

**Summary of Indoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds
Pre-Sub Slab Depressurization System Start-up Sampling Event - March 15, 2007**

Volatile Organic Compounds via TO-15	CT Draft Proposed Indoor Residential Target Air Concentrations *		CT Existing Indoor Residential Target Air Concentrations **	NYSDOH Values***	Units	Kitchen Storage Room ^A 0703077-01	Cafeteria ^B 0703077-02	Gymnasium ^C 0703077-03	Elevator Hallway ^D 0703077-04	Room 118 ^E 0703077-05	Room 110 ^F 0703077-06	Media Center (Rm 145) ^G 0703077-07	Room 152 ^H 0703077-08	Ambient Outdoor 0703077-09
	Indoor Residential Target Air Concentrations *	Residential Target Air Concentrations **	Residential Target Air Concentrations **	Values***		Qual	Qual	Qual	Qual	Qual	Qual	Qual	Qual	Qual
Acetone ¹	180	834	None	None	µg/m ³	340	1200	1400	720	130	1500	840	970	14
Methylene chloride ²	3	45	60	60	µg/m ³	18	16	14	2.8	5.2	6.0	2.8	5.6	2.8
Carbon tetrachloride ³	0.5	1	None	None	µg/m ³	0.63	0.63	0.57	0.57	0.57	0.63	0.57	0.63	0.57
1,2-Dichloropropane ⁴	0.13	0.128	None	None	µg/m ³	0.09	0.09	0.09	0.18	0.09	0.09	0.09	0.09	0.09
Bromodichloromethane ⁵	0.034 (0.13)*	None	None	None	µg/m ³	0.13	0.13	0.13	3.3	0.27	0.13	0.13	0.13	0.13
Ethylbenzene ⁶	53	1040	None	None	µg/m ³	180	200	260	160	28	200	160	190	1.4
Total Xylenes ⁷	220	313	None	None	µg/m ³	450	740	970	46	118	690	505	570	4.95
Styrene ⁸	52	5	None	None	µg/m ³	6.5	3.3	6.6	3.4	1.4	91	3.4	3.7	0.38
1,1,2,2-Tetrachloroethane ⁹	0.011 (0.14)*	0.042	None	None	µg/m ³	0.14	0.14	0.14	53	3.0	0.14	0.14	0.14	0.14
1,2-Dichloroethane ¹⁰	0.07 (0.08)*	0.0936	None	None	µg/m ³	0.08	0.08	0.08	0.16	0.08	0.08	0.08	0.08	0.08
1,3,5-Trimethylbenzene ¹⁰	9.3	None	None	None	µg/m ³	4.5	50	130	64	7.3	12	28	42	0.25
1,2,4-Trimethylbenzene ¹¹	9.3	None	None	None	µg/m ³	7.8	130	300	160	16	22	60	100	0.59

* State of Connecticut Draft Proposed Indoor Residential Target Air Concentrations [Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, CTDEP, March 2003]. These concentrations have been established as Action Levels for indoor air in the RIDEM Order of Approval [June 2006, Amended February 2007] with the exception of several compounds (1,2-Dichloroethane, Bromodichloromethane, 1,2-Dibromoethane, and 1,1,2,2-Tetrachloroethane) where laboratory reporting limits can not achieve these concentrations. Per RIDEM Amended Order of Approval [Feb. 2007], concentrations shown in parentheses (i.e., lowest current laboratory reporting limits achievable) are to be used as Action Levels for these particular compounds.

** State of Connecticut Existing Indoor Residential Target Air Concentrations [Remediation Standard Regulations, CTDEP, 1996]. Please note, these concentrations are provided for comparative purposes only and are not Action Levels for the Adelaide Avenue School project. "None" indicates that no target air concentration has been established for this compound by CTDEP.

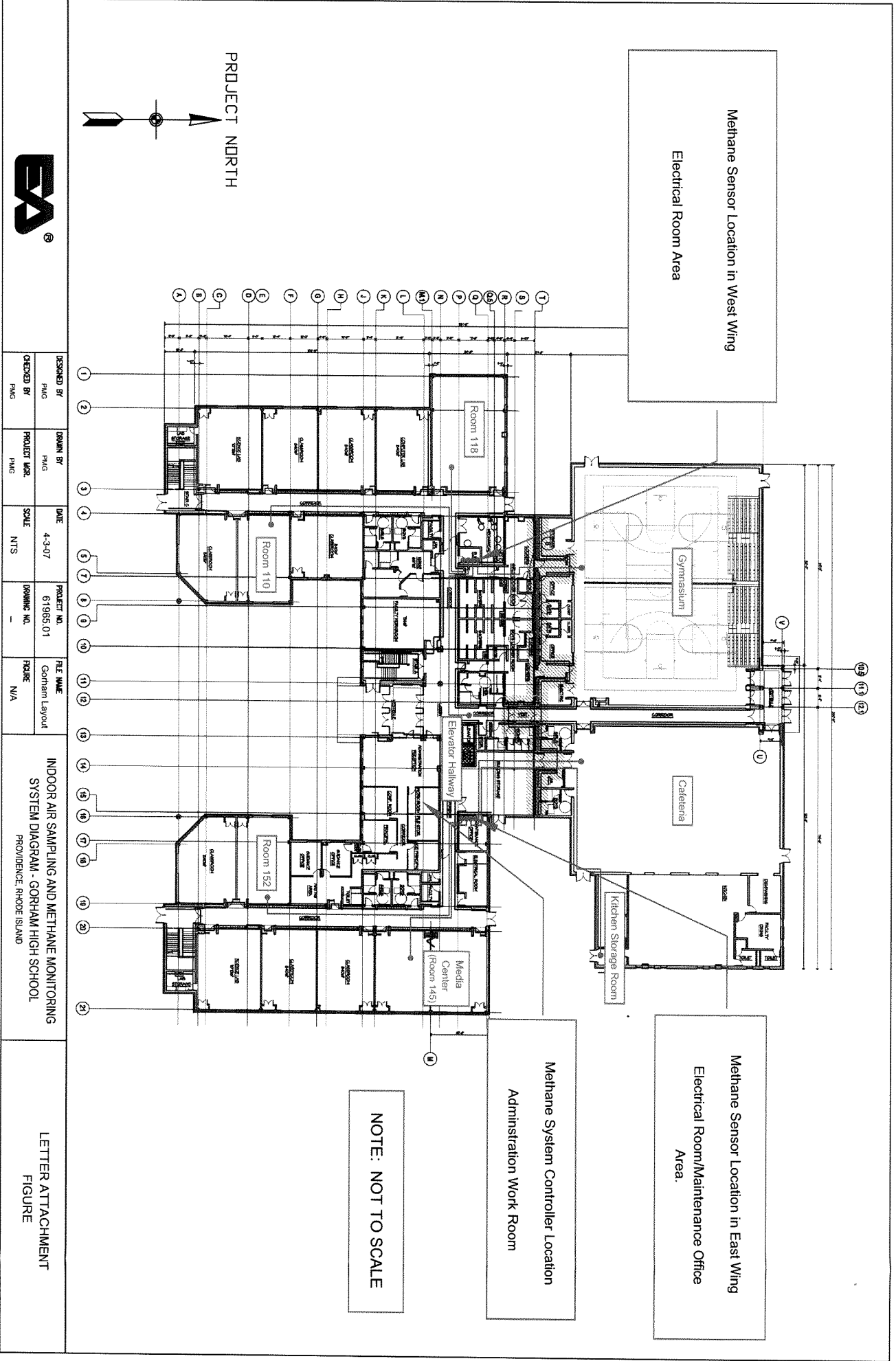
*** New York State Department of Health (NYSDOH) air guideline concentrations [Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, NYSDOH, October 2006]. Please note, these concentrations are provided for comparative purposes only and are not Action Levels for the Adelaide Avenue School project. "None" indicates that no air guideline has been established for this compound by NYSDOH.

U: designation indicates that the compound was not detected by the laboratory. Reporting limit shown in the data column.

: gray shading indicates that the sample concentration for this compound exceeds the applicable Action Level.

- 1: Acetone is found in PVC solvent/cement, cigarette smoke, building materials (caulking, paints, piping), vehicle exhaust, and is a possible lab contaminant. Acetone was found in soil vapor at the site at maximum concentration of 165 µg/m³ in 2005. SSD System not on-line during this sampling event. Continue to sample and evaluate over time after SSD System is turned on-line.
- 2: Methylene Chloride is found in solvents, paint strippers, and carpeting products. Methylene Chloride was found in soil vapor at the site at max. concentration of 8.8 µg/m³ in 2005. Indoor air quality studies conducted at residential homes in MA indicate presence of Methylene Chloride at mean concentration of 6.4 µg/m³. Continue to sample and evaluate over time after SSD System is turned on-line.
- 3: Carbon Tetrachloride was a manufactured chemical used in aerosols, cleaning fluids, fire extinguishers, and degreasing agents. This compound was measured at 0.57 µg/m³ in ambient outdoor air and was not detected in soil vapor at the site in 2005 at a reporting limit of 3.1 µg/m³. SSD System not on-line during this sampling event. Continue to sample and evaluate over time after SSD System is turned on-line.
- 4: Historically, 1,2-Dichloropropane was used as a soil fumigant, as an industrial solvent, and was found in paint strippers and varnishes. 1,2-Dichloropropane was found in a soil vapor sample at the site at a concentration of 3.4 µg/m³ in 2005. SSD System not on-line during this sampling event. Continue to sample and evaluate over time after SSD System is turned on-line.
- 5: Bromodichloromethane is produced in laboratories to make other chemicals or is a by-product when chlorine is added to drinking water. Chlorination process of potable water was in progress at the site during time of sampling. Continue to sample and evaluate over time after SSD System is turned on-line.
- 6: Ethylbenzene is found in cigarette smoke, gasoline, automobile exhaust, varnishes, and carpet glues. Ethylbenzene was found in soil vapor at the site at max. concentration of 7.4 µg/m³. Continue to sample and evaluate over time after SSD System is turned on-line.
- 7: Xylenes are found in paints, varnishes, cleaning agents, gasoline, and cigarette smoke. Xylene products in use at time of sampling. Xylene was found in soil vapor at the site at max. concentration of 40 µg/m³. Continue to sample and evaluate over time after SSD System is turned on-line.
- 8: Styrene is primarily found in cigarette smoke and is used to produce rubber, plastic, insulation, fiberglass, pipes, and carpet backing. Styrene was not detected in soil vapor at the site in 2005. Smoking by construction subcontractors noted during sampling event in various locations in and around the school building. Continue to sample and evaluate over time after SSD System is turned on-line.
- 9: 1,1,2,2-Tetrachloroethane was historically used as a solvent and degreaser and has been found in adhesives. 1,1,2,2-Tetrachloroethane was not detected in soil vapor at the site, but laboratory reporting limit was 3.5 µg/m³. Continue to sample and evaluate over time after SSD is turned on-line.
- 10: 1,2-Dichloroethane and 1,3,5-Trimethylbenzene are chemicals used in plastic, vinyl products, PVC pipes, building materials, and furnishings. Neither of these two compounds were detected in soil vapor at the site in 2005. Continue to sample over time after SSD System is turned on-line.
- 11: 1,2,4-Trimethylbenzene is found in paints, paint thinners, vinyl flooring, rubber floor and wall coverings, wood furniture, and building insulation products. 1,2,4-Trimethylbenzene was found in one soil vapor sample at the site in 2005 at a concentration of 4.3 µg/m³. Continue to sample and evaluate over time after SSD System is turned on-line.

- A: Smoking in kitchen storage room observed prior to sampling event. Several cans of spray paint containing xylenes, toluene, and acetone (per manufacturer's labeling) noted in room. Room not sealed off from remainder of kitchen which is also "open" to the cafeteria and gymnasium.
- B: Painting ongoing at time of sampling in hallway adjacent to cafeteria. Cafeteria is not sealed off from hallway. Cafeteria currently being used as primary materials storage area for subcontractors. Materials include, paint, plywood sheathing, pipe insulation, acoustical ceiling tiles, and electrical supplies.
- C: Gymnasium floor installation and polyurethane finishing in progress at time of sampling. Floor adhesive/glue and xylene being used to install flooring. Also, smoking in gymnasium area observed prior to sampling event and painting within adjacent hallway ongoing at time of sampling event.
- D: Strong paint odor noted in elevator hallway area emanating from hallway being painted in between gymnasium and cafeteria.
- E: Carpeting recently installed in Room 118. Multiple containers of floor covering adhesive noted and flooring materials (vinyl composite floor tiles, rubber mats) observed in Room 118 at time of sampling.
- F: Room 110 being used as a carpenter's equipment and supply area at the time of sampling. Aerosol spray paints, urethane, foam sealants, laminated boards, putty, silicone sealants noted within the room.
- G: Room 145 has been recently carpeted. Extra rolls of carpet noted within Room 145 during the sampling event. Also, evidence of recent painting and joint compound application noted within the room.
- H: Several tubes of silicone sealant noted in Room 154 at the time of sampling.



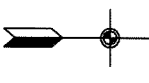
Methane Sensor Location in West Wing
Electrical Room Area

Methane Sensor Location in East Wing
Electrical Room/Maintenance Office
Area.

Methane System Controller Location
Administration Work Room

NOTE: NOT TO SCALE

PROJECT NORTH



DESIGNED BY PMG	DRAWN BY PMG	DATE 4-3-07	PROJECT NO. 61965.01	FILE NAME Gorham Layout	INDOOR AIR SAMPLING AND METHANE MONITORING SYSTEM DIAGRAM - GORHAM HIGH SCHOOL PROVIDENCE, RHODE ISLAND	LETTER ATTACHMENT FIGURE
CHECKED BY PMG	PROJECT MGR. PMG	SCALE NTS	DRAWING NO. -	FIGURE N/A		

