### APPENDIX N

## SSDS As-Built Drawings – Building 3

# THE SHOPS AT ATLAS PARK **BUILDING 3 SUB-SLAB DEPRESSURIZATION SYSTEM AS-BUILT DRAWINGS** QUEENS, NEW YORK



Base Map taken from New York USGS Quadrangle Map - Jamaica

# SITE LOCATION MAP

**DRAWING NAME** 

**COVER SHEET** 

SYSTEM LAYOUT (FIRST FLOOR) (AS-BUILT)

SYSTEM LAYOUT (SECOND FLOOR) (AS-BUILT)

SYSTEM LAYOUT (THIRD FLOOR) (AS-BUILT)

SYSTEM LAYOUT (ROOF TOP) (AS-BUILT)

SYSTEM DETAILS (AS-BUILT)



**AS-BUILTS** 

NEW YO







SITE KEY PLAN INTH STREET (VARIABLE R/W) roject No. 5555113 Drawing No rawing Title THE SHOPS AT ATLAS PARK 12/26/06 B3-SSDS-0 Scale **COVER SHEET** NOT TO SCALE

Last Revised

Drn. By



			e e e e e e e e e e e e e e e e e e e
	BUILDING 3 SUB-SLAB	Project No. 5555113	Drawing No.
	DEPRESSION SYSTEM	Date 12/22/06	
	LAYOUT	Scale 1"=16'	B3-SSDS-1
	(FIRST FLOOR)	Drn. By <b>JV</b>	
NEW	YORK (AS-BUILT)	Last Revised	1 Of 5



EDISTING LOW ROOF





· Buildings 3 and 8\BLDG 3 AS-BUILTS\B3-SSDS-rooftop.dwg, A-4, 12/26/2006 8:49:12 PM, vtglao, NY Oce TDS600 Bond.pc3

		LEGEND		
	· · · · ·	· · · · · · · · · · · · · · · · · · ·	6" BLACK STEEL PIPING OVERHEAD	OR BELOW THE SLAB (SCH. 40)
		0	RISER PIPE	
		$\square$	VACUUM BLOWER	
en da telena de la constante Veneral				
		<u>NOTES:</u> 1. BASE D	RAWING IS HIGHLANDS AUTOCAD	FILE "05-465.DWG".
M BLOWER		2. SUB-SI TAKEN FLOOR	AB UTILITY TRENCHES IDENTIFIED O FROM HIGHLAND ASSOCIATES DRA PLUMBING PLAN, BB3-P2.1" AND A	ON BASE PLAN WERE WING TITLED "FIRST SSUMED TO BE ACCURATE.
	· · ·	3. BLOW ROOFT	ER EXHAUST WILL EXTEND TO 2 FT / OP.	ABOVE HIGHEST POINT ON
		4. ALL He 1/8" PE COND	DRIZONTAL PIPE RUNS MUST BE PIT R FOOT TOWARD THE SUCTION PIT ENSATION TO DRAIN INTO THE SUC	CHED TO A MINIMUM OF S TO ALLOW TION PIT.

5. BLOWER UNIT TO BE LOCATED ATLEAST 15 FT FROM ANY HVAC SYSTEM.



 · · · ·			
	JOEL B	B. LANDES	

![](_page_7_Picture_0.jpeg)

LAUREL ENVIRONMENTAL ASSOCIATES, LTD.

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November 7, 2006

Mr. Jamie P. Barr Assistant Project Manager *LANGAN* | *ENGINEERING & ENVIRONMENTAL SERVICES* 21 Penn Plaza 360 West 31st Street, 8th Floor New York, NY 10001-27278, via email jbarr@Langan.com

#### Re: Atlas Park Sub-Slab Evaluation Buildings 3 & 8, Glendale, Queens, NY LEA Project #06-274

Dear Mr. Barr:

On October 29, 2006, Brendan C. Moran and Steven Bitetto completed evaluation of the effectiveness of the existing sub-slab venting (depressurization) systems by measuring the created pressure field. Upon arriving at the subject site, the sub-slab systems were operational, all suction pits completed, and the majority of the joints in the slab sealed. One area in Building 3 was repaired by Laurel Environmental Associates, Ltd. to reduce the likelihood of system failure during the evaluation: Several small gaps were noted near SSD Pit 3-2. These gaps were sealed with urethane calk to prevent air leakage to the system.

This evaluation consisted of a series of sub-slab air communication tests to measure the pressure differential created by the systems in operation at various points throughout Building 3. Failed test points (TP-8-3-11 and TP-8-3-10) from a prior evaluation conducted by *LEA* in Building 8 were retested after the system was adjusted to maximize the radius of influence. Small diameter test holes were drilled into the slab at strategic measuring point locations and at varying distances from each suction pit to determine the radius of influence for each suction pit. Differential pressure measurements at these points enabled us to characterize, by interpolation or extrapolation, the extent and intensity of the active pressure field. Measurement was by digital manometer. This procedure was repeated until sufficient data was gathered to indicate the perimeter of the detectable influence area (minimum .001 water column inches). Test holes were filled with backer rod and urethane caulk at conclusion of testing.

All measurements are documented in this report and attached pressure field map. Based on inspection of the systems, measurements, we have the following comments and conclusions:

#### **Building 3:**

- 1. An inspection of risers and suction pits in Building 3 found several small gaps near SSD Pit 3-2. These gaps were sealed with urethane calk to prevent air leakage to the system. All other locations were complete, with no deficiencies noted.
- 2. A quantitative evaluation of the effectiveness of the sub-slab system to create a measurable negative pressure field that extends throughout the sub-slab(s) of each building found satisfactory negative pressure fields in slabs treated by suction pits 3-1, 3-2, 3-3 and 3-4.

#### **Building 8:**

- 1. In order to increase the systems radius of influence, suction was decreased in SSD Pit 8-4 which subsequently increased suction in SSD Pit 8-5.
- 2. Upon adjusting the system, a sufficient pressure field was detected in TP-8-3-10 but not in TP-8-3-11, both of which previously failed.
- 3. Test points in the area of SSD Pit 8-4 which previously showed low pressure fields were retested to ensure that the adjusted system was producing sufficient pressure fields throughout the affected areas.
- 4. Three damaged, four inch diameter locations were noted in the concrete floor in the area of SSD Pit 8-3. The locations represent former sample points created by Langan Engineering & Environmental Services. Recommendations were made by *LEA* in its previous investigation of Building 8 to repair the locations, although none were made. If no longer needed, these areas of concern should be repaired to maximize effectiveness of the system.
- 5. Based upon work completed by *LEA* in Building 8, satisfactory negative pressure fields were found throughout the building, with the exception of the area surrounding TP-8-3-11.

If you have any questions, please contact us.

Respectfully submitted by, *Laurel Environmental Associates, Ltd.* 

Brendan C. Moran Environmental Scientist

Scott A. Yanuc Principal

Attached:

Tables I & II Photographs Sub-Slab Depressurization Sketches

#### TABLE I

Evaluation of Sub-Slab System, Building 3 Suction Points 3-1, 3-2, 3-3 and 3-4 Distances shown on attached sketch

Location	Inches WC	Distance in Feet
TP-3-1-1	0.018	88
TP-3-1-2	0.105	54
TP-3-1-3	0.040	72
TP-3-1-4	0.209	37
TP-3-1-5	0.273	36
TP-3-1-6	0.147	80
TP-3-1-7	0.019	51
TP-3-1-8	0.018	21
TP-3-1-9	1.109	29
TP-3-1-10	0.284	24
TP-3-1-11	0.085	30
TP-3-1-12	0.018	88
TP-3-1-13	0.007	82
TP-3-2-1	0.125	43
TP-3-2-2	1.036	24
TP-3-2-3	0.180	26
TP-3-2-4	0.075	16
TP-3-2-5	0.080	37
TP-3-2-6	0.050	62
TP-3-2-7	0.096	42
TP-3-2-8	0.035	43
TP-3-2-9	0.104	56
TP-3-2-10	0.020	69
TP-3-2-11	0.014	82
TP-3-2-12	0.007	108
TP-3-3-1	0.002	61
TP-3-3-2	0.162	30
TP-3-3-3	0.035	75
TP-3-3-4	0.096	32
TP-3-3-5	0.091	48
TP-3-4-1	0.020	28
TP-3-4-2	0.011	77
TP-3-4-3	0.015	58
TP-3-4-4	0.009	82
TP-3-4-5	0.007	91

WC = Water Column TP = Test Point

#### TABLE II

Evaluation of Sub-Slab System, Building 8 Suction Points 8-1, 8-2, 8-3, 8-4 and 8-5 Distances shown on attached sketch

Location Inches WC		<b>Distance in Feet</b>			
	Initial	Adjusted			
TD 0 1 1	0.047	NT	50		
1P-0-1-1 TD 9 1 2	0.047	IN I NT	30 45		
TD 9 1 2	0.018	IN I 0.020	43		
TP-8-1-3	0.117	0.020 NT	3/ 19		
1P-8-1-4	0.020	NI	18		
TP-8-2-1	0.311	NT	27		
TP-8-2-2	0.493	NT	8		
TP-8-2-3	0.485	NT	33		
TP-8-2-4	0.067	NT	64		
TP-8-2-5	0.250	NT	26		
TP-8-2-6	0.211	NT	37		
TP-8-3-1	0.007	NT	75		
TP-8-3-2	0.015	NT	50		
TP-8-3-3	0.038	NT	25		
TP-8-3-4	0.389	NT	5		
TP-8-3-5	0.222	NT	5		
TP-8-3-6	0.042	NT	25		
TP-8-3-7	0.009	NT	50		
TP-8-3-8	0.005	0.003	75		
TP-8-3-9	0.002	0.004	100		
TP-8-3-10	0.000	0.002	119		
TP-8-3-11	0.000	0.000	77		
TP-8-3-12	0.003	NT	33		
TP-8-3-13	0.031	NT	52		
TP-8-3-14	0.020	NT	20		
TP-8-3-15	0.020	NT	34		
TP-8-3-16	0.012	NT	55		
TP-8-3-17	0.012	NT	77		
TD 9 4 1	0.699	NТ	20		
TD 9 4 2	0.088	IN I NT	30 22		
TP-8-4-2	0.246	IN I NT	33		
TP-8-4-3	0.027	IN I NT	4/		
TD 9 4 5	1.805	IN I NT	3		
TP-8-4-5	0.303	IN I NT	30 40		
TP-8-4-6	0.082	N I NT	40		
TP-8-4-7	0.102	IN I NT	40		
TP-8-4-8	0.112	NI	48		
TP-8-4-9	0.020	N I	63		
TP-8-4-10	0.024	0.014	32		
TP-8-4-11	0.060	0.063	42		
TP-8-5-1	0.011	NT	34		
TP-8-5-2	0.161	NT	18		
TP-8-5-3	0.050	NT	20		
TP-8-5-4	0.009	NT	40		

WC = Water Column TP = Test Point

NT = Not Tested

![](_page_11_Picture_0.jpeg)

Photo 2, View of repaired location in Building 3

VITESUB (504.40) S.D.W.G. B.THIST B.THIST HET POINT ON HET POINT ON HE	Drawing No.	nnorivn∃ bns gr	B3-SSDS-1 B3-SSDS-1 P-G-1 B3-SSDS-1	<ul> <li>2005 Lan</li> </ul>
WPOR SUCTION PTT (47:44) CH FOR BLEVATOR PTTS PIPING OVERHEAD OR BLEVATOR PTTS PIPING OVERHEAD OR BLEOM TTS SYSTEM ILLED IN THE SYSTEM LANDS AUTOCAD FILE "95-46 CHES IDBATTFIED ON BASE FILLED WITT BESTEND TO 2 FT ABOVE HIGH CHES IDBATTFIED ON BASE FILLED WITT BISJP2:1" AND ASSUMED TO 2 FT ABOVE HIGH AN INTO THE SUCTION PTTS TO ALLOW AN INTO THE SUCTION PTTS TO ALLOW	Project No. 5555113	Date <b>4606</b> Scale	<b>1/16'-1'</b> Drn. By <b>JV</b>	Last Revised 09/26/06
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	Drawing Title	DEPRESSIC	LAY(	
		S AT	RK	NEW YORK

![](_page_12_Figure_1.jpeg)

![](_page_12_Figure_2.jpeg)