

# Memorandum

**To:** NHPS Finance and Operations Committee  
**From:** Thomas Smith  
**Re:** Approval of Amendment #18/FINAL to CM Agreement –  
 Giordano - Helene Grant/Central Administration Office  
**Meeting Date:** April 19, 2021

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## Executive Summary:

Approval is requested for **Amendment #18/FINAL** to the CM Agreement for the Helene Grant School/Central Administration Office with **Giordano Construction Co.** of 1155 Main Street, Branford, CT 06405. This amendment includes a CREDIT and an Out of Scope Change Order and is in the amount of \$(-226,531.00).

## Amount of Agreement and Amendment History:

Item	Amount	Cumulative Contract Value
Agreement		\$1,928,634.00
Amendment #1	\$2,164,193.00	\$4,092,827.00
Amendment #2	\$61,949.00	\$4,154,776.00
Amendment #3	\$6,615,776.00	\$10,770,552.00
Amendment #4	\$15,678,504.00	\$26,449,056.00
Amendment #5	\$8,689,081.00	\$35,138,137.00
Amendment #6	\$1,950,703.00	\$37,088,840.00
Amendment #7	-\$403,412.00	\$36,685,428.00
Amendment #8	\$1,586,745.00	\$38,272,173.00
Amendment #9	-\$102,065.00	\$38,170,108.00
Amendment #10	-\$13,155.00	\$38,156,953.00
Amendment #11	-\$16,757.00	\$38,140,196.00
Amendment #12	\$137,784.00	\$38,277,980.00
Amendment #13	\$84,396.00	\$38,362,376.00
Amendment #14	\$19,441.00	\$38,381,817.00
Amendment #15	\$45,079.00	\$38,426,896.00
Amendment #16	\$69,467.00	\$38,496,363.00
Amendment #17	\$12,413.00	\$38,508,776.00
<b>Amendment #1/Final</b>	<b>\$-226,531.00</b>	<b>\$38,282,245.00</b>

Funding Source: 3078 H912 58001 - \$-179,441.00  
 3078 H915 58001 - \$-47,090.00

The Amendment and complete scope of services are attached.

**EIGHTEENTH/FINAL AMENDMENT TO AGREEMENT  
FOR CONSTRUCTION MANAGEMENT SERVICES  
BY AND BETWEEN THE CITY OF NEW HAVEN BOARD OF EDUCATION  
("OWNER") AND GIORDANO CONSTRUCTION  
("CONSTRUCTION MANAGER")  
A21 -**

EIGHTEENTH/FINAL AMENDMENT dated as of \_\_\_\_\_, 2021 by and between the City of New Haven Board of Education of 54 Meadow Street, New Haven, Connecticut 06519 ("Owner") and Giordano Construction, 1155 Main Street, Branford, CT 06405 ("Construction Manager").

WHEREAS, the Owner and the Construction Manager entered into that certain Standard Form of Agreement Between Owner Construction Manager dated December 24, 2013, Agreement (A13-1217), Amendment #1 (A14-1008), Amendment #2 (A15-0265), Amendment #3 (A15-0499), Amendment #4 (A15-0665), Amendment #5 (A15-0666), Amendment #6 (A15-1044), Amendment #7 (A15-1134), Amendment #8 (A16-0399), Amendment #9 (A16-0398), Amendment #10 (A16-0591), Amendment #11 (A16-0785), Amendment #12 (A16-1051), Amendment #13 (A16-1096), Amendment #14 (A16-1168), Amendment #15 (A16-1495), Amendment #16 (A16-1545) and Amendment #17 (A#17-0111) for the provision of Construction Management services in connection with construction and renovations to the Helene Grant School ("Project"); and

WHEREAS, the Owner has requested the Construction Manager to provide reduced services to the Project;

NOW THEREFORE, the parties hereto do hereby agree as follows:

1. Final Compensation and Project Closeout: The Owner agrees to reduce the amount paid to the Construction Manager by the **DEDUCT** amount of Two Hundred Twenty-Six Thousand, Five Hundred Thirty-One Dollars and No Cents (\$-226,531.00). In consideration for this amount, the Construction Manager acknowledges and agrees that the Final Guaranteed Maximum Price (Section 2 below) is the final amount owed to the Construction Manager for the above referenced school project (inclusive of costs generated by any subcontractor) and that no further compensation will be paid by the Owner.
2. Final Guaranteed Maximum Price: This Amendment will result in a decrease in the Guaranteed Maximum Price from Thirty Eight Million, Five Hundred Eight Thousand, Seven Hundred Seventy Six Dollars and No Cents (\$38,508,776.00) to a Final Guaranteed Maximum Price amount of Thirty Eight Million, Two Hundred Eighty Two Thousand, Two Hundred Forty Five Dollars and No Cents (\$38,282,245.00).

3. Reduced Services: In consideration for One Dollar (\$1.00) and other valuable consideration the Construction Manager agrees to the deductions itemized in Exhibits A, B1 and B2.
4. No Waiver: Except as specifically described in this Amendment, nothing in this Agreement shall be construed as a waiver by the Board of any of the provisions of this Agreement. The Construction Manager acknowledges, agrees and confirms that in accordance with the terms of the Agreement, the Construction Manager shall not be entitled to any compensation in excess of the Additional Compensation referenced herein.
5. Effectiveness: On and after the date hereof, each reference in the Agreement to “the Agreement,” “this Agreement”, “hereunder,” “hereof,” “herein,” or words of like import shall mean and be in reference to the Agreement as amended.
6. Survival: Except as otherwise amended herein, the Agreement shall remain in full force and effect. Subject to the amendment specifically described herein, the Consultant and the Board hereby ratify and confirm the remaining provisions of the Agreement.

**IN WITNESS WHEREOF**, the parties have executed one (1) counterpart of this Agreement as of the day and year first above written.

**WITNESS**

**NEW HAVEN BOARD OF EDUCATION**

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
**Yesenia Rivera**  
**President, Board of Education**

**WITNESS**

**GIORDANO CONSTRUCTION**

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
**Duly Authorized**

**Approved as to Form and  
Correctness**

\_\_\_\_\_  
**Stacy Lynn Werner**  
**Senior Assistant Corporation**  
**Counsel**

**GIORDANO CONSTRUCTION**  
**Helene Grant /Central Administration Office**  
**EXHIBIT A**

	<u>Item</u>		<u>Contractor</u>	<u>Helene Grant</u>	<u>CAO</u>	<u>Amount</u>	<u>Cumulative Value</u>	
<b>CM Agreement</b>	Pre-Construction Services General Conditions Reimbursables			\$216,000.00	\$9,000.00		<b>\$225,000.00</b>	
				\$1,166,289.00	\$48,595.00		<b>\$1,214,884.00</b>	
				\$469,200.00	\$19,550.00		<b>\$488,750.00</b>	
				<b>Total Agreement</b>	<b>\$1,851,489.00</b>	<b>\$77,145.00</b>		<b>\$1,928,634.00</b>
<b>Amendment 1</b>	BP-02A 7/31/14 CM Bond (.8%)  CM Fee (2.25%) CM Contingency on Trade (4.0%)	Demo & Abatement	Standard Demolition Services Giordano	\$2,021,325.00		\$2,021,325.00		
				\$16,171.00		\$16,171.00		
				<b>Subtotal:</b>	<b>\$2,037,496.00</b>		<b>\$2,037,496.00</b>	
				\$45,844.00		\$45,844.00		
				\$80,853.00		\$80,853.00		
<b>TOTAL AMENDMENT #1:</b>	<b>\$2,164,193.00</b>		<b>\$2,164,193.00</b>	<b>\$4,092,827.00</b>				
<b>Amendment 2</b>	Move Reimbursables from CAO to Helene Grant  FEE on GC's not included in Original Agreement Fee on Reimbursables not included in Original Agreement  Out of Scope CO's CM Bond (.8%) CM Fee (2.25%) (on bond)		Giordano	<u>Helene Grant</u>	<u>CAO</u>			
				\$19,550.00	(\$19,550.00)			
				\$26,242.00	\$1,093.00			
				\$10,997.00				
				\$23,114.00				
				<b>Subtotal :</b>	<b>\$79,903.00</b>	<b>(\$18,457.00)</b>	<b>\$61,446.00</b>	
	\$492.00		\$492.00					
	\$11.00		\$11.00					
<b>TOTAL AMENDMENT #2:</b>	<b>\$80,406.00</b>	<b>(\$18,457.00)</b>	<b>\$61,949.00</b>	<b>\$4,154,776.00</b>				
<b>Amendment 3</b>	BP 2B 4/8/15 BP 3A 4/8/15  Out of Scope CO's CM Bond (.7%) CM Fee (2.25%) (trades and bond) CM Contingency on Trade (4.0%)	Sitework Concrete	Camputaro & Sons Universal Preservation <b>Camputaro &amp; Sons</b>	<u>Helene Grant</u>	<u>CAO</u>			
				\$4,241,000.00	\$100,000.00	\$4,341,000.00		
				\$1,696,800.00	\$140,000.00	\$1,836,800.00		
				<b>\$5,937,800.00</b>	<b>\$240,000.00</b>	<b>\$6,177,800.00</b>		
				\$4,841.00		\$4,841.00		
				\$44,203.00	\$1,785.00	\$45,988.00		
				\$134,595.00	\$5,440.00	\$140,035.00		
\$237,512.00	\$9,600.00	\$247,112.00						
<b>TOTAL AMENDMENT #3:</b>	<b>\$6,358,951.00</b>	<b>\$256,825.00</b>	<b>\$6,615,776.00</b>	<b>\$10,770,552.00</b>				
<b>Amendment 4</b>	BP 05A 4/22/15 BP 06A 4/22/15 BP 15A 4/22/15  CM Bond (.7%) CM Fee (2.25%) (trades and bond) CM Contingency on Trade (4.0%)	Structural Steel Wall Systems & Specialties  Mechanical	Schenectady Steel  Conn Acoustics MJ Daly <b>Subtotal :</b> Giordano Giordano Giordano	<u>Helene Grant</u>	<u>CAO</u>			
				\$2,564,000.00	\$219,000.00	\$2,783,000.00		
				\$2,939,156.00	\$949,200.00	\$3,888,356.00		
				\$7,380,000.00	\$600,000.00	\$7,980,000.00		
				<b>\$12,883,156.00</b>	<b>\$1,768,200.00</b>	<b>\$14,651,356.00</b>		
				\$95,834.00	\$13,153.00	\$108,987.00		
				\$292,027.00	\$40,080.00	\$332,107.00		
				\$515,326.00	\$70,728.00	\$586,054.00		
<b>TOTAL AMENDMENT #4:</b>	<b>\$13,786,343.00</b>	<b>\$1,892,161.00</b>	<b>\$15,678,504.00</b>	<b>\$26,449,056.00</b>				

**GIORDANO CONSTRUCTION**  
**Helene Grant /Central Administration Office**  
**EXHIBIT A**

Amendment	Description	Trade	Contractor	Helene Grant	CAO			
Amendment 5	BP 04A 4/21/15	Masonry	CT Mason Contractors	\$2,148,000.00	\$125,000.00	\$2,273,000.00		
	BP 07A 4/21/15	Roofing	Silktown Roofing	\$787,000.00	\$177,000.00	\$964,000.00		
	BP 08A 4/21/15	Windows/Curtainwall	Massey Glass	\$1,306,745.00	\$46,255.00	\$1,173,087.00		
			GI Alternate	Deletion of Sun Control Device	(\$179,913.00)			
	BP 16A 4/21/15	Electrical	Dinto Electric	\$3,534,500.00	\$183,500.00	\$3,718,000.00		
				<b>Subtotal :</b>	<b>\$7,596,332.00</b>	<b>\$531,755.00</b>	<b>\$8,128,087.00</b>	
	CM Bond (.6%)		Giordano	\$48,433.00	\$3,390.00	\$51,823.00		
	CM Fee (2.25%) (trades and bond)		Giordano	\$172,007.00	\$12,041.00	\$184,048.00		
	CM Contingency on Trade (4.0%)		Giordano	\$303,853.00	\$21,270.00	\$325,123.00		
				<b>TOTAL AMENDMENT #5:</b>	<b>\$8,120,625.00</b>	<b>\$568,456.00</b>	<b>\$8,689,081.00</b>	<b>\$35,138,137.00</b>
Amendment 6	BP 06B 5/5/15	Millwork	Legere Group	\$1,260,585.00	\$8,730.00	\$1,269,315.00		
	BP 07B 4/28/15	Metal Panels	Thermal Fireproofing	\$288,100.00	\$0.00	\$288,100.00		
	BP 05B 4/28/15	Misc. Metals	All Phase Steel Works	\$302,500.00	\$0.00	\$312,400.00		
				G1 - Alternate Add Exterior Suncontrol Devices	\$9,900.00			
				<b>Subtotal :</b>	<b>\$1,861,085.00</b>	<b>\$8,730.00</b>	<b>\$1,869,815.00</b>	
	Out of Scope changes			(\$47,872.00)		(\$47,872.00)		
	Bond (.6%)		Giordano	\$11,579.00	\$56.00	\$11,635.00		
	Fee (2.25%) (trades and bond)		Giordano	\$42,135.00	\$198.00	\$42,333.00		
	Contingency on Trade (4.0%)		Giordano	\$74,443.00	\$349.00	\$74,792.00		
				<b>TOTAL AMENDMENT #6:</b>	<b>\$1,941,370.00</b>	<b>\$9,333.00</b>	<b>\$1,950,703.00</b>	<b>\$37,088,840.00</b>
Amendment 7	Out of Scope changes	Phase 1		Helene Grant	CAO			
	Out of Scope changes	Phase 2		\$55,572.00				
				(\$450,107.00)				
	Fee (2.25%) (trades)		Giordano	(\$394,535.00)				
			(\$8,877.00)					
			<b>TOTAL AMENDMENT #7:</b>	<b>(\$403,412.00)</b>			<b>\$36,685,428.00</b>	
Amendment 8	Amend # 5 - Actual bond bill was \$ 52,135. Difference of \$ 312 more			Helene Grant	CAO			
				\$291.00	\$21.00	\$312.00		
	Amount of bond on Amendments # 3 & 4 was \$ 17,864 more than GCC was billed. And Amend # 5 was \$ 312 less than bill. Difference \$ 17,552.			Amendment #3 Adjustment	(\$2,832.00)	(\$116.00)	(\$2,948.00)	
				Amendment #4 adjustment	(\$13,116.00)	(\$1,800.00)	(\$14,916.00)	
				<b>Subtotal:</b>	<b>(\$15,657.00)</b>	<b>(\$1,895.00)</b>	<b>(\$17,552.00)</b>	
	BP 01A 10/27/15	Cleaning	Advantage	\$136,746.00	\$22,935.00	\$159,681.00		
	BP 09A 5/12/15	Flooring	R&B Ceramic Tile	\$584,490.00	\$18,897.00	\$603,387.00		
	BP 09B 5/12/15	Painting	Professional Paint	\$177,252.00	\$16,275.00	\$193,527.00		
	BP 06A Adjustment to Contract award		Conn Acoustics	\$800,000.00	(\$800,000.00)	\$0.00		
	BP 15A Adjustment to Contract award		MJ Daly	\$350,000.00	(\$350,000.00)	\$0.00		
				<b>Subtotal:</b>	<b>\$2,048,488.00</b>	<b>(\$1,091,893.00)</b>	<b>\$956,595.00</b>	
	Reimbursables		Giordano	\$621,400.00	\$0.00	\$621,400.00		
	Out of Scope Changes	Phase 1		(\$47,557.00)	\$485.00	(\$47,072.00)		
	Fee (2.25%) (trades)		Giordano	\$59,720.00	(\$24,610.00)	\$35,110.00		
Contingency on Trade (4.0%)		Giordano	\$81,940.00	(\$43,676.00)	\$38,264.00			
			<b>TOTAL AMENDMENT #8:</b>	<b>\$2,748,334.00</b>	<b>(\$1,161,589.00)</b>	<b>\$1,586,745.00</b>	<b>\$38,272,173.00</b>	

**GIORDANO CONSTRUCTION**  
**Helene Grant /Central Administration Office**  
**EXHIBIT A**

				<u>Helene Grant</u>	<u>CAO</u>			
<b>Amendment 9</b>	Out of Scope Changes Out of Scope Changes	Phase 1 Phase 2	Giordano	\$653.00	\$0.00	\$653.00		
				<b>(\$87,423.00)</b>	<b>(\$13,052.00)</b>	<b>(\$100,475.00)</b>		
	CM Fee (2.25%) of VE CO's Grant (\$-8,987)			<b>Subtotal:</b>	<b>(\$86,770.00)</b>	<b>(\$13,052.00)</b>	<b>(\$99,822.00)</b>	
				<b>TOTAL AMENDMENT #9:</b>	<b>(\$2,041.00)</b>	<b>(\$202.00)</b>	<b>(\$2,243.00)</b>	
				<b>(\$88,811.00)</b>	<b>(\$13,254.00)</b>	<b>(\$102,065.00)</b>	<b>\$38,170,108.00</b>	
<b>Amendment 10</b>	Out of Scope Changes VE Out of Scope Changes	Phase 1 Phase 1	Giordano	\$100,447.00	\$0.00	\$100,447.00		
				<b>(\$111,102.00)</b>	\$0.00	<b>(\$111,102.00)</b>		
	CM Fee (2.25%) of VE CO's Grant (\$-111,102.00)			<b>Subtotal:</b>	<b>(\$10,655.00)</b>	<b>\$0.00</b>	<b>(\$10,655.00)</b>	
				<b>TOTAL AMENDMENT #10:</b>	<b>(\$2,500.00)</b>	<b>\$0.00</b>	<b>(\$2,500.00)</b>	
				<b>(\$13,155.00)</b>	<b>\$0.00</b>	<b>(\$13,155.00)</b>	<b>\$38,156,953.00</b>	
<b>Amendment 11</b>	Out of Scope Changes			<b>Subtotal:</b>				
				<b>TOTAL AMENDMENT #11:</b>	<b>(\$23,422.00)</b>	\$6,665.00	<b>(\$16,757.00)</b>	
				<b>(\$23,422.00)</b>	<b>\$6,665.00</b>	<b>(\$16,757.00)</b>	<b>\$38,140,196.00</b>	
<b>Amendment 12</b>	Out of Scope Changes							
				<b>TOTAL AMENDMENT #12:</b>	\$132,826.00	\$4,958.00	\$137,784.00	
				<b>\$132,826.00</b>	<b>\$4,958.00</b>	<b>\$137,784.00</b>	<b>\$38,277,980.00</b>	
<b>Amendment 13</b>	Out of Scope Changes							
				<b>TOTAL AMENDMENT #13:</b>	\$84,396.00	\$0.00	\$84,396.00	
				<b>\$84,396.00</b>	<b>\$0.00</b>	<b>\$84,396.00</b>	<b>\$38,362,376.00</b>	
<b>Amendment 14</b>	Out of Scope Changes							
				<b>TOTAL AMENDMENT #14:</b>	\$19,441.00	\$0.00	\$19,441.00	
				<b>\$19,441.00</b>	<b>\$0.00</b>	<b>\$19,441.00</b>	<b>\$38,381,817.00</b>	
<b>Amendment 15</b>	Out of Scope Changes							
				<b>TOTAL AMENDMENT #15:</b>	\$45,079.00	\$0.00	\$45,079.00	
				<b>\$45,079.00</b>	<b>\$0.00</b>	<b>\$45,079.00</b>	<b>\$38,426,896.00</b>	
<b>Amendment 16</b>	Adjustment - math error A#8 Out of Scope Changes							
				<b>TOTAL AMENDMENT #16:</b>	\$273.00		\$273.00	
					\$68,765.00	\$429.00	\$69,194.00	
				<b>\$69,038.00</b>	<b>\$429.00</b>	<b>\$69,467.00</b>	<b>\$38,496,363.00</b>	
<b>Amendment 17</b>	Out of Scope Changes							
				<b>TOTAL AMENDMENT #17:</b>	\$12,413.00	\$0.00	\$12,413.00	
				<b>\$12,413.00</b>	<b>\$0.00</b>	<b>\$12,413.00</b>	<b>\$38,508,776.00</b>	
<b>Amendment 18/FINAL</b>	<b>CREDITS:</b> Reimbursables and Fees Contingency Out of Scope Change							
				<b>TOTAL AMENDMENT #18:</b>	<b>(\$108.00)</b>	<b>(\$2,596.00)</b>	<b>(\$2,704.00)</b>	
					<b>(\$144,333.00)</b>	<b>(\$44,494.00)</b>	<b>(\$188,827.00)</b>	
					<b>(\$35,000.00)</b>	<b>\$0.00</b>	<b>(\$35,000.00)</b>	
				<b>(\$179,441.00)</b>	<b>(\$47,090.00)</b>	<b>(\$226,531.00)</b>	<b>\$38,282,245.00</b>	

ACCEPTED: \_\_\_\_\_

Exhibit B1  
**Helene Grant Early Learning Center**  
 SDE# 093-0365N  
 Giordano Construction Co., Inc  
**AMENDMENT #18/FINAL**

ITEM			AMOUNT	TOTAL
<b>6.1 COST OF THE WORK</b>	<b>Helene Grant</b>	<b>CAO</b>		
<b>6.1.2 CM Costs</b>				
CREDITS:				
Reimburseables & Fees	(\$108.00)	(\$2,596.00)		
Contingency - Unused Balance	(\$144,333.00)	(\$44,494.00)		
<b>Subtotal 6.1.2:</b>	(\$144,441.00)	(\$47,090.00)		(\$191,531.00)
<b>6.1.3 Subcontract Costs</b>				
Out of Scope Change Orders See Exhibit B2	(\$35,000.00)			
<b>Subtotal 6.1.3:</b>	(\$35,000.00)			(\$35,000.00)
<b>6.1.4 Costs of Materials &amp; Equipment Incorporated in the Completed Construction</b>				
<b>Subtotal 6.1.4:</b>				
<b>6.1.5 Costs of Other Materials and Equipment, Temporary Facilities and Related Items</b>				
<b>Subtotal 6.1.5:</b>				\$0.00
<b>6.1.6 Miscellaneous Costs</b>				
- Liability Insurance				
- CM Bond ( <i>Awarded Contracts &amp; CM Services</i> )			\$0.00	
- Other Item				
<b>Subtotal 6.1.6:</b>				\$0.00
<b>SUBTOTAL 6.1 (COST OF THE WORK):</b>				(\$226,531.00)
<b>5.1.1 CONSTRUCTION MANAGER'S FEE</b>				
CM Fee (2.25%)	\$0.00	\$0.00	\$0.00	
<b>SUBTOTAL 5.1.1 (CM FEE):</b>				\$0.00
<b>5.2.1 CONTINGENCY</b>				
Contingency 4.0% TRADE CONTRACTS ( no change orders included )				\$0.00
<b>SUBTOTAL 5.2.1 (CONTINGENCY):</b>				\$0.00
<b>TOTAL FOR AMENDMENT #18</b>				(\$226,531.00)
<b>TOTAL FOR AMENDMENT #17</b>				\$12,413.00
<b>TOTAL FOR AMENDMENT #16</b>				\$69,467.00
<b>TOTAL FOR AMENDMENT #15</b>				\$45,079.00
<b>TOTAL FOR AMENDMENT #14</b>				\$19,441.00
<b>TOTAL FOR AMENDMENT #13</b>				\$84,396.00
<b>TOTAL FOR AMENDMENT #12</b>				\$137,784.00
<b>TOTAL FOR AMENDMENT #11</b>				(\$16,757.00)
<b>TOTAL FOR AMENDMENT #10</b>				(\$13,155.00)
<b>TOTAL FOR AMENDMENT #9</b>				(\$102,065.00)
<b>TOTAL FOR AMENDMENT #8</b>				\$1,586,745.00
<b>TOTAL FOR AMENDMENT #7</b>				(\$403,412.00)
<b>TOTAL FOR AMENDMENT #6</b>				\$1,950,703.00
<b>TOTAL FOR AMENDMENT #5</b>				\$8,689,081.00
<b>TOTAL FOR AMENDMENT #4</b>				\$15,678,504.00
<b>TOTAL FOR AMENDMENT #3</b>				\$6,615,776.00
<b>TOTAL FOR AMENDMENT #2</b>				\$61,949.00
<b>TOTAL FOR AMENDMENT #1</b>				\$2,164,193.00
<b>FOR BASE CONTRACT</b>				\$1,928,634.00
<b>Total CONTRACT To Date:</b>				\$38,282,245.00



Exhibit B1  
 Helene Grant Early Learning Center  
 SDE# 093-0365N  
 Giordano Construction Co., Inc  
**AMENDMENT #18/FINAL**

COP No.	Type	Description / Reason for Change	Bid Package	Trade Contractor	Out of Scope Amount - SCH	Out of Scope Amount - CAO
<b>Phase - 2</b>						
286		Additional Commissioning Back Charge	15A	MJ Daly	(\$35,000.00)	
		Subtotal:			(\$35,000.00)	\$0.00
		<b>Subtotal This Amendment</b>			(\$35,000.00)	



# NEW HAVEN SCHOOL CONSTRUCTION PROGRAM CONSTRUCTION CHANGE AUTHORIZATION FORM

PROJECT NAME: **Helen Grant School** COP #286  
ADDRESS: **185 Goffe St NH, Ct.** DATE: 2.26.2021  
ARCHITECT: **KBA** CITY PROJECT#  
OWNER: **New Haven Board of Education** S.D.E. **093-0365N**

In order to expedite the work and avoid or minimize delays in the Work, which will affect Contract Sum and / or Contract Time, the Contract Documents are hereby amended to include the additional Work described below:

Out of Scope:  In Scope:  Allowance:

Please proceed with the following work:

**DESCRIPTION OF THE WORK: Additional Commissioning Back Charge**

Trade Contractor	Description of Scope of Work	Amount
MJ Daly	Additional Commissioning needed due to delays in completion of work as outlined in SSRCX dated 10/5/2020.	(\$35,000.00)
	This back charge satisfies all contract obligations	
	<b>Total:</b>	(\$35,000.00)

**Only Out of Scope costs, as incurred herein, are in addition to the current Contract Sum and will be included in a Contract Amendment. Final cost for Work involved and Change in Sum and Time (if any) must be submitted to the BOE and will be subject to approval of a Contract Amendment adjusting the Contract Sum and / or Contract Time. Execution of this CCA document does not constitute such approval nor can any such Out of Scope costs be billed until approval of such Amendment.**

**In Scope and Allowance costs may be billed upon execution of this CCA.**

The following information is being provided by:  
(Back-up is herein attached)

**Method of determining value of change in contract:**

Lump Sum:  Unit price:  Eligible:   
Time and Material:  Other:  Ineligible:

Change in Contract Sum:  
Amount: (\$35,000.00)

Note: Any costs included in this CCA are subject to Accounting Review.

Change in Contract Time:

ARCHITECT:  
Kenneth Boroson Architects

PROGRAM MANAGER:  
New Haven School  
Construction Program

CONSTRUCTION  
MANAGER:  
Giordano Construction Co.

DATE

DATE 3/26/21

DATE 2/26/2021



October 5, 2020

Mr. Webster M. Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**RE: Building Commissioning Services - Contract Amendment  
Helene Grant  
New Haven Public Schools  
New Haven, CT**

Dear Webb:

SSRCx would like to provide this request for amendment to the contract which will add additional system retesting to the commissioning scope.

Mechanical Commissioning Scope:

The following is a brief description of failed attempts to conduct functional performance testing on the systems and equipment in the SSR Commissioning Scope.

- SSR Commissioning Mechanical Site Visit 14 Occurred in July 2017 – SSR Commissioning attempted functional performance during this site visit. Despite assurances from the construction team that the systems were ready for testing, SSR observed that the associated equipment was either not functioning properly or installation remained incomplete. Please refer to the attached Site Visit Report SVR 14 for more information. Additional information is also provided in the attached add service request dated July 31<sup>st</sup>, 2017. Additional services are requested for the site visit detailed in SVR 17 that was only necessary as a result of the failed testing described above.
- SSR Commissioning Mechanical Site Visit 16 Occurred in August 2017 – SSR Commissioning attempted functional performance during this site visit. Despite assurances from the construction team that the systems were ready for testing, all plans for the week were cancelled by the construction team when SSR arrived at the project site. Cancellation by the construction team was due to lack of construction progress and systems were not ready for functional performance testing. Please refer to the attached Site Visit Report SVR 16 for more information. Additional information is also provided in the attached add service request dated August 14<sup>th</sup>, 2017. Additional services are requested for the site visit detailed in SVR 18 that was only necessary as a result of the failed testing described above.
- SSR Commissioning Mechanical Site Visit 20 Occurred in October 2018 – SSR Commissioning conducted this site visit with the construction team with the understanding that all issue items on the commissioning Master Issues List (MIL) had been corrected by the installing contractors. The collective intention of this site visit was to verify correction of all open MIL items and close all items on the MIL. During the site visit, only seven (7) items were closed and an additional fifteen (15) items were added. Please refer to the attached SVR 20 for more information. Due to the circumstances of this site visit and the duration of unresolved issue items, SSR is requesting reimbursement for all site visits after SVR 20 that are necessary to close the issue items on the commissioning MIL. This includes the site visit detailed in the attached SVR 21 and a future site visit to close the items that remain open at this time. As detailed in attached SVR 21, SSR returned to the project site again in February 2019 with the collective intention of verifying and closing the open items on the MIL. During the site visit (SVR 21), eleven (11) items were closed and an additional thirteen (13) items were added.

The total cost breakdown for each additional commissioning site visit is provided below:

Rate Structure A:

<b>TASK</b>	<b>HOURLY RATE</b>	<b>HOURS</b>	<b>LABOR COST</b>
Commissioning Site Visit	\$200	30	\$6,000
Travel	\$200	14	\$2,800
Reports and Documentation	\$200	2	\$400
Expenses	N/A	N/A	\$800
<b>Total Labor Cost (Per Site Visit)</b>			<b>\$10,000</b>

Rate Structure B:

<b>TASK</b>	<b>HOURLY RATE</b>	<b>HOURS</b>	<b>LABOR COST</b>
Commissioning Site Visit	\$200	40	\$8,000
Travel	\$200	14	\$2,800
Reports and Documentation	\$200	4	\$800
Expenses	N/A	N/A	\$900
<b>Total Labor Cost (Per Site Visit)</b>			<b>\$12,500</b>

Filming Of System Training Sessions:

As outlined in the original commissioning agreement, the SSR scope includes attendance by SSR (or a representative) at training classes for the purposes of filming Owner training. The agreement also states that the construction team is responsible for providing all Owner training in the SSR Commissioning scope within a two-week time period and all costs associated with exceeding that limitation will be considered as an additional service. Any requests for additional Owner training of any systems and/or equipment in the commissioning scope will be an additional service for the providers that will require additional compensation beyond the costs outlined in this document.

Testing, Adjusting and Balancing (TAB) Scope:

The following items reflect effort and expenses that are beyond the original agreement for services in the testing, adjusting and balancing (TAB) scope:

- The following additional costs related to the testing and balancing scope are detailed in the two attached add service requests from Environmental Testing & Balancing dated February 9<sup>th</sup>, 2018 and April 24<sup>th</sup>, 2019.

<b><u>TASK</u></b>	<b><u>HOURLY RATE</u></b>	<b><u>HOURS</u></b>	<b><u>LABOR COST</u></b>
Bulletin #20 (Circuit Setters)	\$150	16	\$2,400
Space Pressure Issues (MIL)	\$150	8	\$1,200
<b>Total Labor Cost</b>			<b>\$3,600</b>

Requests For Additional Commissioning Services:

Multiple failed attempts to complete functional performance testing for the mechanical and electrical systems in the commissioning scope has resulted in the following additional service requests:

- July 2017 Mechanical Site Visit – Failed Testing of SVR 14 and Reimbursement of Additional Site Visit SVR 17 In September 2017 - **\$12,500**
- August 2017 Mechanical Site Visit – Failed Testing of SVR 16 and Reimbursement of Additional Site Visit SVR 18 In January 2018 - **\$12,500**
- Additional Site Visit (SVR 21) To Verify Correction Of All Open Items On The Commissioning Master Issues List (MIL) - **\$10,000**
- Future Site Visit To Verify Correction Of All Items On The Commissioning Master Issues List (MIL) That Are Currently Open - **\$10,000**
- Additional Costs Associated with the Testing, Adjusting and Balancing (TAB) Scope - **\$3,600**
- Additional Costs Associated with Deferred Functional Testing That Exceeds One Year Beyond Building Occupancy That Include But Are Not Limited To The Following: Project Management, Scheduling and Coordination Of Cancelled Site Visits and Development of Additional Site Visit Reports - **\$10,900**

The cost of effort related to additional site visits and additional post-occupancy scope are calculated as follows:

<u>TASK</u>	<u>HOURLY RATE</u>	<u>HOURS</u>	<u>LABOR COST</u>
Post-Occupancy Expenses	\$218	50	\$10,900
<b>Total Labor Cost</b>			<b>\$10,900</b>

The total proposed fee for additional costs related to the commissioning of mechanical systems in the commissioning scope is **Fifty-Nine Thousand Five Hundred Dollars (\$59,500)**.

Please contact me with any questions.

Sincerely,



Randall Dean, PE, CEM, CxA  
Commissioning Project Manager

**Additional Service Request  
ACCEPTED:**

\_\_\_\_\_  
Authorized Agent:

\_\_\_\_\_  
Date

# **ENVIRONMENTAL TESTING & BALANCING, INC.**

**154 State Street Suite 204 North Haven, Connecticut 06473**

**(203) 234-2089 Fax (203) 234-2147**

**e-mail: john@etbct.com**

**website: www.etbct.com**

**AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER**

**February 9, 2018**

**Randall Dean  
Project Manager  
SSRCx, LLC**

**Dear Randall:**

**Re: Helene Grant School – Bulletin #20  
185 Goffe Street New Haven, CT**

**Request for change order**

**Please issue change order in the amount of \$ 2400.00 for the testing and balancing of added circuit setters in Bulletin #20 and the connected radiant floor headers. This is an extra to our contract.**

**Thank you for your prompt attention to this matter.**

**Very truly yours,**

**John E. Burgess**

**John E. Burgess, President & NEBB Professional**

# **ENVIRONMENTAL TESTING & BALANCING, INC.**

**154 State Street Suite 204 North Haven, Connecticut 06473**

**(203) 234-2089 Fax (203) 234-2147**

**e-mail: john@etbct.com**

**website: www.etbct.com**

**AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER**

**April 24, 2019**

**Randall Dean  
Project Manager  
SSRCx, LLC**

**Dear Randall:**

**Re: Helene Grant School – Commissioning Issue 242  
185 Goffe Street New Haven, CT**

**Request for change order**

**Please issue change order in the amount of \$ 1200.00 for the testing and balancing required to confirm negative space pressure. This is an extra to our contract.**

**Thank you for your prompt attention to this matter.**

**Very truly yours,**

**John E. Burgess**

**John E. Burgess, President & NEBB Professional**



July 31, 2017

Mr. Webster M. Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**RE: Building Commissioning Services - Contract Amendment for System Retesting  
Helene Grant  
New Haven Public Schools  
New Haven, CT**

Dear Webb:

We would like to provide this amendment to the contract which will add additional system retesting to the SSRCx commissioning scope.

The need for system retesting will include but is not limited to the open deficiency items listed below. Please consult the most recent commissioning Master Issues List (MIL) for more information regarding all open deficiency items.

- Chilled water plant could not be functionally tested because Chiller 1 was not capable of functioning at 100% during the previous site visit and the BAS was not reading feedback from the chilled water pumps. This prevented SSRCx from witnessing the lead/lag sequence for the chillers as well as the lead/lag sequences for the hydronic pumps. These sequences will have to be retested and system capacities will have to be documented again after all equipment is operating per design intent.
- At the time of the previous site visit, glycol had not been added to the chilled water system. It is very difficult to ensure the systems are meeting the design requirements because adding glycol to the water will reduce the cooling capacity of the equipment. Cooling capacity of the system will have to be revisited and observed again after the glycol has been added to the system.
- All pumps were not programmed to communicate with BAS. Under these circumstances, when a pump fails, the BAS does not have the ability to switch to the lag pump. This sequence will have to be tested again after the pumps have been connected to the BAS.
- Air terminal units serving AHU-1 were not maintaining their supply airflow set point during the previous site visit and these sequences will have to be retested.
- Retesting for the dedicated outside air units DOA-1, DOA-2 and DOA-3 will include the following:
  - Exhaust airflow and outside airflow measurements must be witnessed again after airflow measuring stations are providing readings to the building automation system (BAS).
  - Exhaust air relative humidity and exhaust air static pressure sequences must be witnessed again after the measurements are being provided to the BAS.
  - Chilled water valve was not maintaining proper supply air temperature set point. This sequence and capacity will have to be observed again after equipment is operating properly.
- Air handling unit AHU-1 will have to be retested and capacities observed again due to the following deficiency items:
  - Return fan was not programmed to control to building space pressure and the sequence as well as associated parameters will have to be observed and tested again.
  - Supply static pressure sensor reading was incorrect and the sequence must be retested.
  - CO2 control sequence was not provided and the sequence as well as associated parameters will have to be observed and tested again.



- Supply air temperature control was not functioning correctly and the sequence will have to be retested.
- Supply air temperature set point is not resetting correctly and the sequence as well as associated parameters will have to be observed and tested again.
- High static pressure safety switch was not installed on the equipment and this safety shutdown will have to be retested.
- Static pressure reset sequences were not programmed and will have to be retested.
- The air handling unit serving the CAO building was not maintaining supply air temperature. The unit had 45°F chilled water supply temperature but it would only provide 75°F supply air temperature. The proper operation and capacity of this unit will have to be observed again.
- The chilled beam pumps serving the CAO building were operating during the previous site visit but were reading a flow of 0 GPM. Proper operation and capacity of these pumps must be retested.
- The chilled beams in the CAO could not be functionally tested due to insufficient water flow. Chilled beams in the CAO will have to be retested when all units are receiving proper water flow.

Upon correction of the deficiency items, SSRCx will observe the equipment operation and provide the following:

- SSRCx will also observe operation to verify that deficiency items have been corrected and that the equipment is functioning as intended. It should be noted that proper operation of the equipment must be demonstrated to SSRCx by either a qualified manufacturer's representative or by an installing contractor that is experienced and familiar with the equipment operation.
- All issues or concerns noted by SSRCx will be provided to the project team in an updated commissioning Master Issues List (MIL).

The proposed fee for retesting the equipment in the commissioning scope is **Twelve Thousand Five Hundred Dollars (\$12,500)**. This proposal is made under the assumption that all corrected deficiency items will be witnessed in a single site visit.

Please contact me with any questions.

Sincerely,



Randall Dean, PE, CEM, CxA  
Commissioning Project Manager

**Additional Service Request  
ACCEPTED:**

\_\_\_\_\_  
Authorized Agent:

\_\_\_\_\_  
Date



August 14, 2017

Mr. Webster M. Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**RE: Building Commissioning Services - Contract Amendment for System Retesting  
Helene Grant  
New Haven Public Schools  
New Haven, CT**

Dear Webb:

We would like to provide this amendment to the contract which will add additional system retesting to the SSRCx commissioning scope.

As referenced in the SSRCx Commissioning Site Visit Report 16, the purpose and intent of the site visit scheduled for the week of August 14<sup>th</sup>, 2017 was to conduct functional performance testing for the chilled water system and all associated equipment with cooling capacities. All intended testing was cancelled by the controls contractor after SSRCx arrived at the project site on Tuesday, August 15<sup>th</sup>.

The proposed fee for additional costs related to the termination of the commissioning site visit by the controls contractor is **Twelve Thousand Five Hundred Dollars (\$12,500)**.

Please contact me with any questions.

Sincerely,

A handwritten signature in black ink that reads 'Randall Dean'.

Randall Dean, PE, CEM, CxA  
Commissioning Project Manager

**Additional Service Request  
ACCEPTED:**

---

Authorized Agent:

---

Date



July 19, 2017

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Site Visit of July 11 – 14, 2017 – SSRCx Site Visit Report 14  
NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by Steven Metzgar, was on site on the above referenced date to functionally test all mechanical and plumbing systems in the commissioning scope (with the exception of operating sequences related to the heating systems). The attached Master Issues List (MIL) has been updated to reflect observations made during this site visit.

#### **I. General Observation**

1. All unit heaters located in the penthouses do not have a disconnect switch. It is a code requirement to have a disconnect switch within the line of site of the piece of equipment.
2. Chilled water plant was not functionally tested because Chiller 1 was not capable of functioning at 100% during this site visit and the BAS was not reading feedback from the chilled water pumps. This prevented SSRCx from witnessing the lead/lag sequence for the chillers as well as the lead/lag sequences for the hydronic pumps.
3. The domestic hot water system has not been balanced at this time. Heating hot water was not available at the Nurses sink on the first floor after waiting for 15 minutes.
4. Glycol Tanks are not operational and have no glycol in the tanks. M.J. Daley stated the glycol will be added after the issues with the pumps have been resolved.
5. Since there is no glycol in the system at this time, it is difficult to ensure the systems are meeting the design requirements because adding glycol to the water will reduce the cooling capacity of the equipment. Cooling capacity of the system will have to be revisited and observed again after the glycol has been added to the system.
6. All pumps are not programmed to communicate with BAS. Therefore, when a pump fails, the BAS does not have the ability to switch to the lag pump.
7. FD/FSD is closed in the supply duct of AHU-1. This is preventing the air terminal units from meeting their supply airflow set point.

#### **II. Functional Testing**

##### *Dedicated Outside Air Units*

SSRCx and Johnson Goodyer functionally tested DOA-1 through DOA-3, located in the penthouses on the roof. These air handling units provide conditioned outside air to the chilled beams located throughout the facility. The testing effort focused on observing the equipment airflows and the equipment supply air temperatures. The deficiencies observed during this site visit are noted below. Please consult the attached Master Issues List (MIL) for more information on all open deficiency items.

1. DOA-1, DOA-2 and DOA-3
  - a. Exhaust airflow and outside airflow are both reading at the airflow measuring station but they are not being read or displayed on the BAS equipment graphics.

- b. Exhaust relative humidity and exhaust static pressure are not being read or displayed on the BAS equipment graphics.
  - c. Chilled water valve is not maintaining proper supply air temperature set point. The supply air temperature is fluctuating between 10°F above set point and 10°F below set point.
2. DOA-2
- a. Supply static pressure sensor is only reading 0.01" w.c. The construction team should investigate the issue to determine the cause for such a low static pressure measurement.
  - b. Exhaust airflow measuring station is not functioning.
  - c. It is possible that a FD/FSD could be closed in the ductwork connected to air handling unit DOA-2. The supply air duct is only delivering 0.04" w.c of static pressure but the static pressure at the unit is extremely high.

#### *Air Handling Unit-1*

SSRCx and Johnson Goodyer functionally tested air handling unit AHU-1, which is located in the penthouse and serves the kitchen and cafeteria/gymnasium. The deficiencies observed during this site visit are noted below. Please consult the attached Master Issues List (MIL) for more information on all open deficiency items.

1. Return fan has not been programmed to control to building space pressure. The current program is controlling the return fans to track the supply fan by 10%.
2. Supply static pressure sensor is only reading 0.01" w.c.. The construction team should investigate the issue to determine the cause for such a low static pressure measurement.
3. Programming for the CO2 control sequence has not been provided for AHU-1.
4. Supply air temperature control is not functioning per the sequence of operation. When return air humidity rises above 60%, the supply air temperature is not resetting down to its lowest programmed set point.
5. Supply air temperature set point is currently resetting based on the measured return air temperature. According to the specified control sequence of operation, the supply air temperature reset schedule should be based on the measured space temperature.
6. High static pressure safety switch has not installed on the equipment. Without this safety switch installed, the supply ductwork on the unit is currently susceptible to damage from high pressure conditions. One example of such high pressure condition could be a fire damper in the supply ductwork closing while the supply fan is energized.
7. Static pressure reset sequences have not been programmed at this time and the equipment is currently maintaining a constant static pressure set point of 1.0" w.c.

#### *Chilled Beams*

SSRCx and Johnson Goodyer functionally tested 100% of the chilled beams to ensure they are functioning correctly. It was observed that several rooms were not cooling properly due to several closed isolation valves, air terminal units that were not operating and chilled water valves that were not functioning. All these issues were corrected during the site visit and the only items that remain open are the issues noted below.

1. Room 105 return air grill is noisy.
2. Diffuser at the end of Corridor C101 is extremely loud.

#### *CAO – DOAS*

This air handling unit was functionally tested and it was discovered that the unit is not maintaining supply air temperature. The unit has 45°F chilled water supply temperature but it will only provide 75°F supply air temperature. The construction team should investigate the cause of this issue.

#### *CAO Chilled Beam System*

SSRCx and Johnson Goodyer functionally tested the system and discovered a few issues that should be reviewed by the construction team. The issues are noted below.

1. The chilled beam pumps are operating but are reading a flow of 0 GPM. The water temperature sensor on the chilled beam supply side of the heat exchanger is 70°F and the temperature sensor located 12 feet downstream at the pump is reading 90°F. The construction team should investigate the cause of this issue.
2. SSRCx requests clarification from the construction team regarding the current control sequence for the CAO chilled beam system. Is the system controlling to maintain a water temperature set point at the sensor leaving the heat exchanger or is the system controlling to maintain a water temperature set point on the discharge side of the pump?
3. The chilled beams in the CAO were not functionally tested due to insufficient water flow.

#### *Main Building Chilled Beam System*

1. Sheet M8.02 of the construction documents states that the chilled beam supply temperature should be 2°F warmer than the average space dew point in the building. This control sequence is not functioning and has not been programmed at this time.
2. Control sequences and alarms for the pumps cannot be functionally tested until the pump feedback issues have been corrected.
3. Dual supply temperature sensor error alarm is not set up. An alarm condition should be generated if the measurements from the two sensors are not within 10% of each other.

#### *Domestic Hot Water Recirculation Pump*

The equipment operation was observed and the following deficiency item has been added to the attached MIL:

1. The equipment currently does not have an occupied/unoccupied schedule programmed for its operation. For purposes of energy conservation, this should be provided as soon as possible to enable and disable the pump according to the building occupancy schedule.

### **III. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit.

The contractor should provide written notification when open items on the Master Issues List have been addressed.

**IV. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

Please contact me with any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Randall Dean". The signature is written in a cursive style with a large, prominent 'R' and 'D'.

Randall Dean, PE, CEM, CxA  
Commissioning Project Manager



August 17, 2017

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Site Visit of August 15, 2017 – SSRCx Site Visit Report 16  
NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by Steven Metzgar, was on site on the above referenced date. Our initial intent for the week was to functionally test the chilled water system and associated equipment with cooling capacities. All intended testing was canceled after SSRCx arrived at the project site on Tuesday, August 15<sup>th</sup>.

**I. General Observation**

1. SSRCx was able to observe correction of items on the attached Master Issues List (MIL) during this site visit. However, the items on the MIL pertaining to the functionality and operation of equipment could not be observed. Verification of those issues will require the presence of the controls contractor. The items listed below should be considered the most urgent issues that are currently open on the commissioning MIL. Please refer to the attached MIL for more information on all deficiency items.
  - a. Item 0030: A valve package has not been installed for the fin tube heater in room 207K. The valve package has been installed but the actuator has been removed from the valve body. A picture has been attached to the Master Issue List to better illustrate the issue.
  - b. Item 0078: Filters located in DOA-3 have fallen out of the filter rack and are currently on the floor of the unit. As of now, there are no means of filter protection for the air side of the coil. This should be corrected as soon as possible.
  - c. Item 0066: The cooling tower fill has been cleaned but the basin of the cooling tower has algae growing on the fill and in the basin. The biocide program should be reviewed to ensure it is working properly.



**Figure 1: This is referring to item  
0066 - Algae in the basin of the  
tower.**

## **II. Functional Performance Testing**

### *Exhaust Fans EF-10 Through EF -13*

SSRCx functionally tested exhaust fans located in the penthouses on the roof. The exhaust fans and an associated outside air louver are controlled by a thermostat located in the space. The intent of the exhaust fans is to energize the fans when the space temperature rises above the set point. During this condition, the exhaust fans are enabled and the outside air louvers open. Deficiencies observed during testing are noted below:

1. The thermostats for all exhaust fans noted above are operating incorrectly. The thermostats are wired up to warm the space instead of cool the space. As currently programmed, when the space temperature drops below the set point, the fans enable and outside air louvers open. The fans and louvers should be programmed to operate and open when the space temperature rises above the set point.

## **III. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit.

The contractor should provide written notification when open items on the Master Issues List have been addressed.

## **IV. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

Please contact me with any questions or comments.

Sincerely,



Randall Dean, PE, CEM, CxA  
Commissioning Project Manager





September 22, 2017

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Site Visit of September 19 – 20, 2017 – SSRCx Site Visit Report 17  
NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by Steven Metzgar, was on site on the above referenced date to functionally test the chilled water system and to troubleshoot ongoing issues at the Central Administration Office (CAO) building. The attached Master Issues List (MIL) has been updated to reflect observations made during this site visit.

#### **I. General Observations**

1. Spaces in area three of the school building were having temperature control issues and rooms were noticeably warm in the mornings. Some troubleshooting revealed that the control sequence was controlling to the wrong set point and the unit was entering heating mode every morning and providing 80°F supply air temperature to the spaces. SSRCx observed that this same incorrect control sequence had been provided for all of the units. This was corrected during the site visit and SSRCx observed the equipment operating correctly to maintain the appropriate set points.
2. The maintenance department informed SSRCx that the open MIL items relating to lighting controls have not been corrected. The construction team should review and correct these issues as soon as possible.
3. The Cooling Tower has been cleaned and the chemical system has been checked for proper operation. The open MIL item regarding cleanliness of the cooling tower has been closed.

#### **II. CAO Building**

Neither the chilled beam loop nor the Dedicated Outside Air System (DOAS) in the CAO building are operating properly and the cooling system in this building has not been functioning for several months. The following comments and observations are a result of the troubleshooting that took place during this site visit:

1. Excessive amounts of air in the chilled beam loop has been causing the pumps to cavitate. The construction team manually bled the air out of the system and flushed the system with fresh water to temporarily restore operation of the pumps. The construction team should verify that the air vent is located at the high point of the system to ensure proper operation.
2. Water balancing of the chilled beam loop cannot be completed until the issues with pump cavitation and improper air venting have been corrected.
3. The DOAS serving the CAO Building is not meeting the design temperature drop across the chilled water coil. SSRCx observed an air temperature of 60°F entering the chilled water coil and a supply air temperature of 68°F. This is only an 8°F temperature drop across the coil but the design temperature drop is 17°F. According to the testing and balancing measurements, both the airflow through the unit and the water flow through the coil are meeting the design requirements. The construction team should investigate the cause of the supply air temperature issue.

### **III. Functional Testing**

#### *Chilled Water System*

SSRCx conducted functional performance testing of the chilled water system equipment located in Room M103 (Boiler/Fan Room). The testing effort focused on observing the equipment function per the design intent. The deficiencies observed during this site visit are noted below. Please consult the attached Master Issues List (MIL) for more information on all open deficiency items.

1. Glycol Tanks are currently not operational and glycol has not been added to the tanks or to the chilled water system. Glycol directly influences the cooling capacity of all equipment associated with the chilled water system and it should be provided to ensure the facility is operating per the design intent. SSRCx requests clarification from the construction team regarding the absence of glycol in the chilled water system at this phase of the project.
2. The bypass valve for the condenser water loop is located on the entering side of the chiller and opening the valve currently bypasses the chillers and causes the chillers to shut down on loss of water flow. SSRCx requests clarification from the Engineer of Record and the construction team regarding the design intent and proper location of the bypass valve.
3. High water alarm for the cooling tower is continuously active.
4. Heat trace in the condenser water return line has a fault that is causing the heating element to remain energized continuously.
5. Chiller 1 was showing an alarm condition for chilled water flow loss but it was actually a condenser water flow loss. The alarm is reading correctly at the BAS but not on the front panel of the chiller.

#### *School Building Chilled Beam System*

During Commissioning Site Visit 14, SSRCx was able to test the sequence of operation for the chilled beam system in the school to verify the system functioned correctly. At the time of that site visit, the building automation system was unable to obtain feedback from the pumps which prevented system monitoring of the pump status and pump VFD speed. This issue prevented functional testing of the sequences related to pump failures and alternating pump operation. These issues have since been corrected and the proper pump sequences were demonstrated to SSRCx with no noted deficiency items.

### **IV. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit.

The contractor should provide written notification when open items on the Master Issues List have been addressed.

**V. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

Please contact me with any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Randall Dean".

Randall Dean, PE, CEM, CxA  
Commissioning Project Manager



January 22, 2018

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Revised Site Visit of January 9 – 13, 2018 – SSRCx Site Visit Report 18 – Revision 1**

**NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by Steven Metzgar, was on site on the above referenced date to functionally test the Heating Hot system, Unit Heaters, Cabinet Unit Heaters, Exhaust Fans, Air Handling Units and Dedicated Outside Air Units. The attached Master Issues List (MIL) has been updated to reflect observations made during this site visit. **Revisions of the report are in BOLD lettering.**

**I. General Observations**

**A. COA Building Chilled Beam Loop**

**Item 1 below has been added to the MIL for tracking purposes. The air vent was to be located at the high point of the system to prevent this issue from happening in the future.**

1. Excessive amounts of air in the chilled beam loop have been causing the pumps to cavitate. The construction team manually bled the air out of the system and flushed the system with fresh water to temporarily restore operation of the pumps. The construction team should verify that the air vent is located at the high point of the system to ensure proper operation.
2. Water balancing of the chilled beam loop cannot be completed until the issues with pump cavitation and improper air venting have been corrected.

**B. SSRCx and Earthwise reviewed all of the metering for both the Grant School and the CAO building. It was observed that several meters were either not operating properly or not installed. Listed below are the meters that could not be verified. These meters have been added to the attached MIL.**

1. Gas Meters – Earthwise has ordered a device to communicate with the meters
  - a. Boiler gas consumption meter is not reading.
  - b. Domestic hot water consumption meter is not reading
  - c. Main Gas consumption meter is not installed.
2. Electrical Meters
  - a. Nexgen panel is operating and recording KWh. Earthwise is working with Nexgen to acquire the IP address and to resolve any issues Earthwise might have communicating with Nexgen.
3. Water Consumption
  - a. Once Earthwise has installed the device that will allow them to communicate to the meters, SSRCx will verify the meter is reading properly.

**C. Graphics**

The majority of the graphics are complete with the exceptions of the floor plan needing to be linked to see the temperatures, relative humidity and space pressures on the floor. Once this link has been fixed, SSRCx will verify the graphics are complete.

**D. CAO Split System**

Outdoor air temperature was too cold for the split system to operate.

**II. Functional Performance Testing (FPTs)**

**A. Heating Hot Water System**

SSRCx and Earthwise verified the heating hot water system operated per the design intent in all modes of operation (Unoccupied, Occupied and Morning Warm-Up). During testing of the heating hot water system, SSRCx verified the operation of the Glycol tanks for both the hot water and chilled water system. There were no new issues to add to the MIL regarding this system.

**B. AHU-1 Issues and Resolutions**

SSRCx and Earthwise functionally tested the air-handling unit serving the Kitchen and Cafeteria/Gymnasium. The issues that were encountered are listed below. There are no open issues with the unit at this time.

1. Building pressure sensor was located in the kitchen to control the return fan to maintain a slight positive pressure. The location of the sensor was relocated to the Cafeteria/Gymnasium area in order to maintain the proper pressure in the building. With the sensor located where it was, it would not be able to control correctly due to the kitchen exhaust and dishwasher exhaust.
2. The VAV boxes in the kitchen were not reading any airflow at the start of testing. After troubleshooting the issue with no resolution, ETB (TAB) was called to assist in troubleshooting. It was discovered that a manual volume control damper installed in the branch duct serving the kitchen was partially closed. The manual volume damper was removed to allow air to be delivered to the kitchen VAV boxes.
3. Found the low side of the building static pressure tube referencing the corridor of the building. The project specifications require this sensing tube to be located outside of the building. This was corrected during the site visit to allow the building static pressure sensor to reference the correct pressure.

**C. Unit Heaters and Cabinet Unit Heaters**

SSRCx and Earthwise functionally tested all of the unit heaters and cabinet unit heaters to verify the equipment operated per the design intent. The open issues listed below should be reviewed by the project team.

1. UH-6 and UH-7 do not have a disconnect installed within line of sight of the unit. At this time, the unit can only be disconnected from power at the circuit breaker. SSRCx requests clarification from the design team and the electrical contractor regarding the need to install a disconnect for the equipment.

**D. Exhaust Fans (Grant and CAO Building)**

SSRCx and Earthwise functionally tested all of the exhaust fans in both buildings. The issues that were observed are listed below. **One more issue has been added to all the radon exhaust fans.**

1. EF-01 (Grant Building): The unit does not have a disconnect switch located at the fan. SSRCx was unable to verify the fan failure alarm due to the missing disconnect.

2. **EF-7, EF-8, and EF-9 (Grant Building): Air proving switches have not been installed in the riser of the duct. Refer to sheet M5.01 Note 13 for further detail.**
3. EF-01 (CAO Building): Power has not been terminated to the fan. Verification of proper operation cannot occur until power is available to the equipment.
4. **EF-01 (CAO Building): Air proving switches have not been installed in the riser of the duct. Refer to sheet M5.01 Note 13 for further detail.**

**E. Radiant Floor Heat**

SSRCx and Earthwise were able to test the radiant floor heating system located throughout the first floor. One issue was observed during testing and it was corrected and verified during this site visit. **During functional testing of the radiant floor heating system, SSRCx observed hammering in the piping manifolds when the control valves modulated. After the additional balancing of the system valves is complete, SSRCx will revisit the issue to determine if the hammering has stopped. At this time, the ball valves at the radiant panel have been closed down to prevent the hammering. This issue item has been added to the MIL.**

**F. Refrigerator/Freezer Alarms**

The refrigerator and freezer alarms have not been installed at the time of this site visit. This issue has been added to the MIL for tracking purposes.

**III. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit.

The contractor should provide written notification when open items on the Master Issues List have been addressed.

**IV. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

Please contact me with any questions or comments.

Sincerely,



Randall Dean, PE, CEM, CxA  
Commissioning Project Manager



October 5, 2018

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Revised Site Visit of October 2-3, 2018 – SSRCx Site Visit Report 20  
NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by David Corley, was on site on the above referenced date to functionally test the Heating Hot Water System, Unit Heaters, Cabinet Unit Heaters, Exhaust Fans, Air Handling Units and Dedicated Outside Air Handling Units. The attached Master Issues List (MIL) has been updated to reflect observations made during this site visit.

**I. Functional Performance Testing (FPTs)**

A. SSRCx and Earthwise conducted functional performance testing for the following:

- Air Handling Unit AHU-2 Heating section and Exhaust Fan.
- Exhaust Fans EF-2, EF-5, EF-7, EF-8, EF-9, KEF-1.
- BAS control points and graphics New issues were added to the master issues list (MIL).

Please refer to the attached Master Issues List (MIL) for more information on issue items observed during functional performance testing.

**II. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit. Fifteen new issues were added to the MIL. Seven (7) issues are shown as corrected.

The contractor should provide written notification when open items on the Master Issues List have been addressed.

**III. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

Please contact us with any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Randall Dean". The signature is written in a cursive, flowing style.

Randall Dean, PE, CEM, CxA

Commissioning Project Manager





February 22, 2019

Webster Grouten, Jr.  
Gilbane Program Management  
New Haven School Construction Program  
54 Meadow Street  
New Haven, CT 06519

**Re: Commissioning Revised Site Visit of February 20-21 2019 – SSRCx Site Visit Report 21  
NHPS – Helene Grant School  
New Haven, Connecticut  
SSRCx #1344061.0**

Dear Mr. Grouten,

SSRCx, represented by David Corley, was on site on the above referenced date to back check open MIL items, functionally test the radiant floor heating system and fin tube heating system and back check the deficiency items on the attached Master Issues List (MIL).

**I. Functional Performance Testing (FPTs)**

A. SSRCx and Earthwise conducted functional performance testing for the following:

- Radiant floor Heating and Fin Tube Heating
- BAS control points and graphics

Please refer to the attached Master Issues List (MIL) for more information on issue items observed during functional performance testing.

**II. Master Issues List (MIL)**

Issues on the MIL have been updated to every extent possible during this site visit. Any issues resolved will be removed and any additional issues found will be added and assigned to the associated contractor.

The current Master Issues List (MIL) is attached as part of this report. Please refer to the attached MIL for more information regarding the items listed above and a complete list of all issues noted during this commissioning site visit. Thirteen (13) new issues were added to the MIL. Eleven (11) issues were marked as corrected. The contractor should provide written notification when open items on the Master Issues List have been addressed.

**III. Commissioning 'Next Steps'**

Future commissioning activities will be coordinated with Gilbane and Giordano Construction.

The occupied AHU cooling sequences were not observed during this site visit as the cooling system has been shut down for the winter.

Please contact us with any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Randall Dean". The signature is written in a cursive, slightly slanted style.

Randall Dean, PE, CEM, CxA  
Commissioning Project Manager