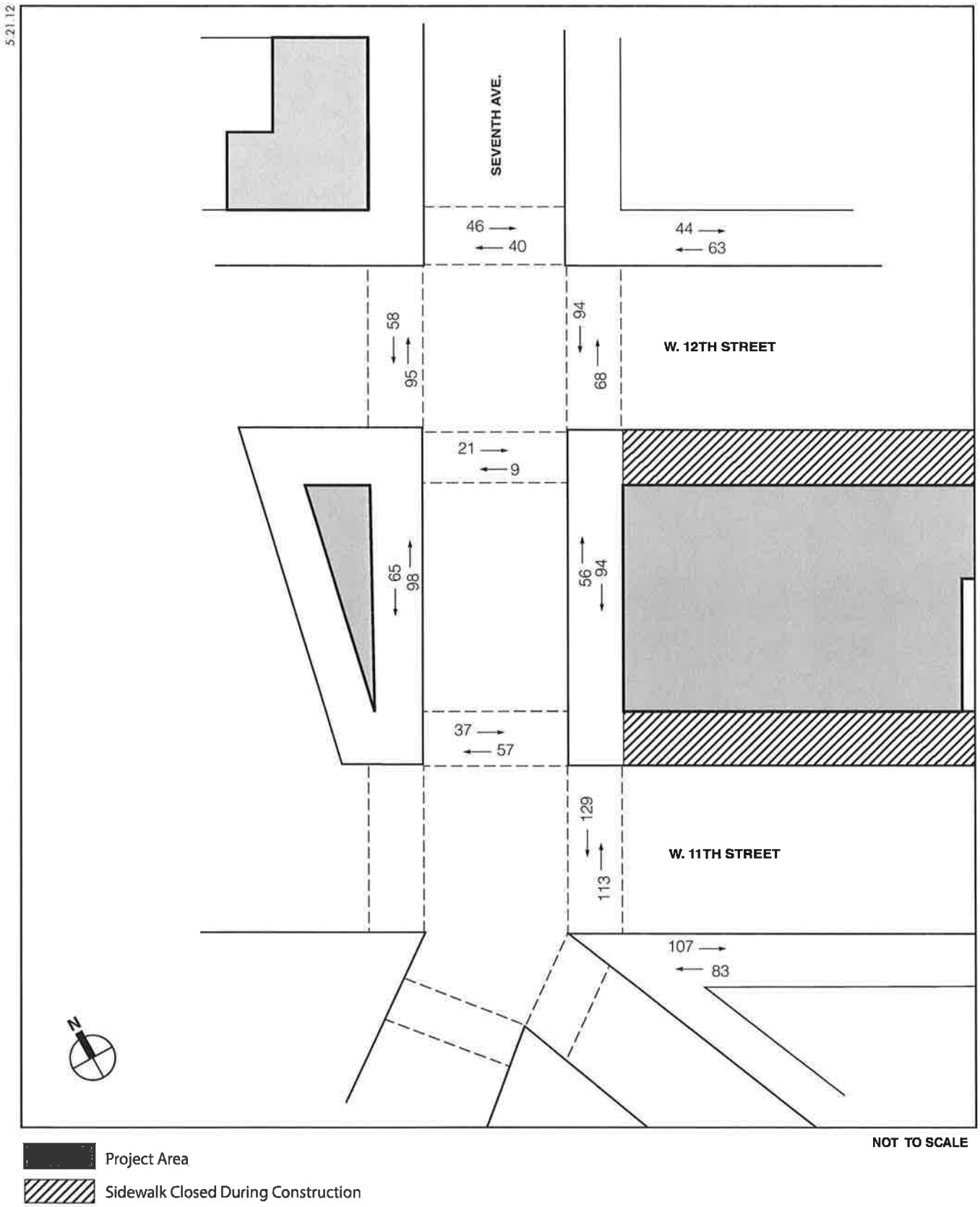


Figure 4

Construction Diverted Pedestrian Volumes
Weekday AM Peak 15 Minutes

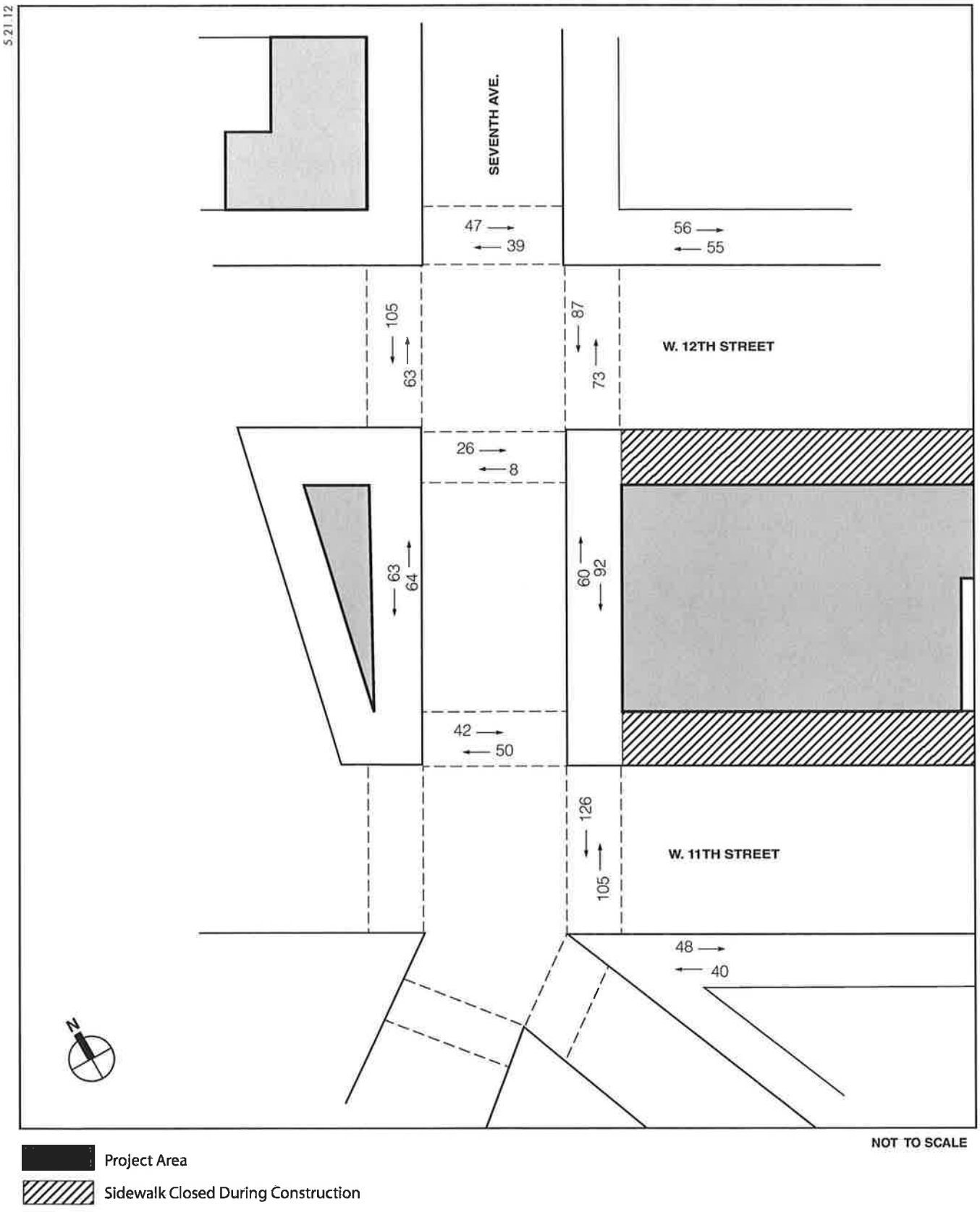


Figure 5

Construction Diverted Pedestrian Volumes
Weekday Midday Peak 15 Minutes

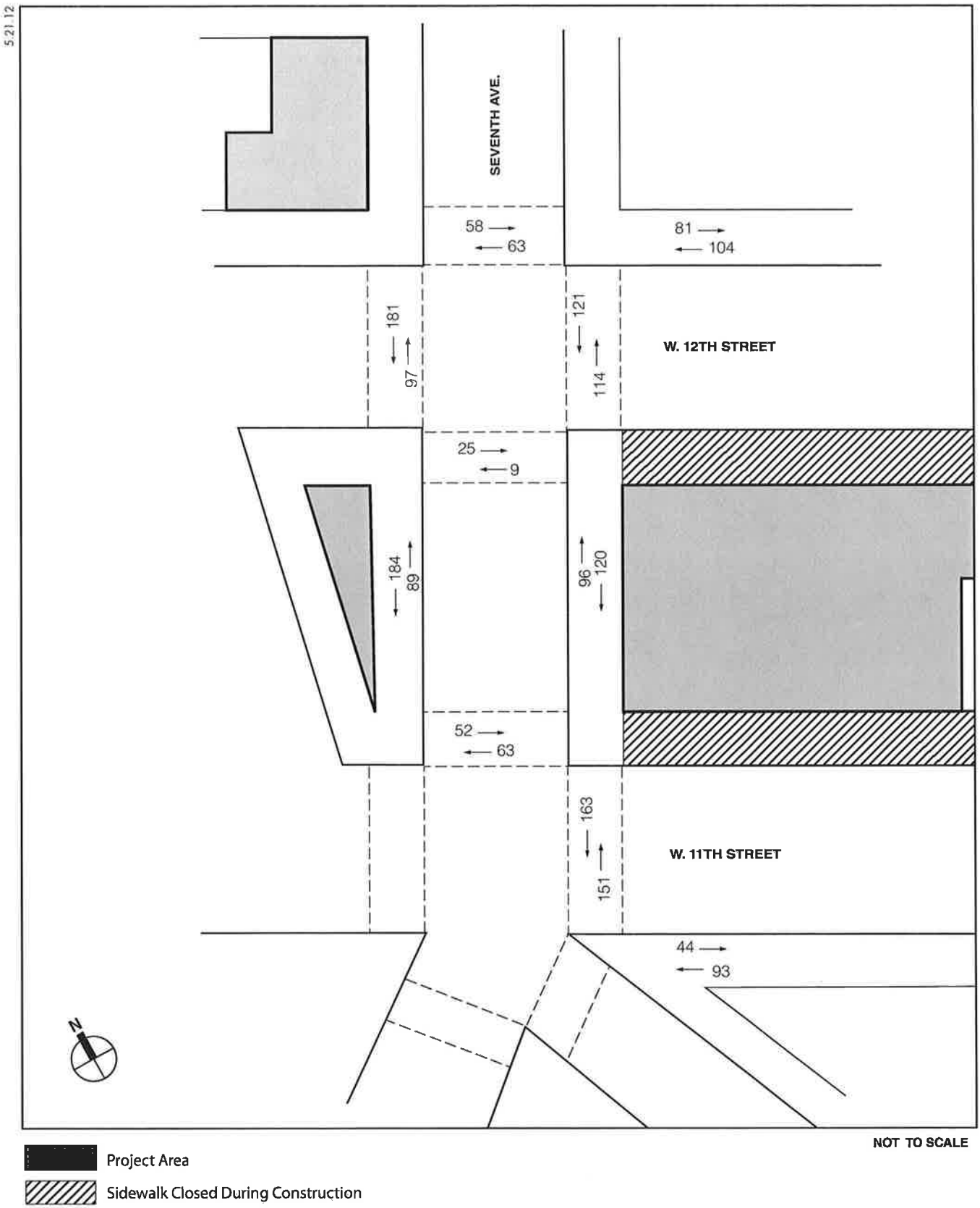


Figure 6

Construction Diverted Pedestrian Volumes
Weekday PM Peak 15 Minutes

Table 2
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	≤ 5 PMF	≤ 0.5 PMF	> 60 SFP
B	> 5 and ≤ 7 PMF	> 0.5 and ≤ 3 PMF	> 40 and ≤ 60 SFP
C	> 7 and ≤ 10 PMF	> 3 and ≤ 6 PMF	> 24 and ≤ 40 SFP
D	> 10 and ≤ 15 PMF	> 6 and ≤ 11 PMF	> 15 and ≤ 24 SFP
E	> 15 and ≤ 23 PMF	> 11 and ≤ 18 PMF	> 8 and ≤ 15 SFP
F	> 23 PMF	> 18 PMF	≤ 8 SFP

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (February 2012).

As shown in **Tables 3** and **4**, all affected sidewalks and crosswalk locations would continue to operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for crosswalks). Therefore, there would not be any temporary or significant pedestrian impacts related to the proposed closure of the West 11th and West 12th Street sidewalks adjacent to the East Site construction area.

Table 3
Construction Conditions Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	West 12th St. between Sixth and Seventh Aves.	North	5.8	107	1.23	B
2	West 11th St. between Sixth and Seventh Aves.	South	6.0	190	2.11	B
Midday Peak Period						
1	West 12th St. between Sixth and Seventh Aves.	North	5.8	111	1.28	B
2	West 11th St. between Sixth and Seventh Aves.	South	6.0	88	0.98	B
PM Peak Period						
1	West 12th St. between Sixth and Seventh Aves.	North	5.8	185	2.13	B
2	West 11th St. between Sixth and Seventh Aves.	South	6.0	137	1.52	B

Notes: PMF = pedestrians per minute per foot

Table 4
Construction Conditions Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM Peak Period			Midday Peak Period			PM Peak Period		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Seventh Avenue and West 12th Street	East	33.0	18.0	162	80.6	A	160	81.3	A	235	54.1	B
		West	33.0	16.0	153	87.1	A	168	76.6	A	278	43.9	B
		North	47.0	12.0	86	134.7	A	86	134.6	A	121	94.9	A
		South	47.0	19.0	30	524.7	A	34	468.8	A	34	468.6	A
2	Seventh Avenue and West 11th Street	East	22.0	17.0	242	45.9	B	231	48.3	B	314	34.3	C
		North	60.0	17.0	94	124.4	A	92	126.9	A	115	101.1	A

Note: SFP = square feet per pedestrian

PARKING

To facilitate the proposed construction logistics and maintain traffic flow, temporary parking regulations prohibiting parking and standing on both sides of West 11th and West 12th Streets within the limits of the East Site construction area would be required. Based on parking surveys conducted on May 14, 2012, there could be approximately 74 on-street parking spaces that would be temporarily lost during construction of the East Site. Specifically, 24 spaces would be temporarily lost along the north side of West 12th Street; 23 spaces along the south side of West 12th Street; 18 spaces along the north side of West 11th Street; and 9 spaces along the south side of West 11th Street. While the projected number of on-street parking spaces surrounding the East Site that would be temporarily displaced during construction would be substantial, such a condition is typical of large construction projects, particularly within the Manhattan CBD, and this temporary impact to the area's on-street parking supply would not, in accordance with CEQR, constitute a significant adverse environmental impact.

AIR QUALITY

The proposed changes in construction fencing and barriers and the relocation of electric powered hoists would not affect construction-related air quality emissions. In addition, since the tower cranes in the proposed logistics would be electric powered instead of diesel powered (as assumed in the FEIS), the construction-related air quality emissions with the proposed changes in construction methodologies would be similar, or less than those analyzed in the FEIS. For these reasons, as with the FEIS, the proposed projects with the proposed logistics would not result in any significant adverse impacts with respect to construction-related air quality.

NOISE

Using the methodology and noise abatement measures described in Chapter 20 ("Construction"), noise analyses were performed to determine maximum one-hour equivalent ($L_{eq(1)}$) noise levels that would be expected to occur, and to determine locations and durations of significant adverse construction noise impacts with the proposed changes.

Similar to the Proposed Project analyzed in the FEIS, with the modified construction program significant adverse noise impacts are predicted to occur during weekday construction hours at the following residential locations:

- On the north side of West 12th Street between Sixth and Seventh Avenues, at various locations on the front façades of the residential buildings located at 127 West 12th Street through 179 West 12th Street (Receptors J, I1, I, I2, and I3), including terrace locations at 179 West 12th Street (Receptor J);
- At various locations on the rear and west façades of the residential building located at 130 West 12th Street (I9 and I9a);
- On south side of West 11th Street between Sixth and Seventh Avenues, at various locations on the front façades of the residential buildings located at 128 West 11th Street through 158 West 11th Street (Receptors X and X2);
- On the north side of West 11th Street between Sixth and Seventh Avenues, at various locations on the rear façade of the residential buildings at 117 West 11th Street through 131 West 11th Street (Receptors X11 and X12);
- At various locations on the south façade of the residential buildings located at 219 West 12th Street through 229 West 12th Street (Receptors K); and
- At the fifth and sixth floor (there are only two windows on this facade) on the west façade of the residential building located at 219 West 12th Street through 229 West 12th Street (Receptors K1).

In general, significant impacts at these locations with the modified construction program would be comparable in magnitude and impact duration, to those predicted to occur with the Proposed Project. However, it should be noted that construction activities with the Reiss Retention Alternative (analyzed in the FEIS), unlike the Proposed Project, did not result in a significant adverse noise impact at Receptor I3.

With the modified construction program, similar to with the Proposed Project, significant adverse noise impact would be expected to occur at top floor locations on the front façades of the residential buildings located at 179 West 12th Street (Receptor I3) due to trucks loading/unloading and adding hoists on West 12th Street.

Tables showing analysis results with the modified construction program are contained in **Appendix 1.**

CONCLUSIONS

With the proposed modifications to the construction techniques, no significant adverse impacts on traffic or air quality are predicted. The proposed modifications to the construction techniques would cause the same or similar predicted significant adverse noise impacts as disclosed in the FEIS. ✳

Appendix 1
Construction Noise Analysis Results

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																							
		2012-June				2013-January				2013-July				2014-January				2014-July				2015-January			
		NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10
A	at-grade	71.3	71.5	0.1	74.5	71.3	71.8	0.4	74.8	71.4	71.5	0.1	74.5	71.4	71.5	0.1	74.5	71.4	71.7	0.3	74.7	71.4	71.7	0.3	74.7
A	3	71.0	71.2	0.2	74.2	71.0	71.7	0.7	74.7	71.0	71.3	0.3	74.3	71.0	71.3	0.3	74.3	71.0	71.8	0.7	74.8	71.0	71.6	0.6	74.6
A	5	69.6	69.9	0.3	72.9	69.6	70.7	1.1	73.7	69.6	70.0	0.4	73.0	69.6	69.9	0.3	72.9	69.6	70.6	1.0	73.6	69.6	70.5	0.8	73.5
A	10	67.8	68.2	0.5	71.2	67.8	69.0	1.3	72.0	67.6	68.2	0.6	71.2	67.6	68.1	0.5	71.1	67.6	69.2	1.5	72.2	67.6	69.0	1.3	72.0
A	top floor	66.1	67.1	1.0	70.1	66.1	67.8	1.6	70.8	65.9	66.8	0.9	69.8	65.9	66.6	0.7	69.6	65.9	68.1	2.2	71.1	65.9	67.8	1.9	70.8
B	at-grade	69.9	70.0	0.1	73.0	69.9	70.0	0.1	73.0	69.9	70.1	0.2	73.1	69.9	70.0	0.1	73.0	69.9	70.0	0.1	73.0	69.9	70.0	0.1	73.0
B	3	70.1	70.3	0.2	73.3	70.1	70.3	0.2	73.3	70.1	70.3	0.2	73.3	70.1	70.3	0.2	73.3	70.1	70.2	0.1	73.2	70.1	70.2	0.1	73.2
B	5	68.8	69.0	0.2	72.0	68.8	69.1	0.3	72.1	68.8	69.1	0.3	72.1	68.8	69.0	0.2	72.0	68.8	69.0	0.2	72.0	68.8	68.9	0.1	71.9
B	10	66.4	66.9	0.4	69.9	66.4	66.8	0.4	69.8	66.4	67.2	0.8	70.2	66.4	66.9	0.5	69.9	66.4	66.6	0.2	69.6	66.4	66.6	0.2	69.6
B	top floor	64.6	65.7	1.0	68.7	64.6	65.2	0.6	68.2	64.6	66.5	1.9	69.5	64.6	65.7	1.1	68.7	64.6	64.9	0.3	67.9	64.6	64.8	0.2	67.8
C	at-grade	73.1	73.2	0.0	76.2	73.1	73.2	0.0	76.2	73.2	73.2	0.0	76.2	73.2	73.2	0.0	76.2	73.2	73.2	0.0	76.2	73.2	73.2	0.0	76.2
C	3	73.5	73.6	0.0	76.6	73.5	73.6	0.0	76.6	73.6	73.6	0.0	76.6	73.6	73.6	0.0	76.6	73.6	73.7	0.1	76.7	73.6	73.6	0.0	76.6
C	5	72.6	72.7	0.0	75.7	72.6	72.7	0.1	75.7	72.7	72.7	0.0	75.7	72.7	72.7	0.0	75.7	72.7	72.8	0.1	75.8	72.7	72.8	0.1	75.8
C	10	70.2	70.2	0.1	73.2	70.2	70.2	0.1	73.2	70.2	70.2	0.1	73.2	70.2	70.2	0.1	73.2	70.2	70.4	0.2	73.4	70.2	70.3	0.1	73.3
C	15	68.7	68.8	0.1	71.8	68.7	68.8	0.1	71.8	68.7	68.7	0.1	71.7	68.7	68.7	0.1	71.7	68.7	68.9	0.2	71.9	68.7	68.8	0.1	71.8
C	top floor	67.7	67.8	0.1	70.8	67.7	67.8	0.1	70.8	67.7	67.9	0.2	70.9	67.7	67.8	0.1	70.8	67.7	68.2	0.5	71.2	67.7	67.9	0.2	70.9
D	at-grade	74.3	74.5	0.2	77.5	74.3	74.5	0.1	77.5	74.4	74.9	0.4	77.9	74.4	75.3	0.9	78.3	74.4	75.7	1.3	78.7	74.4	75.0	0.7	78.0
D	3	74.5	74.9	0.4	77.9	74.5	74.8	0.3	77.8	74.7	76.0	1.3	79.0	74.7	76.4	1.7	79.4	74.5	77.0	2.5	80.0	74.5	75.9	1.3	78.9
D	top floor	73.5	74.4	0.9	77.4	73.5	73.9	0.3	76.9	73.8	76.1	2.3	79.1	73.8	76.8	3.0	79.8	73.5	77.8	4.3	80.8	73.5	75.8	2.3	78.8
E	at-grade	73.1	73.2	0.1	76.2	73.1	73.2	0.1	76.2	72.1	72.3	0.2	75.3	72.1	72.5	0.4	75.5	71.9	72.3	0.4	75.3	71.9	72.0	0.1	75.0
E	3	73.9	74.0	0.1	77.0	73.9	74.0	0.1	77.0	72.6	73.1	0.4	76.1	72.6	73.3	0.6	76.3	72.2	72.9	0.7	75.9	72.2	72.4	0.2	75.4
E	top floor	73.1	73.3	0.2	76.3	73.1	73.2	0.1	76.2	72.0	72.7	0.7	75.7	72.0	72.8	0.8	75.8	71.4	72.3	0.9	75.3	71.4	71.7	0.3	74.7
F	at-grade	71.3	71.3	0.0	74.3	71.3	71.3	0.0	74.3	71.3	71.4	0.1	74.4	71.3	71.5	0.2	74.5	71.3	71.5	0.2	74.5	71.3	71.3	0.1	74.3
F	3	71.5	71.6	0.1	74.6	71.5	71.6	0.1	74.6	71.5	71.6	0.2	74.6	71.5	71.8	0.3	74.8	71.4	71.6	0.3	74.6	71.4	71.4	0.1	74.4
F	5	70.4	70.6	0.1	73.6	70.4	70.5	0.1	73.5	70.5	70.8	0.2	73.8	70.5	71.0	0.5	74.0	70.3	70.7	0.4	73.7	70.3	70.4	0.1	73.4
F	top floor	69.5	69.7	0.2	72.7	69.5	69.6	0.1	72.6	69.6	70.0	0.4	73.0	69.6	70.2	0.6	73.2	69.4	69.9	0.5	72.9	69.4	69.5	0.1	72.5
G	at-grade	73.1	73.1	0.0	76.1	73.1	73.1	0.0	76.1	73.1	73.1	0.0	76.1	73.1	73.1	0.0	76.1	73.1	73.1	0.0	76.1	73.1	73.1	0.0	76.1
G	3	73.0	73.0	0.0	76.0	73.0	73.0	0.0	76.0	72.9	72.9	0.0	75.9	72.9	72.9	0.0	75.9	72.9	73.0	0.1	76.0	72.9	72.9	0.0	75.9
G	top floor	71.7	71.8	0.0	74.8	71.7	71.8	0.0	74.8	71.6	71.6	0.0	74.6	71.6	71.7	0.1	74.7	71.6	71.7	0.1	74.7	71.6	71.6	0.0	74.6
H	at-grade	65.0	65.9	0.8	68.4	65.0	65.8	0.8	68.3	65.1	66.2	1.2	68.7	65.1	66.4	1.3	68.9	65.1	66.7	1.6	69.2	65.1	66.4	1.3	68.9
H	3	63.9	65.2	1.3	67.7	63.9	65.1	1.2	67.6	64.0	66.3	2.3	68.8	64.0	66.0	2.0	68.5	64.0	66.5	2.4	69.0	64.0	65.9	1.9	68.4
H	5	62.6	64.6	2.0	67.1	62.6	64.4	1.8	66.9	62.7	65.1	2.5	67.6	62.7	66.1	3.4	68.6	62.7	67.0	4.2	69.5	62.7	65.9	3.2	68.4
H	10	60.2	63.2	2.9	65.7	60.2	62.9	2.7	65.4	60.3	64.5	4.3	67.0	60.3	65.0	4.7	67.5	60.3	66.0	5.7	68.5	60.3	64.8	4.5	67.3
H	15	60.5	63.3	2.8	65.8	60.5	63.2	2.7	65.7	60.5	64.6	4.1	67.1	60.5	65.1	4.6	67.6	60.5	66.2	5.7	68.7	60.5	64.6	4.1	67.1
H	top floor	60.5	63.2	2.8	65.7	60.5	63.1	2.6	65.6	60.5	64.6	4.1	67.1	60.5	65.6	5.1	68.1	60.2	66.4	6.2	68.9	60.2	64.1	3.9	66.6
I	at-grade	64.6	68.8	4.2	71.3	64.6	69.8	5.2	72.3	64.6	71.9	7.3	74.4	64.6	70.9	6.3	73.4	64.6	71.6	7.0	74.1	64.6	69.5	4.9	72.0
I	3	62.6	72.7	10.0	75.2	62.6	72.9	10.3	75.4	62.6	77.7	15.1	80.2	62.6	77.6	15.0	80.1	62.6	78.4	15.8	80.9	62.6	74.8	12.2	77.3
I	top floor	60.8	73.3	12.4	75.8	60.8	72.7	11.9	75.2	60.8	78.1	17.3	80.6	60.8	77.0	16.2	79.5	60.8	77.9	17.1	80.4	60.8	74.5	13.7	77.0
J	at-grade	67.7	71.4	3.7	73.9	67.7	71.2	3.5	73.7	67.8	70.1	2.3	72.6	67.8	69.5	1.7	72.0	67.8	69.9	2.1	72.4	67.8	69.7	1.9	72.2
J	3	67.2	75.2	8.1	77.7	67.2	75.2	8.1	77.7	67.2	71.6	4.4	74.1	67.2	71.4	4.3	73.9	67.2	72.0	4.8	74.5	67.2	72.0	4.8	74.5
J	5	65.8	74.2	8.4	76.7	65.8	74.4	8.6	76.9	65.8	72.1	6.4	74.6	65.8	71.2	5.5	73.7	65.8	71.5	5.7	74.0	65.8	71.4	5.6	73.9
J	10	63.7	72.2	8.6	74.7	63.7	72.6	8.9	75.1	63.5	71.5	8.0	74.0	63.5	70.6	7.1	73.1	63.5	70.8	7.3	73.3	63.5	70.2	6.7	72.7
J	top floor	62.7	70.7	7.9	73.2	62.7	70.9	8.2	73.4	61.8	70.7	8.9	73.2	61.8	71.4	9.6	73.9	61.6	71.9	10.3	74.4	61.6	69.1	7.5	71.6
K	at-grade	66.6	68.8	2.2	71.1	66.6	68.8	2.2	71.1	66.7	69.6	2.9	71.9	66.7	69.3	2.7	71.6	66.7	70.0	3.3	72.3	66.7	69.8	3.1	72.1
K	3	67.5	71.5	3.9	73.8	67.5	72.1	4.5	74.4	67.7	72.9	5.3	75.2	67.7	72.4	4.8	74.7	67.6	72.3	4.7	74.6	67.6	72.1	4.4	74.4
K	top floor	67.1	72.3	5.2	74.6	67.1	72.3	5.2	74.6	67.5	73.7	6.2	76.0	67.5	73.2	5.7	75.5	67.4	72.5	5.1	74.8	67.4	72.2	4.9	74.5
L	at-grade	64.8	65.3	0.4	68.4	64.8	65.3	0.5	68.4	64.9	65.5	0.6	68.6	64.9	65.7	0.8	68.8	64.9	66.4	1.5	69.5	64.9	66.1	1.2	69.2
L	3	64.4	64.9	0.5	68.0	64.4	64.8	0.5	67.9	64.5	65.3	0.8	68.4	64.5	65.7	1.2	68.8	64.5	66.9	2.5	70.0	64.5	66.6	2.1	69.7
L	top floor	63.0	63.8	0.8	66.9	63.0	63.8	0.9	66.9	63.1	64.3	1.3	67.4	63.1	64.8	1.7	67.9	63.1	66.5	3.4	69.6	63.1	65.9	2.8	69.0
M	at-grade	62.7	63.2	0.5	66.3	62.7	63.2	0.5	66.3	62.8	63.3	0.5	66.4	62.8	63.5	0.7	66.6	62.8	63.9	1.1	67.0	62.8	63.7	0.9	66.8
M	3	62.0	62.5	0.5	65.6	62.0	62.5	0.5	65.6	62.1	62.7	0.6	65.8	62.1	63.1	1.0	66.2	62.1	63.9	1.8	67.0	62.1	63.5	1.4	66.6
M	5	60.3	60.9	0.6	64.0	60.3	60.9	0.6	64.0	60.4	61.4	1.0	64.5	60.4	62.0	1.6	65.1	60.4	63.2	2.8	66.3	60.4	62.5	2.1	65.6
M	10	57.0	58.9	1.9	62.0	57.0	58.5	1.5	61.6	57.5	60.2	2.7	63.3	57.5	61.2	3.7	64.3	57.7	62.6	4.9	65.7	57.7	61.5	3.8	64.6
M	15	55.4	58.2	2.8	61.3	55.4	57.4	1.9	60.5	57.2	61.2	4.0	64.3	57.2	61.5	4.3	64.6	56.6	62.7	6.1	65.8	56.6	61.3	4.7	64.4
M	top floor	56.4	59.2	2.8	62.3	56.4	58.3	1.9	61.4	57.8	61.7	3.9	64.8	57.8	61.9	4.1	65.0	57.3	63.6	6.4	66.7	57.3	61.9	4.6	65.0

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																							
		2012-June				2013-January				2013-July				2014-January				2014-July				2015-January			
		NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10
N	at-grade	67.7	67.9	0.2	71.0	67.7	67.9	0.2	71.0	67.7	68.0	0.3	71.1	67.7	68.0	0.3	71.1	67.7	67.9	0.2	71.0	67.7	67.9	0.2	71.0
N	3	67.1	67.4	0.3	70.5	67.1	67.4	0.3	70.5	67.2	67.6	0.4	70.7	67.2	67.6	0.3	70.7	67.2	67.4	0.3	70.5	67.2	67.4	0.2	70.5
N	top floor	65.8	66.1	0.3	69.2	65.8	66.1	0.3	69.2	66.0	66.5	0.5	69.6	66.0	66.4	0.5	69.5	65.9	66.3	0.4	69.4	65.9	66.2	0.3	69.3
O	at-grade	63.9	64.8	0.9	67.2	63.9	64.2	0.3	66.6	63.9	65.2	1.3	67.6	63.9	65.0	1.1	67.4	63.9	64.1	0.2	66.5	63.9	64.1	0.2	66.5
O	3	63.0	64.5	1.5	66.9	63.0	63.4	0.4	65.8	63.0	65.4	2.4	67.8	63.0	64.9	1.9	67.3	63.0	63.3	0.3	65.7	63.0	63.2	0.2	65.6
O	top floor	61.8	65.2	3.4	67.6	61.8	62.3	0.5	64.7	61.8	66.6	4.8	69.0	61.8	65.7	3.9	68.1	61.8	62.1	0.3	64.5	61.8	62.1	0.2	64.5
P	at-grade	67.4	68.0	0.6	70.4	67.4	67.6	0.2	70.0	67.4	68.6	1.2	71.0	67.4	68.1	0.7	70.5	67.4	67.5	0.1	69.9	67.4	67.5	0.1	69.9
P	10	55.8	58.1	2.3	60.5	55.8	57.2	1.3	59.6	56.0	58.3	2.3	60.7	56.0	58.7	2.7	61.1	55.1	58.8	3.8	61.2	55.1	56.6	1.6	59.0
P	15	62.9	64.4	1.5	66.8	62.9	64.0	1.1	66.4	62.9	64.3	1.4	66.7	62.9	64.3	1.4	66.7	62.8	64.8	2.0	67.2	62.8	63.5	0.8	65.9
P	top floor	63.5	66.3	2.8	68.7	63.5	65.2	1.7	67.6	63.7	67.2	3.5	69.6	63.7	66.7	3.0	69.1	63.4	65.7	2.3	68.1	63.4	64.2	0.8	66.6
Q	at-grade	64.2	64.3	0.1	66.6	64.2	64.3	0.1	66.6	64.2	64.5	0.3	66.8	64.2	64.4	0.2	66.7	64.2	64.3	0.1	66.6	64.2	64.2	0.0	66.5
Q	3	63.6	63.9	0.3	66.2	63.6	63.8	0.2	66.1	63.6	64.2	0.6	66.5	63.6	64.0	0.4	66.3	63.6	63.7	0.1	66.0	63.6	63.7	0.0	66.0
Q	5	62.3	62.8	0.5	65.1	62.3	62.6	0.3	64.9	62.3	63.2	0.9	65.5	62.3	62.9	0.6	65.2	62.3	62.7	0.4	65.0	62.3	62.4	0.1	64.7
Q	10	59.5	61.3	1.7	63.6	59.5	61.2	1.7	63.5	59.5	62.7	3.2	65.0	59.5	61.2	1.7	63.5	59.5	61.8	2.3	64.1	59.5	59.7	0.2	62.0
Q	15	58.2	60.6	2.4	62.9	58.2	60.4	2.2	62.7	58.3	62.6	4.2	64.9	58.3	61.0	2.7	63.3	58.1	62.3	4.2	64.6	58.1	58.7	0.5	61.0
Q	top floor	57.6	60.8	3.1	63.1	57.6	60.3	2.6	62.6	57.4	62.0	4.6	64.3	57.4	61.4	4.0	63.7	57.4	63.0	5.6	65.3	57.4	59.0	1.6	61.3
R	at-grade	70.9	70.9	0.0	74.4	70.9	70.9	0.0	74.4	70.9	71.0	0.1	74.5	70.9	71.0	0.1	74.5	70.9	70.9	0.0	74.4	70.9	70.9	0.0	74.4
R	3	70.2	70.3	0.1	73.8	70.2	70.3	0.1	73.8	70.2	70.3	0.1	73.8	70.2	70.3	0.1	73.8	70.2	70.3	0.1	73.8	70.2	70.3	0.1	73.8
R	5	68.8	68.9	0.1	72.4	68.8	68.9	0.1	72.4	68.8	68.9	0.1	72.4	68.8	68.9	0.1	72.4	68.8	68.9	0.1	72.4	68.8	68.9	0.1	72.4
R	10	65.7	65.9	0.2	69.4	65.7	65.8	0.1	69.3	65.7	65.9	0.2	69.4	65.7	65.9	0.2	69.4	65.7	65.8	0.1	69.3	65.7	65.8	0.1	69.3
R	top floor	63.3	63.5	0.2	67.0	63.3	63.4	0.1	66.9	63.3	63.7	0.4	67.2	63.3	63.6	0.3	67.1	63.3	63.4	0.1	66.9	63.3	63.4	0.1	66.9
S	at-grade	70.7	70.8	0.1	74.3	70.7	70.8	0.1	74.3	70.7	70.8	0.1	74.3	70.7	70.8	0.1	74.3	70.7	70.9	0.2	74.4	70.7	70.8	0.1	74.3
S	3	70.3	70.5	0.2	74.0	70.3	70.4	0.1	73.9	70.3	70.6	0.3	74.1	70.3	70.5	0.2	74.0	70.3	70.6	0.3	74.1	70.3	70.5	0.2	74.0
S	5	69.0	69.3	0.3	72.8	69.0	69.3	0.3	72.8	69.0	69.4	0.4	72.9	69.0	69.4	0.4	72.9	69.0	69.5	0.5	73.0	69.0	69.3	0.3	72.8
S	10	66.1	66.6	0.5	70.1	66.1	66.5	0.4	70.0	66.2	67.0	0.8	70.5	66.2	67.0	0.8	70.5	66.1	67.3	1.2	70.8	66.1	66.9	0.8	70.4
S	top floor	64.8	65.4	0.6	68.9	64.8	65.3	0.6	68.8	64.9	66.0	1.1	69.5	64.9	66.1	1.1	69.6	64.7	66.4	1.7	69.9	64.7	65.7	1.0	69.2
T	at-grade	68.8	68.8	0.0	72.3	68.8	68.8	0.0	72.3	68.8	68.9	0.1	72.4	68.8	68.8	0.0	72.3	68.8	68.9	0.1	72.4	68.8	68.8	0.0	72.3
T	3	68.6	68.7	0.0	72.2	68.6	68.7	0.1	72.2	68.6	68.7	0.1	72.2	68.6	68.7	0.1	72.2	68.6	68.7	0.1	72.2	68.6	68.6	0.0	72.1
T	top floor	66.3	66.4	0.1	69.9	66.3	66.4	0.1	69.9	66.3	66.7	0.3	70.2	66.3	66.8	0.4	70.3	66.3	66.7	0.4	70.2	66.3	66.4	0.1	69.9
U	at-grade	69.0	69.1	0.1	72.6	69.0	69.2	0.2	72.7	69.0	69.2	0.2	72.7	69.0	69.1	0.1	72.6	69.0	69.2	0.2	72.7	69.0	69.1	0.1	72.6
U	3	68.7	68.9	0.2	72.4	68.7	69.0	0.3	72.5	68.7	69.1	0.4	72.6	68.7	68.9	0.2	72.4	68.7	69.0	0.3	72.5	68.7	68.9	0.2	72.4
U	top floor	67.5	67.7	0.2	71.2	67.5	67.7	0.2	71.2	67.5	67.9	0.4	71.4	67.5	67.9	0.4	71.4	67.5	67.9	0.4	71.4	67.5	67.7	0.2	71.2
V	at-grade	68.2	68.3	0.1	71.8	68.2	68.3	0.1	71.8	68.2	68.4	0.2	71.9	68.2	68.3	0.1	71.8	68.2	68.3	0.1	71.8	68.2	68.3	0.1	71.8
V	3	68.1	68.3	0.2	71.8	68.1	68.3	0.2	71.8	68.1	68.3	0.2	71.8	68.1	68.3	0.2	71.8	68.1	68.3	0.2	71.8	68.1	68.3	0.2	71.8
V	5	67.0	67.2	0.2	70.7	67.0	67.2	0.2	70.7	67.0	67.2	0.2	70.7	67.0	67.4	0.4	70.9	67.0	67.4	0.4	70.9	67.0	67.2	0.2	70.7
V	top floor	64.4	64.7	0.3	68.2	64.4	64.7	0.3	68.2	64.5	65.0	0.5	68.5	64.5	65.2	0.7	68.7	64.4	65.0	0.6	68.5	64.4	64.6	0.2	68.1
w	at-grade	66.6	67.0	0.4	69.6	66.6	67.0	0.4	69.6	66.7	67.7	1.0	70.3	66.7	67.4	0.7	70.0	66.7	67.2	0.5	69.8	66.7	67.6	0.9	70.2
w	top floor	67.5	68.0	0.5	70.6	67.5	67.9	0.3	70.5	67.6	69.2	1.7	71.8	67.6	68.8	1.2	71.4	67.6	68.3	0.7	70.9	67.6	68.9	1.3	71.5
X	at-grade	61.7	64.3	2.6	66.9	61.7	64.2	2.5	66.8	61.7	73.4	11.7	76.0	61.7	69.7	8.0	72.3	61.7	65.6	3.9	68.2	61.7	68.9	7.2	71.5
X	3	61.1	67.4	6.3	70.0	61.1	67.6	6.5	70.2	61.2	79.4	18.2	82.0	61.2	73.7	12.5	76.3	61.2	66.6	5.5	69.2	61.2	72.4	11.3	75.0
X	top floor	60.0	69.0	9.0	71.6	60.0	67.1	7.1	69.7	62.6	81.5	18.8	84.1	62.6	76.0	13.4	78.6	60.1	67.5	7.4	70.1	60.1	75.2	15.1	77.8
Y	at-grade	66.2	66.3	0.0	69.4	66.2	66.3	0.0	69.4	66.3	66.4	0.0	69.5	66.3	66.5	0.1	69.6	66.3	66.5	0.2	69.6	66.3	66.4	0.0	69.5
Y	3	66.7	66.8	0.0	69.9	66.7	66.8	0.0	69.9	67.0	67.0	0.0	70.1	67.0	67.2	0.2	70.3	66.9	67.2	0.2	70.3	66.9	67.0	0.1	70.1
Y	5	66.4	66.5	0.0	69.6	66.4	66.5	0.0	69.6	66.7	66.8	0.1	69.9	66.7	67.0	0.3	70.1	66.6	66.9	0.3	70.0	66.6	66.7	0.1	69.8
Y	10	64.6	64.8	0.2	67.9	64.6	64.8	0.2	67.9	65.0	65.4	0.3	68.5	65.0	65.7	0.7	68.8	64.9	65.6	0.7	68.7	64.9	65.1	0.2	68.2
Y	top floor	63.6	64.0	0.4	67.1	63.6	63.9	0.2	67.0	64.1	64.8	0.7	67.9	64.1	65.1	1.0	68.2	64.0	64.9	1.0	68.0	64.0	64.2	0.2	67.3
Z	at-grade	62.4	62.5	0.1	65.6	62.4	62.7	0.3	65.8	63.0	63.6	0.6	66.7	63.0	63.7	0.7	66.8	62.8	63.5	0.6	66.6	62.8	62.9	0.1	66.0
Z	3	62.1	62.4	0.2	65.5	62.1	62.6	0.5	65.7	63.7	64.6	0.9	67.7	63.7	64.7	1.0	67.8	63.2	64.1	1.0	67.2	63.2	63.3	0.1	66.4
Z	5	60.9	61.5	0.5	64.6	60.9	61.8	0.8	64.9	62.9	64.0	1.1	67.1	62.9	64.6	1.7	67.7	62.3	63.6	1.3	66.7	62.3	62.4	0.1	65.5
Z	top floor	59.3	60.2	0.9	63.3	59.3	60.6	1.3	63.7	61.9	63.6	1.7	66.7	61.9	64.5	2.6	67.6	61.0	63.0	2.0	66.1	61.0	61.4	0.4	64.5
AA	at-grade	64.9	64.9	0.1	68.0	64.9	64.9	0.1	68.0	66.2	66.3	0.1	69.4	66.2	66.9	0.7	70.0	65.8	66.6	0.9	69.7	65.8	66.0	0.2	69.1
AA	3	64.6	64.8	0.2	67.9	64.6	64.8	0.2	67.9	67.4	67.5	0.1	70.6	67.4	68.3	0.9	71.4	66.6	67.8	1.2	70.9	66.6	66.9	0.4	70.0
AA	top floor	63.4	64.0	0.6	67.1	63.4	64.2	0.8	67.3	66.8	67.8	1.0	70.9	66.8	68.3	1.5	71.4	65.9	67.4	1.6	70.5	65.9	66.3	0.5	69.4

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																					
		2012-June				2013-January				2013-July				2014-January				2014-July				2015-January			
		NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10
BB	at-grade	65.8	65.9	0.1	69.0	65.8	65.8	0.1	68.9	73.8	73.8	0.0	76.9	73.8	74.2	0.4	77.3	72.9	73.3	0.4	76.4	72.9	73.0	0.2	76.1
BB	3	65.9	66.5	0.6	69.6	65.9	66.7	0.8	69.8	75.8	76.0	0.2	79.1	75.8	76.3	0.5	79.4	74.2	74.7	0.6	77.8	74.2	74.4	0.2	77.5
BB	top floor	65.4	66.4	1.0	69.5	65.4	66.3	0.9	69.4	75.7	76.0	0.3	79.1	75.7	76.3	0.6	79.4	73.4	74.3	0.9	77.4	73.4	73.8	0.3	76.9
CC	at-grade	65.8	66.3	0.5	69.4	65.8	66.3	0.5	69.4	66.0	66.7	0.7	69.8	66.0	67.0	1.1	70.1	66.0	69.5	3.6	72.6	66.0	69.2	3.3	72.3
CC	3	65.2	66.2	1.0	69.3	65.2	66.2	1.0	69.3	65.5	67.6	2.1	70.7	65.5	67.4	1.9	70.5	65.4	72.6	7.2	75.7	65.4	72.4	7.0	75.5
CC	top floor	64.1	65.9	1.8	69.0	64.1	66.1	2.0	69.2	64.5	68.3	3.8	71.4	64.5	67.2	2.7	70.3	64.4	72.9	8.6	76.0	64.4	72.8	8.4	75.9
DD	at-grade	61.6	61.6	0.0	63.5	61.6	61.6	0.0	63.5	61.6	61.6	0.0	63.5	61.6	61.6	0.0	63.5	61.6	61.6	0.0	63.5	61.6	61.6	0.0	63.5
DD	3	60.6	60.6	0.0	62.5	60.6	60.6	0.0	62.5	60.6	60.7	0.1	62.6	60.6	60.7	0.1	62.6	60.6	60.7	0.1	62.6	60.6	60.6	0.0	62.5
DD	5	59.2	59.3	0.1	61.2	59.2	59.3	0.1	61.2	59.2	59.3	0.1	61.2	59.2	59.5	0.3	61.4	59.2	59.8	0.6	61.7	59.2	59.2	0.0	61.1
DD	10	57.4	58.9	1.5	60.8	57.4	59.6	2.2	61.5	57.5	60.7	3.2	62.6	57.5	60.4	2.9	62.3	57.4	59.4	2.0	61.3	57.4	58.1	0.7	60.0
DD	top floor	57.7	59.9	2.1	61.8	57.7	60.5	2.8	62.4	57.9	62.1	4.2	64.0	57.9	61.3	3.4	63.2	57.7	60.4	2.7	62.3	57.7	59.0	1.3	60.9
EE	at-grade	65.9	65.9	0.0	67.8	65.9	65.9	0.0	67.8	65.9	65.9	0.0	67.8	65.9	65.9	0.0	67.8	65.9	65.9	0.0	67.8	65.9	65.9	0.0	67.8
EE	3	65.1	65.1	0.0	67.0	65.1	65.1	0.0	67.0	65.1	65.2	0.1	67.1	65.1	65.2	0.1	67.1	65.1	65.2	0.1	67.1	65.1	65.1	0.0	67.0
EE	5	63.6	63.7	0.1	65.6	63.6	63.7	0.1	65.6	63.6	63.7	0.1	65.6	63.6	63.8	0.2	65.7	63.6	64.0	0.4	65.9	63.6	63.6	0.0	65.5
EE	top floor	61.7	62.1	0.4	64.0	61.7	62.3	0.5	64.2	61.7	62.5	0.8	64.4	61.7	63.1	1.3	65.0	61.7	62.7	1.0	64.6	61.7	61.8	0.1	63.7
FF	at-grade	62.3	62.6	0.3	64.5	62.3	62.6	0.3	64.5	62.3	62.6	0.3	64.5	62.3	62.7	0.3	64.6	62.3	66.7	4.4	68.6	62.3	66.7	4.4	68.6
FF	3	62.5	62.8	0.3	64.7	62.5	62.8	0.4	64.7	62.5	62.9	0.5	64.8	62.5	63.0	0.5	64.9	62.5	68.8	6.4	70.7	62.5	68.8	6.4	70.7
FF	top floor	61.9	62.5	0.6	64.4	61.9	62.7	0.8	64.6	61.9	62.7	0.8	64.6	61.9	62.6	0.7	64.5	61.9	70.3	8.4	72.2	61.9	70.0	8.2	71.9

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																							
		2012-June				2013-January				2013-July				2014-January				2014-July				2015-January			
		NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10
X1	at-grade	67.1	68.6	1.4	71.2	67.1	68.1	1.0	70.7	67.2	70.4	3.2	73.0	67.2	71.5	4.3	74.1	67.2	71.3	4.1	73.9	67.2	69.6	2.4	72.2
X1	top floor	67.7	72.3	4.6	74.9	67.7	69.0	1.3	71.6	67.7	75.8	8.1	78.4	67.7	74.5	6.8	77.1	67.7	75.3	7.6	77.9	67.7	71.7	4.0	74.3
X2	at-grade	63.2	66.0	2.7	68.6	63.2	65.3	2.1	67.9	63.3	71.6	8.3	74.2	63.3	69.6	6.3	72.2	63.3	67.5	4.3	70.1	63.3	67.5	4.3	70.1
X2	top floor	62.6	70.1	7.4	72.7	62.6	65.9	3.2	68.5	62.7	77.4	14.7	80.0	62.7	72.3	9.6	74.9	62.7	68.7	6.0	71.3	62.7	69.0	6.4	71.6
X3	at-grade	62.5	64.1	1.6	66.7	62.5	64.1	1.6	66.7	62.5	68.0	5.5	70.6	62.5	66.4	3.9	69.0	62.5	64.7	2.2	67.3	62.5	67.9	5.4	70.5
X3	3	61.7	64.2	2.5	66.8	61.7	63.9	2.2	66.5	61.7	72.8	11.1	75.4	61.7	67.5	5.7	70.1	61.7	65.1	3.4	67.7	61.7	70.3	8.6	72.9
X3	5	60.3	63.9	3.6	66.5	60.3	62.9	2.6	65.5	60.3	74.3	13.9	76.9	60.3	68.9	8.5	71.5	60.3	64.7	4.4	67.3	60.3	72.8	12.4	75.4
X3	top floor	59.3	63.6	4.2	66.2	59.3	62.3	3.0	64.9	59.4	74.1	14.7	76.7	59.4	68.8	9.4	71.4	59.3	64.6	5.3	67.2	59.3	72.2	12.9	74.8
X4	at-grade	62.8	64.3	1.5	66.9	62.8	64.1	1.3	66.7	62.8	67.2	4.4	69.8	62.8	66.1	3.3	68.7	62.8	64.9	2.0	67.5	62.8	67.2	4.4	69.8
X4	top floor	62.7	64.5	1.8	67.1	62.7	64.1	1.4	66.7	62.7	68.7	6.0	71.3	62.7	67.1	4.4	69.7	62.7	65.3	2.5	67.9	62.7	68.6	5.9	71.2
X5	at-grade	63.5	64.9	1.3	67.5	63.5	64.8	1.2	67.4	63.6	67.2	3.7	69.8	63.6	66.2	2.6	68.8	63.6	65.3	1.7	67.9	63.6	67.1	3.5	69.7
X5	top floor	63.4	65.2	1.8	67.8	63.4	64.9	1.5	67.5	63.6	68.7	5.1	71.3	63.6	67.0	3.4	69.6	63.5	65.7	2.2	68.3	63.5	67.9	4.4	70.5
X6	at-grade	64.6	65.5	0.9	68.1	64.6	65.5	0.9	68.1	64.6	67.2	2.6	69.8	64.6	66.5	1.8	69.1	64.6	65.9	1.3	68.5	64.6	67.0	2.4	69.6
X6	top floor	64.6	65.8	1.2	68.4	64.6	65.6	1.0	68.2	64.6	68.2	3.5	70.8	64.6	67.1	2.4	69.7	64.6	66.2	1.6	68.8	64.6	67.5	2.8	70.1
X7	at-grade	61.8	62.7	0.9	65.3	61.8	62.9	1.1	65.5	61.9	67.8	5.9	70.4	61.9	65.0	3.1	67.6	61.9	62.8	0.9	65.4	61.9	68.6	6.6	71.2
X7	3	61.9	63.0	1.2	65.6	61.9	63.0	1.1	65.6	62.0	70.8	8.8	73.4	62.0	68.2	6.2	70.8	61.9	63.6	1.7	66.2	61.9	73.8	11.9	76.4
X7	top floor	60.9	62.3	1.4	64.9	60.9	62.1	1.2	64.7	61.8	70.6	8.8	73.2	61.8	68.0	6.2	70.6	61.0	62.9	2.0	65.5	61.0	73.4	12.4	76.0
X8	at-grade	62.6	63.7	1.1	66.3	62.6	63.6	1.0	66.2	62.7	67.4	4.7	70.0	62.7	65.4	2.7	68.0	62.6	63.5	0.9	66.1	62.6	67.4	4.8	70.0
X8	3	62.5	63.7	1.2	66.3	62.5	63.5	1.0	66.1	62.6	69.5	6.9	72.1	62.6	67.4	4.8	70.0	62.5	64.2	1.7	66.8	62.5	70.4	7.9	73.0
X8	top floor	61.8	63.0	1.2	65.6	61.8	62.7	1.0	65.3	62.2	69.3	7.1	71.9	62.2	67.3	5.1	69.9	61.8	63.8	2.0	66.4	61.8	71.1	9.4	73.7
X9	at-grade	63.1	64.1	0.9	66.7	63.1	63.9	0.8	66.5	63.2	66.9	3.7	69.5	63.2	65.6	2.4	68.2	63.2	64.0	0.8	66.6	63.2	66.9	3.6	69.5
X9	3	63.1	64.1	0.9	66.7	63.1	64.0	0.8	66.6	63.2	68.8	5.6	71.4	63.2	66.7	3.5	69.3	63.2	64.6	1.4	67.2	63.2	68.4	5.2	71.0
X9	top floor	62.5	63.5	1.0	66.1	62.5	63.3	0.8	65.9	62.7	68.5	5.8	71.1	62.7	66.8	4.1	69.4	62.6	64.2	1.6	66.8	62.6	69.8	7.2	72.4
X10	at-grade	64.1	64.8	0.7	67.4	64.1	64.7	0.6	67.3	64.1	66.6	2.4	69.2	64.1	65.6	1.5	68.2	64.1	64.7	0.6	67.3	64.1	66.6	2.5	69.2
X10	3	64.3	64.9	0.6	67.5	64.3	64.9	0.6	67.5	64.3	68.0	3.6	70.6	64.3	66.5	2.2	69.1	64.3	65.3	1.0	67.9	64.3	67.4	3.1	70.0
X10	top floor	63.9	64.5	0.6	67.1	63.9	64.5	0.6	67.1	63.9	67.9	4.0	70.5	63.9	66.7	2.8	69.3	63.8	65.2	1.4	67.8	63.8	68.6	4.8	71.2
X11	at-grade	54.6	55.3	0.7	57.9	54.6	59.4	4.7	62.0	54.7	62.7	8.0	65.3	54.7	61.8	7.1	64.4	54.7	56.6	1.9	59.2	54.7	56.1	1.4	58.7
X11	3	55.7	56.6	0.9	59.2	55.7	61.9	6.2	64.5	55.8	67.3	11.5	69.9	55.8	68.8	13.0	71.4	55.8	60.6	4.8	63.2	55.8	57.3	1.5	59.9
X11	top floor	57.8	59.4	1.6	62.0	57.8	68.9	11.0	71.5	57.9	73.9	16.0	76.5	57.9	71.9	14.0	74.5	57.9	63.4	5.5	66.0	57.9	58.9	1.0	61.5
X12	at-grade	54.6	55.2	0.5	57.8	54.6	56.3	1.7	58.9	54.7	58.6	4.0	61.2	54.7	57.2	2.5	59.8	54.7	55.6	0.9	58.2	54.7	55.5	0.8	58.1
X12	3	56.3	57.3	1.0	59.9	56.3	58.1	1.8	60.7	56.4	60.1	3.7	62.7	56.4	59.1	2.7	61.7	56.4	57.4	1.0	60.0	56.4	57.1	0.7	59.7
X12	top floor	60.7	61.0	0.3	63.6	60.7	62.3	1.6	64.9	60.8	63.7	2.9	66.3	60.8	65.4	4.6	68.0	60.8	61.6	0.8	64.2	60.8	61.0	0.2	63.6
X13	at-grade	54.6	55.7	1.0	58.3	54.6	57.8	3.1	60.4	54.7	58.2	3.6	60.8	54.7	57.7	3.0	60.3	54.7	57.3	2.6	59.9	54.7	55.3	0.6	57.9
X13	3	56.2	59.0	2.8	61.6	56.2	60.8	4.6	63.4	56.3	61.4	5.1	64.0	56.3	61.2	4.9	63.8	56.3	60.9	4.6	63.5	56.3	58.0	1.7	60.6
X13	top floor	59.9	61.4	1.5	64.0	59.9	63.6	3.7	66.2	60.0	64.2	4.3	66.8	60.0	64.7	4.7	67.3	60.0	63.8	3.8	66.4	60.0	60.8	0.8	63.4
I1	at-grade	64.8	70.5	5.7	73.0	64.8	70.7	5.9	73.2	64.8	70.8	6.1	73.3	64.8	69.2	4.5	71.7	64.8	70.5	5.7	73.0	64.8	69.8	5.0	72.3
I1	3	63.4	73.6	10.2	76.1	63.4	73.5	10.1	76.0	63.4	74.8	11.4	77.3	63.4	72.1	8.7	74.6	63.4	76.4	13.0	78.9	63.4	75.8	12.4	78.3
I1	top floor	62.0	75.0	13.1	77.5	62.0	74.6	12.7	77.1	61.9	75.6	13.7	78.1	61.9	73.2	11.4	75.7	61.9	76.4	14.4	78.9	61.9	75.6	13.7	78.1
I2	at-grade	63.3	66.1	2.8	68.6	63.3	66.5	3.2	69.0	63.3	67.9	4.6	70.4	63.3	69.3	6.0	71.8	63.3	70.4	7.1	72.9	63.3	69.3	6.0	71.8
I2	3	61.7	66.8	5.1	69.3	61.7	67.0	5.3	69.5	61.7	71.0	9.2	73.5	61.7	74.4	12.7	76.9	61.7	76.2	14.4	78.7	61.7	76.5	14.8	79.0
I2	5	60.0	67.8	7.8	70.3	60.0	67.5	7.5	70.0	60.0	71.3	11.3	73.8	60.0	75.1	15.1	77.6	60.0	76.7	16.7	79.2	60.0	75.5	15.5	78.0
I2	top floor	58.9	67.5	8.5	70.0	58.9	67.0	8.1	69.5	58.8	71.0	12.1	73.5	58.8	74.1	15.3	76.6	58.8	75.6	16.8	78.1	58.8	74.1	15.3	76.6
I3	at-grade	61.6	63.9	2.3	66.4	61.6	64.0	2.4	66.5	61.6	65.2	3.6	67.7	61.6	65.8	4.2	68.3	61.6	66.6	5.0	69.1	61.6	65.7	4.1	68.2
I3	3	61.2	64.6	3.4	67.1	61.2	64.5	3.3	67.0	61.2	67.4	6.2	69.9	61.2	67.3	6.1	69.8	61.2	68.4	7.2	70.9	61.2	67.5	6.3	70.0
I3	5	60.0	65.1	5.1	67.6	60.0	64.7	4.7	67.2	60.0	66.2	6.2	68.7	60.0	69.3	9.2	71.8	60.0	70.6	10.6	73.1	60.0	69.5	9.5	72.0
I3	top floor	59.1	64.7	5.6	67.2	59.1	64.3	5.3	66.8	59.0	67.1	8.1	69.6	59.0	68.9	9.9	71.4	59.0	70.2	11.2	72.7	59.0	69.1	10.0	71.6
I4	at-grade	62.0	63.9	1.9	66.4	62.0	64.0	1.9	66.5	62.0	65.0	3.0	67.5	62.0	65.4	3.4	67.9	62.0	66.1	4.1	68.6	62.0	65.3	3.3	67.8
I4	3	61.7	64.5	2.8	67.0	61.7	64.4	2.7	66.9	61.6	66.6	5.0	69.1	61.6	66.4	4.8	68.9	61.6	67.3	5.7	69.8	61.6	66.4	4.8	68.9
I4	5	60.5	64.7	4.2	67.2	60.5	64.3	3.8	66.8	60.4	65.4	5.0	67.9	60.4	67.9	7.5	70.4	60.4	69.2	8.8	71.7	60.4	68.1	7.7	70.6
I4	top floor	59.7	64.3	4.6	66.8	59.7	63.9	4.2	66.4	59.5	66.2	6.7	68.7	59.5	67.5	8.0	70.0	59.5	68.9	9.4	71.4	59.5	67.7	8.2	70.2
I5	at-grade	62.0	63.6	1.6	66.1	62.0	63.6	1.6	66.1	62.1	64.5	2.5	67.0	62.1	64.9	2.8	67.4	62.1	65.5	3.4	68.0	62.1	64.7	2.6	67.2
I5	3	62.0	64.3	2.3	66.8	62.0	64.2	2.3	66.7	62.0	65.9	4.0	68.4	62.0	65.7	3.7	68.2	62.0	66.4	4.4	68.9	62.0	65.6	3.6	68.1
I5	top floor	61.0	64.3	3.3	66.8	61.0	64.0	3.0	66.5	61.0	64.9	3.9	67.4	61.0	66.9	5.9	69.4	61.0	68.0	7.0	70.5	61.0	66.9	5.9	69.4
I6	at-grade	60.8	61.9	1.1	64.4	60.8	62.4	1.6	64.9	60.8	63.3	2.5	65.8	60.8	63.7	2.9	66.2	60.8	64.3	3.5	66.8	60.8	64.2	3.4	66.7
I6	3	60.5	62.3	1.8	64.8	60.5	62.6	2.1	65.1	60.5	64.3	3.8	66.8	60.5	64.9	4.4	67.4	60.5	65.7	5.2	68.2	60.5	65.5	5.0	68.0

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																							
		2012-June				2013-January				2013-July				2014-January				2014-July				2015-January			
		NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10	NoBuild Leq	Build Leq	Leq Change	Build L10
I6	5	59.2	61.3	2.0	63.8	59.2	61.6	2.4	64.1	59.2	63.3	4.1	65.8	59.2	64.3	5.1	66.8	59.2	65.2	6.0	67.7	59.2	64.9	5.7	67.4
I6	10	56.4	59.2	2.8	61.7	56.4	59.4	2.9	61.9	56.4	61.9	5.4	64.4	56.4	62.8	6.3	65.3	56.4	63.7	7.3	66.2	56.4	63.0	6.6	65.5
I6	top floor	55.4	58.6	3.1	61.1	55.4	58.8	3.4	61.3	55.4	61.4	6.0	63.9	55.4	62.1	6.6	64.6	55.4	63.0	7.6	65.5	55.4	62.1	6.6	64.6
I7	at-grade	61.0	62.3	1.3	64.8	61.0	62.4	1.4	64.9	61.0	64.3	3.3	66.8	61.0	64.3	3.3	66.8	61.0	64.9	3.9	67.4	61.0	65.1	4.1	67.6
I7	3	60.6	63.0	2.4	65.5	60.6	63.1	2.5	65.6	60.6	66.4	5.8	68.9	60.6	66.2	5.6	68.7	60.6	66.6	6.0	69.1	60.6	67.2	6.6	69.7
I7	top floor	59.4	62.0	2.6	64.5	59.4	62.1	2.7	64.6	59.4	66.0	6.6	68.5	59.4	65.8	6.4	68.3	59.4	66.6	7.2	69.1	59.4	66.8	7.4	69.3
I8	at-grade	63.5	64.6	1.1	67.1	63.5	64.6	1.1	67.1	63.5	65.2	1.7	67.7	63.5	65.6	2.1	68.1	63.5	66.0	2.5	68.5	63.5	65.6	2.1	68.1
I8	3	62.9	65.3	2.4	67.8	62.9	65.1	2.2	67.6	62.9	66.4	3.5	68.9	62.9	66.5	3.6	69.0	62.9	67.1	4.2	69.6	62.9	66.1	3.2	68.6
I8	top floor	61.9	64.4	2.5	66.9	61.9	64.3	2.4	66.8	61.9	65.9	4.0	68.4	61.9	66.6	4.7	69.1	61.9	67.5	5.6	70.0	61.9	66.5	4.6	69.0
I9	at-grade	54.7	58.0	3.3	60.5	54.7	61.9	7.3	64.4	54.7	65.7	11.0	68.2	54.7	63.8	9.1	66.3	54.7	59.6	4.9	62.1	54.7	56.7	1.9	59.2
I9	3	56.6	61.8	5.3	64.3	56.6	63.8	7.2	66.3	57.1	69.8	12.7	72.3	57.1	70.6	13.5	73.1	56.7	63.3	6.6	65.8	56.7	59.3	2.6	61.8
I9	5	60.9	63.5	2.5	66.0	60.9	64.5	3.5	67.0	61.1	71.6	10.5	74.1	61.1	70.8	9.7	73.3	60.9	64.1	3.2	66.6	60.9	61.6	0.7	64.1
I9	10	69.1	69.6	0.5	72.1	69.1	69.7	0.5	72.2	69.2	73.2	4.0	75.7	69.2	73.4	4.2	75.9	69.2	69.9	0.7	72.4	69.2	69.3	0.2	71.8
I9	top floor	73.0	73.2	0.2	75.7	73.0	73.2	0.2	75.7	73.0	75.3	2.3	77.8	73.0	75.7	2.7	78.2	73.0	73.4	0.4	75.9	73.0	73.1	0.1	75.6
I10	at-grade	54.6	55.2	0.6	57.7	54.6	56.5	1.9	59.0	54.7	57.7	3.0	60.2	54.7	56.5	1.8	59.0	54.7	56.0	1.3	58.5	54.7	55.3	0.6	57.8
I10	3	56.5	57.2	0.7	59.7	56.5	58.4	1.9	60.9	56.6	59.6	3.0	62.1	56.6	59.3	2.7	61.8	56.6	58.4	1.8	60.9	56.6	57.2	0.6	59.7
I10	top floor	59.7	60.1	0.3	62.6	59.7	60.5	0.8	63.0	60.0	62.0	2.0	64.5	60.0	61.4	1.4	63.9	59.8	60.6	0.8	63.1	59.8	60.0	0.2	62.5
I11	at-grade	54.6	56.0	1.4	58.5	54.6	56.5	1.9	59.0	54.6	59.4	4.8	61.9	54.6	59.0	4.4	61.5	54.6	57.5	2.9	60.0	54.6	55.3	0.7	57.8
I11	3	56.4	58.8	2.4	61.3	56.4	58.8	2.4	61.3	56.4	62.7	6.3	65.2	56.4	63.1	6.6	65.6	56.4	60.0	3.6	62.5	56.4	57.7	1.3	60.2
I11	top floor	59.6	61.1	1.5	63.6	59.6	60.5	0.9	63.0	59.6	64.9	5.2	67.4	59.6	64.7	5.1	67.2	59.6	61.7	2.1	64.2	59.6	60.0	0.4	62.5
A1	at-grade	72.5	73.0	0.5	76.0	72.5	72.9	0.4	75.9	72.6	73.3	0.7	76.3	72.6	73.0	0.4	76.0	72.4	74.4	2.0	77.4	72.4	74.4	2.0	77.4

Construction Noise Results (Weekdays)

Exceed 3dBA or more
Exceed Leq 65 dBA
Location of Impact

CadnaA Receptor Sites	Elevation (floor)	Construction Duration																	
		2012-June			2013-January			2013-July			2014-January			2014-July			2015-January		
		NoBuild	Total	Change	NoBuild	Total	Change	NoBuild	Total	Change	NoBuild	Total	Change	NoBuild	Total	Change	NoBuild	Total	Change
K1	top floor	67.1	70.4	3.3	67.1	70.3	3.2	67.5	74.9	7.4	67.5	74.6	7.1	67.4	73.3	5.9	67.4	72.9	5.6
I3a	at-grade	54.7	55.7	1.0	54.7	61.7	7.0	54.7	64.8	10.1	54.7	62.5	7.8	54.7	57.0	2.3	54.7	56.1	1.4
I9a	3	56.6	64.7	8.1	56.6	75.5	18.9	57.1	81.6	24.5	57.1	78.6	21.5	56.7	67.9	11.3	56.7	61.7	5.1
I9a	5	60.9	65.3	4.4	60.9	74.6	13.7	61.1	80.4	19.3	61.1	77.8	16.7	60.9	68.1	7.2	60.9	63.5	2.6
I9a	10	60.9	65.4	4.5	60.9	71.5	10.6	61.2	77.5	16.3	61.2	75.7	14.5	60.7	67.0	6.4	60.7	63.0	2.3
I9b	top floor	61.3	65.6	4.2	61.3	70.8	9.5	61.2	76.1	14.9	61.2	74.7	13.5	60.7	67.3	6.6	60.7	62.9	2.2