APPENDIX H

TRANSPORTATION

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Memorandum

To: Diane McCarthy, Mehdi Amjadi and Kovid Saxena – DCP

Date: June 21, 2013

Project No.: Halletts Point Rezoning FEIS 25420

From: VHB and AKRF

Re: Astoria Rezoning Trip Comparison

The purpose of this memorandum is to summarize the assessment for potential changes to the transportation analysis findings in the Halletts Point Rezoning FEIS as a result of increases in No Build project trips generated from the Astoria Rezoning project, and concludes that there would be no change in the transportation findings presented in the FEIS as a result of these trip increases.

Traffic

As part of the No Build analysis, the Halletts Point Rezoning FEIS analyzed traffic increases generated by the Astoria Rezoning increments as part of the No Build analysis. These trips are generated by rezoned sites located within Clusters C, E, and F of the Halletts Point Future Development Projects in the No Build Condition (Figure 15-3 of the DEIS) map provided in the Appendix. In the FEIS, these three clusters were projected to generate 110 vehicle trips during the weekday AM peak hour, 147 vehicle trips during the weekday midday peak hour, and 155 vehicle trips during the weekday PM peak hour. With the full Astoria Rezoning program included, these clusters would generate a total of 203 vehicle trips during the weekday AM peak hour (an increase of 93 vehicle trips), 237 vehicle trips during the midday peak hour (an increase of 90 vehicle trips), and 248 vehicle trips during the PM peak hour (an increase of 93 vehicle trips). A detailed summary of these increases is provided in **Table 1**.

These additional trips were assigned through the traffic network using the same patterns presented in the FEIS analysis and shows modest increases at most of the analysis locations. Clusters C and F were screened out from this analysis because the size of developments within Cluster C (which adds four or fewer vehicle trips per intersection) and the location of developments within Cluster F (which is over a mile away from the site and would add trips to only one intersection that is expected to operate at LOS B) result in negligible peak hour vehicle trip increases to the study locations. A trip assignment for increases generated from sites within Cluster E indicated that there would be substantial peak hour traffic volume increases (approximately 30 to 50 vehicles per hour) at only a few locations. Therefore, traffic analyses were performed at four key intersections during the weekday AM and PM peak hours to verify that there will be no changes in the findings. Figures showing the traffic increments generated are provided in the Appendix. The intersections analyzed are as followed:

1. Vernon Boulevard/Main Avenue and 8th Street/Welling Court
2. Astoria Boulevard and 21st Street
3. Astoria Park South/Hoyt Avenue South and 21st Street
4. Hoyt Avenue North and 21st Street

The result of the analysis shows that there would be no new or different significant impacts and no change in mitigatability as a result of the increase in Astoria Rezoning trips in the No Build condition. Results of the FEIS analysis and the analysis with the additional trips are provided in **Tables 2 and 3**, respectively.

Table 1
Astoria Rezoning Project-Generated Vehicle Trips

Astoria Rezoning Increment (FEIS Analysis)				Astoria Rezoning Total Program				Comparison (Total - Increment)			
	Total				Total				Total		
Location	In	Out	Total	Location	In	Out	Total	Location	In	Out	Total
Cluster C				**Cluster C**				**Cluster C**			
AM Peak Hour	15	35	50	AM Peak Hour	20	43	63	AM Peak Hour	5	8	13
Midday Peak Hour	34	33	67	Midday Peak Hour	38	38	76	Midday Peak Hour	4	5	9
PM Peak Hour	40	29	69	PM Peak Hour	46	33	79	PM Peak Hour	6	4	10
Cluster E				**Cluster E**				**Cluster E**			
AM Peak Hour	12	27	39	AM Peak Hour	32	74	106	AM Peak Hour	20	47	67
Midday Peak Hour	29	29	58	Midday Peak Hour	49	47	96	Midday Peak Hour	20	18	38
PM Peak Hour	32	24	56	PM Peak Hour	72	50	122	PM Peak Hour	40	26	66
Cluster F				**Cluster F**				**Cluster F**			
AM Peak Hour	7	14	21	AM Peak Hour	13	21	34	AM Peak Hour	6	7	13
Midday Peak Hour	11	11	22	Midday Peak Hour	33	32	65	Midday Peak Hour	22	21	43
PM Peak Hour	17	13	30	PM Peak Hour	25	22	47	PM Peak Hour	8	9	17
Total				**Total**				**Total**			
AM Peak Hour	**34**	**76**	**110**	**AM Peak Hour**	**65**	**138**	**203**	**AM Peak Hour**	**31**	**62**	**93**
Midday Peak Hour	**74**	**73**	**147**	**Midday Peak Hour**	**120**	**117**	**237**	**Midday Peak Hour**	**46**	**44**	**90**
PM Peak Hour	**89**	**66**	**155**	**PM Peak Hour**	**143**	**105**	**248**	**PM Peak Hour**	**54**	**39**	**93**

Transit and Pedestrians

A trip generation estimate was also conducted for pedestrian and transit trips. These additional trips were assigned to the pedestrian and transit analysis elements based on assignment patterns presented in the FEIS. Increases in pedestrian and transit trips would occur in Clusters C, E, and F. As per the FEIS assignment patterns of pedestrian and transit trips, the only trips that would traverse any pedestrian or transit analysis element would be related to Cluster C, and would include minimal trips to and from the 30th Avenue subway station (N and Q lines), and the Q18 bus route. The incremental Cluster C subway passenger trips would be 22, 22, and 28 during the AM, midday, and PM peaks, respectively. Incremental bus passenger trips would be 3, 12, and 8 during the AM, midday, and PM peaks, respectively. These minimal trip increases would not change the results of the pedestrian and transit analyses and there would not be any new pedestrian or transit locations that would experience a significant adverse impact. Additionally, the mitigation measures identified in the FEIS would still address the impacted locations. Therefore, the results presented in the FEIS adequately address pedestrian and transit impacts resulting from the proposed Halletts Point development project.

TABLE 2A
HALLETTS POINT REZONING FEIS
2022 NO BUILD vs. 2022 BUILD AM PEAK HOUR LEVEL OF SERVICE

		2022 NO BUILD				2022 BUILD				2022 BUILD W. MITIGATION				
				Control				Control				Control		
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	
1 **VERNON BOULEVARD/MAIN AVENUE & 8TH STREET/WELLING COURT**														
Vernon Boulevard	EB	LT	1.13	100.5	F	LT	1.24	145.7	F	LT	1.11	88.8	F	- **Partially Mitigated**
Main Street	WB	TR	0.08	21.5	C	TR	0.08	21.5	C	TR	0.08	21.5	C	- Modify signal timing: Shift 3 s of green time from the NB phase to the EB/SB phase [EB/SB phase green time shifts from 26 s to 29 s; NB phase green time shifts from 20 s to 17 s; WB phase green time remains the same].
Welling Court	NB	LTR	0.27	31.7	C	LTR	0.27	31.7	C	LTR	0.32	35.7	D	
8th Street	SB	R	0.94	55.7	E	R	1.21	143.1	F	R	1.09	91.6	F	
Overall Intersection		**-**	**0.50**	**72.2**	**E**	**-**	**0.53**	**132.3**	**F**	**-**	**0.53**	**84.1**	**F**	
2 **ASTORIA BOULEVARD & 21ST STREET**														
Astoria Boulevard	EB	L	0.92	73.1	E	L	1.04	99.0	F	L	1.04	99.0	F	- **Partially Mitigated**
		TR	1.18	139.8	F	TR	1.83	424.6	F	TR	1.83	424.6	F	- Install "No Standing Anytime" regulations along the NB approach for 165 feet, along the NB receiving side for 135 feet, along the SB approach for 340 feet, and along the SB receiving side for 125 feet to allow for thee moving lanes at the NB and SB approaches.
	WB	L	1.00	67.0	E	L	1.00	67.0	E	L	1.00	67.0	E	
		TR	0.78	43.9	D	TR	0.83	45.3	D	TR	0.83	45.3	D	
21st Street	NB	LTR	1.00	60.9	E	LTR	1.19	131.1	F	LT	0.69	30.9	C	
		-	-	-	-	-	-	-	-	R	0.37	24.6	C	
	SB	LTR	1.15	102.7	F	LTR	1.23	138.7	F	LT	0.85	30.7	C	- Shift the NB approach centerline 3 feet to the west and restripe the NB approach from one 11-foot wide travel lane, one 20-foot wide travel lane with parking, one 12-foot wide receiving lane, and one 18-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 12-foot wide receiving lane, and one 15-foot wide receiving lane for 125 feet from the intersection.
		-	-	-	-	-	-	-	-	R	0.64	27.8	C	
Overall Intersection		**-**	**1.12**	**87.6**	**F**	**-**	**1.30**	**177.2**	**F**	**-**	**1.11**	**122.9**	**F**	- Shift the SB approach centerline 4 feet to the east and restripe the SB approach from one 11-foot wide travel lane, one 19-foot wide travel lane with parking, one 11-foot wide receiving lane, and one 19-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 11-foot wide receiving lane, and one 15-foot wide receiving lane for 135 feet from the intersection.

TABLE 2A
HALLETTS POINT REZONING FEIS
2022 NO BUILD vs. 2022 BUILD AM PEAK HOUR LEVEL OF SERVICE

			2022 NO BUILD			2022 BUILD				2022 BUILD W. MITIGATION				
				Control				Control				Control		
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	
3 **ASTORIA PARK SOUTH/ HOYT AVE SOUTH & 21ST STREET**														
Astoria Park South/ Hoyt Ave South	EB	LTR	0.68	37.3	D	LTR	0.83	40.1	D	LTR	0.91	44.0	D	- Modify signal timing: Shift 3 s of green time from the EB phase to the NB/SB phase [EB phase green time shifts from 36 s to 33 s; NB/SB phase green time shifts from 74 s to 77 s].
21st Street	NB	LTR	0.59	15.5	B	LTR	0.63	16.3	B	LTR	0.59	13.9	B	
	SB	LTR	1.10	72.7	E	LTR	1.17	101.1	F	LTR	1.11	74.8	E	
Overall Intersection		**-**	**0.96**	**50.5**	**D**	**-**	**1.06**	**66.0**	**E**	**-**	**1.05**	**52.5**	**D**	
4 **HOYT AVENUE NORTH & 21ST STREET**														
Hoyt Avenue North	EB	L	0.02	40.4	D	L	0.02	40.4	D					- **Unmitigatable Impact**
		R	0.37	47.5	D	R	0.37	47.5	D					
	WB	L	1.00	57.4	E	L	1.09	87.2	F					
		TR	0.25	14.8	B	TR	0.25	14.8	B					
21st Street	NB	L	0.31	32.2	C	L	0.31	32.3	C					
		T	1.11	111.0	F	T	1.24	159.1	F					
	SB	TR	1.03	61.3	E	TR	1.04	63.1	E					
Overall Intersection		**-**	**0.92**	**66.2**	**E**	**-**	**1.00**	**91.4**	**F**					

TABLE 2B
HALLETTS POINT REZONING FEIS
2022 NO BUILD vs. 2022 BUILD PM PEAK HOUR LEVEL OF SERVICE

			2022 NO BUILD			2022 BUILD				2022 BUILD W. MITIGATION				
					Control				Control				Control	
	INTERSECTION & APPROACH		Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	
1	**VERNON BOULEVARD/MAIN AVENUE & 8TH STREET/WELLING COURT**														
	Vernon Boulevard	EB	LT	1.20	127.2	F	LT	1.41	222.0	F					- **Unmitigatable Impact**
	Main Street	WB	TR	0.06	21.3	C	TR	0.06	21.3	C					
	Welling Court	NB	LTR	0.12	28.7	C	LTR	0.12	28.7	C					
	8th Street	SB	R	0.63	33.8	C	R	0.76	40.0	D					
	Overall Intersection		**-**	**0.47**	**88.4**	**F**	**-**	**0.55**	**146.4**	**F**					
2	**ASTORIA BOULEVARD & 21ST STREET**														
	Astoria Boulevard	EB	L	0.54	44.8	D	L	0.60	46.3	D	L	0.60	46.3	D	- **Partially Mitigated**
			TR	0.94	62.0	E	TR	1.19	141.4	F	TR	1.19	141.4	F	- Install "No Standing Anytime" regulations along the NB
		WB	L	0.89	64.3	E	L	0.89	64.3	E	L	0.89	64.3	E	approach for 165 feet, along the NB receiving side for 135
			TR	0.79	51.5	D	TR	0.98	71.0	E	TR	0.98	71.0	E	feet, along the SB approach for 340 feet, and along the SB
	21st Street	NB	LTR	1.42	224.9	F	LTR	1.98	473.2	F	LT	1.15	103.2	F	receiving side for 125 feet to allow for thee moving lanes
			-	-	-	-	-	-	-	-	R	0.44	22.9	C	at the NB and SB approaches.
		SB	LTR	1.10	85.4	F	LTR	1.41	221.3	F	LT	0.75	29.1	C	- Shift the NB approach centerline 3 feet to the west and
			-	-	-	-	-	-	-	-	R	0.97	49.2	D	restripe the NB approach from one 11-foot wide travel
	Overall Intersection		**-**	**1.18**	**118.4**	**F**	**-**	**1.55**	**244.6**	**F**	**-**	**1.12**	**74.0**	**E**	lane, one 20-foot wide travel lane with parking, one
															12-foot wide receiving lane, and one 18-foot wide
															receiving lane with parking to two 11-foot wide travel
															lanes, one 12-foot wide right turn lane, one 12-foot wide
															receiving lane, and one 15-foot wide receiving lane for
															125 feet from the intersection.
															- Shift the SB approach centerline 4 feet to the east and
															restripe the SB approach from one 11-foot wide travel
															lane, one 19-foot wide travel lane with parking, one 11-foot
															wide receiving lane, and one 19-foot wide receiving lane
															with parking to two 11-foot wide travel lanes, one 12-foot
															wide right turn lane, one 11-foot wide receiving lane, and
															one 15-foot wide receiving lane for 135 feet from the
															intersection.

TABLE 2B
HALLETTS POINT REZONING FEIS
2022 NO BUILD vs. 2022 BUILD PM PEAK HOUR LEVEL OF SERVICE

			2022 NO BUILD			2022 BUILD				2022 BUILD W. MITIGATION				
				Control				Control				Control		
INTERSECTION & APPROACH		Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	
3 **ASTORIA PARK SOUTH/ HOYT AVE SOUTH & 21ST STREET**														
Astoria Park South/ Hoyt Ave South	EB	LTR	0.51	35.2	D	LTR	0.58	36.7	D	LTR	0.62	38.7	D	- Install "No Standing 4 PM - 7 PM Mon - Fri" regulations
21st Street	NB	LTR	1.04	51.2	D	LTR	1.17	102.4	F	LT	0.73	17.3	B	along the NB approach for 175 feet to daylight the
		-	-	-	-	-	-	-	-	R	0.43	12.2	B	approach.
	SB	LTR	1.05	58.4	E	LTR	1.24	138.5	F	LTR	1.04	51.5	D	- Modify signal timing: Shift 2 s of green time from the EB
														phase to the NB/SB phase [EB phase green time shifts
Overall Intersection		**-**	**0.87**	**52.0**	**D**	**-**	**1.02**	**109.6**	**F**	**-**	**0.90**	**36.8**	**D**	from 37 s to 35 s; NB/SB phase green time shifts from
														73 s to 75 s].
4 **HOYT AVENUE NORTH & 21ST STREET**														
Hoyt Avenue North	EB	L	0.09	41.8	D	L	0.09	41.8	D	L	0.11	43.9	D	- **Partially Mitigated**
		R	0.17	43.1	D	R	0.17	43.1	D	R	0.19	45.3	D	- Modify signal timing: Shift 2 s of green time from the
	WB	L	0.79	42.3	D	L	1.04	77.8	E	L	1.04	77.8	E	EB/WB phase to the NB/SB phase [EB/WB phase green
		TR	0.29	15.7	B	TR	0.29	15.7	B	TR	0.30	16.9	B	time shifts from 22 s to 20 s; NB/SB phase green time
21st Street	NB	L	0.18	26.2	C	L	0.18	26.3	C	L	0.17	24.7	C	shifts from 45 s to 47 s; WB lag phase green time remains
		T	1.13	106.7	F	T	1.18	125.0	F	T	1.13	104.4	F	the same].
	SB	TR	0.79	40.4	D	TR	0.81	41.6	D	TR	0.78	38.2	D	
Overall Intersection		**-**	**0.81**	**59.4**	**E**	**-**	**0.92**	**78.4**	**E**	**-**	**0.92**	**72.0**	**E**	

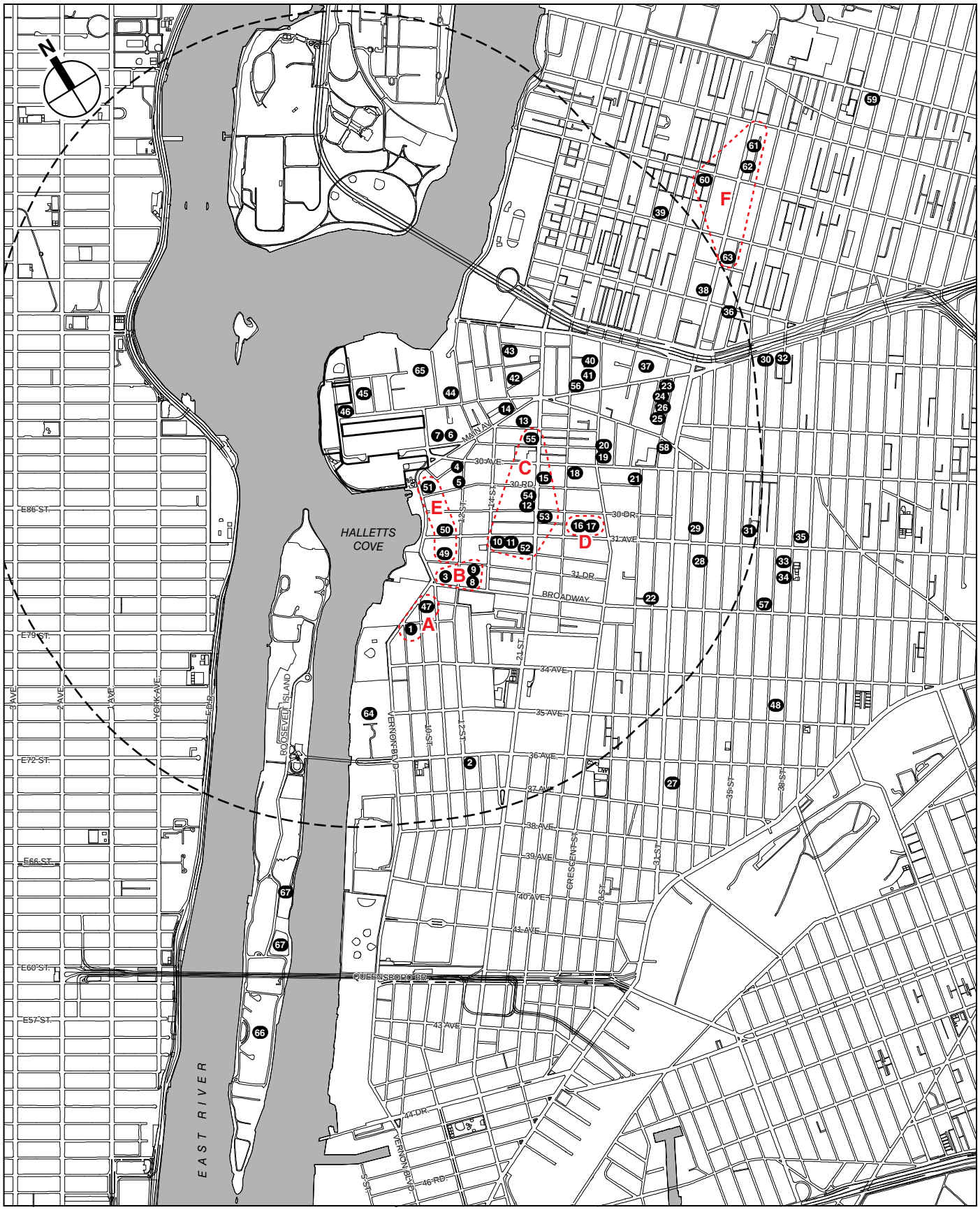
TABLE 3A
HALLETTS POINT REZONING FEIS -- WITH FULL ASTORIA REZONING DEVELOPMENT
2022 NO BUILD vs. 2022 BUILD AM PEAK HOUR LEVEL OF SERVICE

		2022 NO BUILD				2022 BUILD				2022 BUILD W. MITIGATION				
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Control Delay**	**LOS**	**Mvt.**	**V/C**	**Control Delay**	**LOS**	**Mvt.**	**V/C**	**Control Delay**	**LOS**	
1 **VERNON BOULEVARD/MAIN AVENUE & 8TH STREET/WELLING COURT**														
Vernon Boulevard	EB	LT	1.25	148.4	F	LT	1.35	195.5	F	LT	1.21	131.4	F	- **Partially Mitigated**
Main Street	WB	TR	0.08	21.5	C	TR	0.08	21.5	C	TR	0.08	21.5	C	- Same mitigation measures as in Table 2A
Welling Court	NB	LTR	0.30	32.3	C	LTR	0.30	32.3	C	LTR	0.36	36.7	D	
8th Street	SB	R	0.96	59.7	E	R	1.24	152.8	F	R	1.11	99.2	F	
Overall Intersection		**-**	**0.54**	**96.7**	**F**	**-**	**0.58**	**158.0**	**F**	**-**	**0.58**	**105.8**	**F**	
2 **ASTORIA BOULEVARD & 21ST STREET**														
Astoria Boulevard	EB	L	1.03	96.4	F	L	1.14	133.8	F	L	1.14	133.8	F	- **Partially Mitigated**
		TR	1.21	151.8	F	TR	1.86	438.5	F	TR	1.86	438.5	F	- Same mitigation measures as in Table 2A
	WB	L	1.00	67.6	E	L	1.00	67.6	E	L	1.00	67.6	E	
		TR	0.78	44.0	D	TR	0.83	45.4	D	TR	0.83	45.4	D	
21st Street	NB	LTR	1.01	62.1	E	LTR	1.20	133.0	F	LT	0.69	30.9	C	
		-	-	-	-	-	-	-	-	R	0.37	24.6	C	
	SB	LTR	1.16	107.3	F	LTR	1.24	142.4	F	LT	0.85	30.7	C	
		-	-	-	-	-	-	-	-	R	0.65	28.0	C	
Overall Intersection		**-**	**1.13**	**96.0**	**F**	**-**	**1.31**	**184.2**	**F**	**-**	**1.12**	**128.7**	**F**	
3 **ASTORIA PARK SOUTH/ HOYT AVE SOUTH & 21ST STREET**														
Astoria Park South/ Hoyt Ave South	EB	LTR	0.68	37.3	D	LTR	0.83	40.1	D	LTR	0.91	44.0	D	- Same mitigation measures as in Table 2A
21st Street	NB	LTR	0.61	15.9	B	LTR	0.65	16.8	B	LTR	0.61	14.3	B	
	SB	LTR	1.12	80.5	F	LTR	1.19	109.6	F	LTR	1.13	82.0	F	
Overall Intersection		**-**	**0.98**	**54.5**	**D**	**-**	**1.07**	**70.2**	**E**	**-**	**1.06**	**56.1**	**E**	
4 **HOYT AVENUE NORTH & 21ST STREET**														
Hoyt Avenue North	EB	L	0.02	40.4	D	L	0.02	40.4	D					- **Unmitigatable Impact**
		R	0.37	47.5	D	R	0.37	47.5	D					- Same mitigation measures as in Table 2A
	WB	L	1.01	59.6	E	L	1.10	90.7	F					
		TR	0.25	14.8	B	TR	0.25	14.8	B					
21st Street	NB	L	0.31	32.2	C	L	0.31	32.3	C					
		T	1.12	113.3	F	T	1.24	162.5	F					
	SB	TR	1.03	61.3	E	TR	1.04	63.1	E					
Overall Intersection		**-**	**0.92**	**67.6**	**E**	**-**	**1.01**	**93.8**	**F**					

TABLE 3B
HALLETTS POINT REZONING FEIS -- WITH FULL ASTORIA REZONING DEVELOPMENT
2022 NO BUILD vs. 2022 BUILD PM PEAK HOUR LEVEL OF SERVICE

			2022 NO BUILD				2022 BUILD				2022 BUILD W. MITIGATION				
					Control				Control				Control		
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**	
1 **VERNON BOULEVARD/MAIN AVENUE & 8TH STREET/WELLING COURT**														
Vernon Boulevard	EB	LT	1.26	152.0	F	LT	1.44	233.3	F					- **Unmitigatable Impact**
Main Street	WB	TR	0.06	21.3	C	TR	0.06	21.3	C					- Same mitigation measures as in Table 2B
Welling Court	NB	LTR	0.18	29.5	C	LTR	0.18	29.5	C					
8th Street	SB	R	0.66	35.0	D	R	0.80	42.5	D					
Overall Intersection		**-**	**0.51**	**101.9**	**F**	**-**	**0.57**	**150.7**	**F**					
2 **ASTORIA BOULEVARD & 21ST STREET**														
Astoria Boulevard	EB	L	0.58	45.9	D	L	0.63	47.5	D	L	0.63	47.5	D	- **Partially Mitigated**
		TR	0.95	63.5	E	TR	1.20	146.2	F	TR	1.20	146.2	F	- Same mitigation measures as in Table 2B
	WB	L	0.91	66.2	E	L	0.91	66.2	E	L	0.91	66.2	E	
		TR	0.80	51.8	D	TR	0.99	72.8	E	TR	0.99	72.8	E	
21st Street	NB	LTR	1.44	233.7	F	LTR	1.97	471.8	F	LT	1.16	107.6	F	
		-	-	-	-	-	-	-	-	R	0.44	22.9	C	
	SB	LTR	1.13	96.7	F	LTR	1.45	237.3	F	LT	0.77	29.5	C	
		-	-	-	-	-	-	-	-	R	0.99	54.5	D	
Overall Intersection		**-**	**1.19**	**124.5**	**F**	**-**	**1.55**	**249.5**	**F**	**-**	**1.13**	**76.6**	**E**	
3 **ASTORIA PARK SOUTH/ HOYT AVE SOUTH & 21ST STREET**														
Astoria Park South/ Hoyt Ave South	EB	LTR	0.51	35.2	D	LTR	0.58	36.7	D	LTR	0.62	38.7	D	- Same mitigation measures as in Table 2B
21st Street	NB	LTR	1.06	57.5	E	LTR	1.19	111.3	F	LT	0.74	17.5	B	
		-	-	-	-	-	-	-	-	R	0.44	12.3	B	
	SB	LTR	1.07	65.0	E	LTR	1.27	147.5	F	LTR	1.05	55.9	E	
Overall Intersection		**-**	**0.88**	**57.5**	**E**	**-**	**1.04**	**117.3**	**F**	**-**	**0.91**	**39.1**	**D**	
4 **HOYT AVENUE NORTH & 21ST STREET**														
Hoyt Avenue North	EB	L	0.09	41.8	D	L	0.09	41.8	D	L	0.11	43.9	D	- **Partially Mitigated**
		R	0.17	43.1	D	R	0.17	43.1	D	R	0.19	45.3	D	- Same mitigation measures as in Table 2B
	WB	L	0.81	43.2	D	L	1.06	85.0	F	L	1.06	85.0	F	
		TR	0.29	15.7	B	TR	0.29	15.7	B	TR	0.30	16.9	B	
21st Street	NB	L	0.18	26.2	C	L	0.18	26.4	C	L	0.17	24.7	C	
		T	1.13	108.0	F	T	1.18	126.3	F	T	1.13	105.6	F	
	SB	TR	0.79	40.5	D	TR	0.82	41.7	D	TR	0.78	38.3	D	
Overall Intersection		**-**	**0.82**	**60.1**	**E**	**-**	**0.93**	**81.9**	**F**	**-**	**0.93**	**75.4**	**E**	

2.6.13



Project Site Boundary

1-Mile Study Area Boundary

1 No Build Project (See Table 15-6 for Reference)

A Cluster Location

0 1000 FEET

SCALE

Future Development Projects in the No Build Condition

Figure 15-13

HALLETTS POINT



Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster C
Weekday AM Peak Hour

HALLETTS POINT

Figure A-1



Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster C
Weekday PM Peak Hour

HALLETTS POINT

Figure A-2



Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster E
Weekday AM Peak Hour

HALLETTS POINT

Figure A-3



Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster E
Weekday PM Peak Hour

HALLETTS POINT

Figure A-4


N
Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster F
Weekday AM Peak Hour
Figure A-5
HALLETTS POINT



Astoria Rezoning Vehicle Trip Increment (Net Increase) - Cluster F
Weekday PM Peak Hour

HALLETTS POINT

Figure A-6

Planning | Transportation | Land Development | Environmental

VHB + Eng-Wong, Taub
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Memorandum

To: Project Files;
Robert Schenkel, Lincoln Equities Group

Date: July 15, 2013

Cc: Linh Do and Connor Lacefield, AKRF; Paul Proulx, Cozen O'Connor

Project No.: Halletts Point Rezoning FEIS
25420

From: Marty Taub, Noah Bernstein and Alfred Yeung, VHB

Re: Implementation of Physical Traffic Mitigation Measures

The purpose of this memorandum is to summarize the findings of an assessment performed to determine the general timing of when the physical traffic mitigation measures proposed in the FEIS would be needed. This assessment was requested by NYCDCP during their review of the DEIS, and it was agreed that it would be performed for the FEIS. Since the build-out of the proposed project would occur incrementally over approximately 10 years and would include parcels that would be developed and occupied prior to the 2022 Build year, a preliminary assessment was performed to determine whether the physical mitigation measures (i.e. new signals or restriping) would be needed prior to 2022. The following approximates the general timing of when during the project development period new signals or geometric improvements would likely be needed to mitigate impacts based on the background traffic conditions, project-generated traffic, and degree of impacts at these locations. The timing projections below are based on the project's current proposed construction schedule. Any changes to the schedule and phasing of construction could affect these mitigation timing estimates.

27th Avenue and 2nd Street, and 27th Avenue and 4th Street

Both intersections are within the project area and the majority of project-generated trips would travel through them. As a result, the installation of a traffic signal at these intersections would be expected to be needed some time during the middle of the construction phase to facilitate additional traffic generated by the development. A traffic signal would be needed at the intersection of 27th Avenue and 4th Street and at the intersection of 27th Avenue and 2nd Street when just over half of the development has been completed (approximately 1,450 DUs).

27th Avenue and 12th Street, 27th Avenue and 14th Street, and Astoria Boulevard and 18th Street

New traffic signals are proposed at each of these unsignalized intersections to mitigate significant impacts created by vehicular volume increases generated by the proposed project. Concurrently, additional vehicle trips would also be generated by the proposed Astoria Cove development which is expected to contribute to level of service deterioration under No Build conditions. Since a substantial portion of project-generated (and Astoria Cove-generated) vehicle trips would travel through these intersections, it is expected that the proposed signals would be needed at the intersections of 27th

Avenue and 12th Street and Astoria Boulevard and 18th Street when the first building of the project is completed and occupied. For the intersection 27th Avenue and 14th Street, the proposed signal is expected to be needed when approximately one-third of the development has been completed (or about 900 dwelling units [DUs]).

27th Avenue and 8th Street

Until the Astoria Boulevard extension is completed, all project-generated trips would pass through this intersection. As a result, the mitigation measures identified (lane restriping and signal modifications) would need to be in place by the time the first building is occupied.

Astoria Boulevard and 21st Street

The proposed restriping plan would likely be needed with the completion of the first building since multiple approaches at this intersection are expected to deteriorate enough in level of service during peak hours under No Build conditions that even a minor increase in project-generated traffic could create a significant impact.

Broadway and 21st Street

During the peak hours analyzed, the eastbound and westbound approaches along Broadway are expected to deteriorate to unacceptable LOS E or F under No Build conditions; therefore, even a modest number of project trips generated through this intersection would likely create a significant impact. As a result, it is likely that the physical measures proposed at this intersection (centerline shifts, lane restriping, and parking prohibitions along Broadway) would be needed with the completion of the first building.

Astoria Boulevard and 8th Street

Since this location would only be significantly impacted once Astoria Boulevard is re-opened between 1st and 8th Streets (and project trips could access the site via Astoria Boulevard), the proposed mitigation measures (lane restriping and signal modifications) would not be needed until the street is re-opened, which is expected to occur just before completion of the full project.

Astoria Boulevard and 31st Street

Since peak hour levels of service along eastbound Astoria Boulevard are expected to deteriorate under No Build conditions, the proposed restriping of eastbound Astoria Boulevard approaching 31st Street would be beneficial once the first building is completed.

This assessment is based on assumptions contained in the FEIS regarding other development projects also expected to be built within the Halletts Point project's buildout time frame. Should major projects be delayed or not be built, the projected time frames outlined above could also be delayed.