Town of Monroe

2016-2017

PROPOSED ANNUAL BUDGET
WORKBOOK INFORMATION

PUBLIC WORKS

Revised 2/3/16

TOWN OF MONROE
DEPARTMENT OF PUBLIC WORKS

FISCAL YEAR 2016 – 2017

PRELIMINARY

BUDGET REQUEST
12-9-2015

TOWN OF MONROE
DEPARTMENT OF PUBLIC WORKS

7 Fan Hill Road
Monroe, CT 06468

Director: Chris Nowacki

Tel. (203) 452-2814
Fax: (203) 452-2966

FY 2016/2017 Budget Index

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Section 1 - GENERAL OVERVIEW

There are three (3) main components to this Public Works Budget. They are included individually as Appendices and include:

- Operating Budget: The $3,964,316 FY 16/17 budget request represents a $476,949 or (13.68%) overall increase from last year's approved budget.

- Capital Equipment Replacement Plan: This plan moves the Town toward a 10-12 year replacement cycle with the first year replacing of units between 13 and 22 years of age. Year One budget is $1,263,500 with a total five year expenditure of $3,571,000.

- Capital Project Plan: This 5 year plan represents necessary infrastructure improvement projects. Year One budget request is $3,880,000 with a total five year expenditure of $9,565,000.

Some significant changes to the operating budget include:

- Public Works – Highway – Street Resurfacing – The increase of $435,000 represents an increase of $400,000 to bring us toward a base budget of $900,000. $300,000 of this increase is directly related to a reduction that occurred last F/Y due to a funding source needed to cover Debt Services. The additional $35,000 is due to a consolidation of the Street Reconstruction Engineering account into the Street Resurfacing account..

- Road Funding - Additional $100,000 requested in PW-Road Maintenance account is for paving. The purpose of this additional funding is to reduce the amount of bonding to fund town wide paving.

- Town Hall Maintenance – Operating Expense - The significant decrease of $48,681 is due to the installation of the Above Ground Storage Tanks. In replacing our fuel tanks we were able to have a $22,350 reduction. The additional $26,331 reduction is directly related to favorable fuel and energy purchasing agreements.

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Section 2 - SIGNIFICANT LINE ITEM REQUESTS

Detailed analyses of the line items that have changed by + 5% or more are:

1. 1001-10-15105-0000-0500-0000-00000-00000-150005:
   Public Works Salaries Part Time – the increase work load of taking on the Dump Ticket sales for both the Garder Road Landfill & Spring Hill Road Transfer Station as well as the Process of all Utility bills for all 6 Fire Stations has made it necessary for this position to become a Full Time position.

2. 1001-10-15105-0000-0530-0000-00000-00000-151720-0530:
   Roads/Building – Street Resurfacing - $435,000 increase (38%)
   Comments: This request is to reestablish this account first by $300,00 which were taken to cover a deficiency of funds for Debt Services. An additional 35,000 is only being taken from the Street Reconstruction Engineering account and added into the Street Resurfacing Account. The additional $100,000 request is in line with previous presentations by this department to eventually build this line item toward $1M for effectively preserving our roadway pavement infrastructure after much of the capital bond expenditure work is performed.

3. 1001-10-15105-0000-0530-0000-00000-00000-153485-0530:
   Roads/Building – Repair/Maintenance - $ 21,745 increase (6%)
   Comments: Request reflects changes in contractual fuel costs and an addition $15,000 to cover growing need for equipment repairs.

4. 1001-10-15105-0000-0540-0000-00000-00000-153390-0520:
   Tree Warden Operating Expense – Operating Expense - $ 8,000 increase (20%)
   Comments: This increase is necessary due to a lack of a bucket truck being available in our fleet which is needed to prune roads side tree vegetation to allow for safe travel by School Busses.

5. 1001-10-15105-0000-0600-0000-00000-00000-151770:
   Public Works Solid Waste - Landfill Operations - $ 8,000 Increase (45%)
   Comments: This increase is in line with the repeated need to grind/dispose of brush and bulk wood at the Garder Road Land Fill. Insufficient funds have perpetuated a cycle where all the debris cannot be disposed of.

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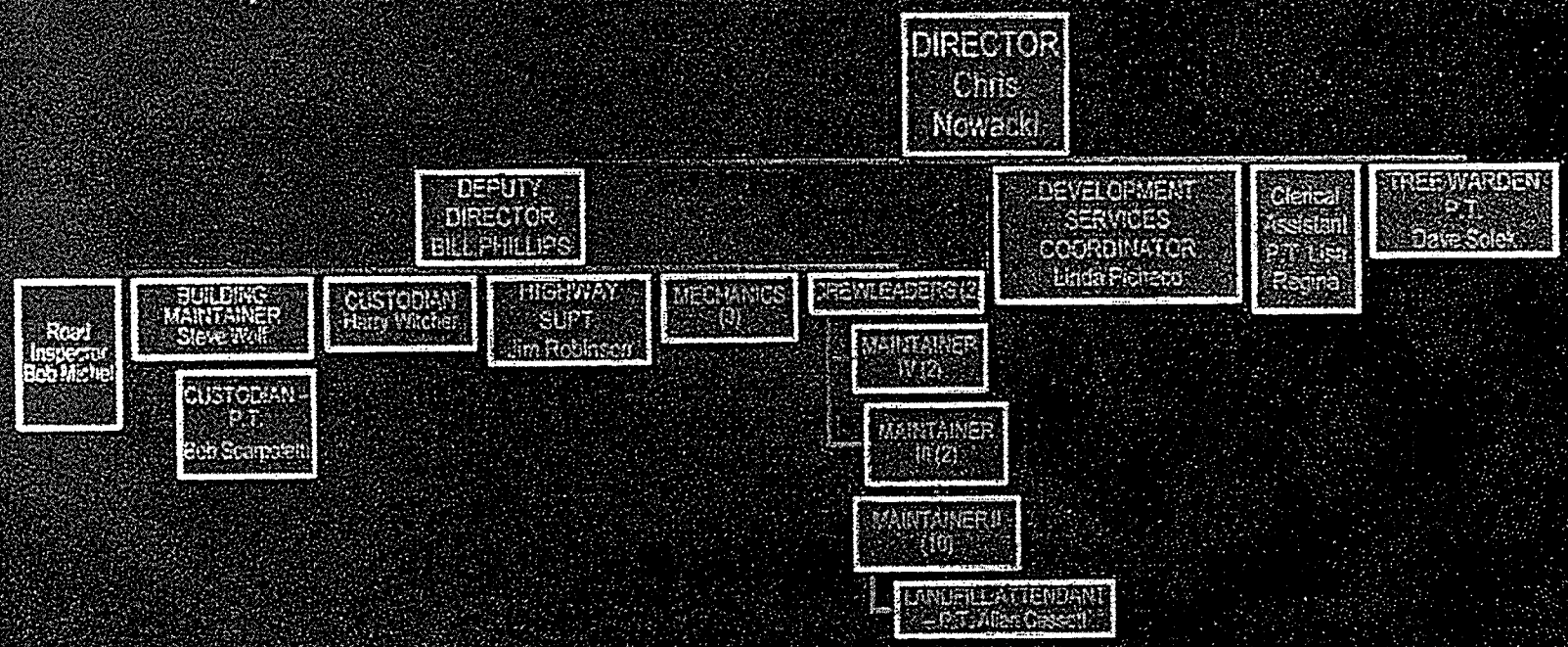
Section 3 - MISSION STATEMENT

DEPARTMENT OF PUBLIC WORKS IS RESPONSIBLE TO MANAGE AND MAINTAIN TRANSPORTATION AND DRAINAGE FACILITIES IN A SAFE, EFFICIENT, ECONOMICAL, INNOVATIVE AND ENVIRONMENTALLY RESPONSIBLE MANNER.

TOWN OF MONROE

Department of Public Works



TOTAL WORK FORCE =28

Supervisory/Administrative = 4 Full Time, 2 Part Time
Highway Maintenance = 19 Full Time, 1 Part Time
Building Maintenance = 2 Full Time, 1 Part Time

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DEPARTMENT OF PUBLIC WORKS

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Section 5 - STAFF

Name		Title	Division
First	Last		
Chris	Nowacki	Director	Supervisory/Admin.
Linda	Picheco	Development Services Coordinator	Supervisory/Admin.
William	Phillips	Deputy Director	Supervisory/Admin.
Lisa	Lilly	Part Time Clerical	N/U
Steve	Wolf	Building Maintainer	Maintenance-Building
Harry	Witcher	Custodian	Maintenance-Building
Bob	Michel	Road Inspector	Supervisory/Admin.
Jim	Robinson	Highway Superintendant	Supervisory/Admin.
Rocky	Davin	Crewleader	Maintenance - Highway
Scott	Rose	Crewleader	Maintenance - Highway
Ed	Vayan	Mechanic	Maintenance - Highway
Jerry	Pison	Mechanic	Maintenance - Highway
David	Clark	Mechanic	Maintenance - Highway
Tony	Dombrowski	Maintainer IV	Maintenance - Highway
Dom	Cioccia	Maintainer IV	Maintenance - Highway
Joe	Ribas	Maintainer III	Maintenance - Highway
Chris	Caulfield	Maintainer III	Maintenance - Highway
Vacant	Vacant	Maintainer II	Maintenance - Highway
Ken	Wildman	Maintainer II	Maintenance - Highway
Ken	Tortora	Maintainer II	Maintenance - Highway
Bob	Wakeley	Maintainer II	Maintenance - Highway
Dennis	Barnett	Maintainer II	Maintenance - Highway
Chris	Corso	Maintainer II	Maintenance - Highway
John	Delvento	Maintainer II	Maintenance - Highway
Joe	Agachinski	Maintainer II	Maintenance - Highway
Jim	Waite	Maintainer II	Maintenance - Highway
Paul	Zelanin	Maintainer II	Maintenance - Highway
Dave	Solek	Tree Warden - PART TIME	Maintenance - Highway
Allen	Cassatt	Landfill Attendant - PART TIME	Maintenance - Highway

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Section 6 – GOALS

Public Works Five-Point Focus for FY 2016-2017

Implementation of Town Webpage GIS based Service Request System - Management of Public Works is in the process of employing a new GIS Fleet tracking system in coordination with our IT Department and the GBRC. This GIS tracking system will integrate with our Town Q-Alert System. This opportunity will better enhance our Asset Management System to make the department a place where performance centered goals serves to drive operations. This improved technology is expected to provides us with more efficient management during severe storm events and emergency situations.

Improve Administrative and Management Structure - The purpose of streamlining the administrative and management functions is to reduce the administrative overhead and allocate resources needed to achieve departmental goals.

Better Schedule Preventive Maintenance of the infrastructure - Preventive maintenance improves as asset's operating efficiency, prevents premature replacement, and avoids interruptions in service for residents. Preventative maintenance reduces long-term costs by maximizing the operating capacities of an asset, minimizing downtime, and avoiding breakdowns that would otherwise lead to higher repair costs later. The effective preventive maintenance of these assets must be an essential goal of the Public Works Department - one that is utilized to judge the effectiveness of the department's management.

Focus on Delivery of Core Services - In order to adequately focus on the Public Works Department core businesses, the department will focus on improving delivery of core businesses activities that provide the Town the greatest benefit.

Cost effective service of delivery - The Public Works Department faces a number of challenges including fiscal limitations and decaying infrastructure. The effective response of the department to these challenges has lead to the implementing of a GIS centric work order system that tracks how much it costs to deliver services.

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Section 7 - REALIZED AND POTENTIAL COST SAVINGS

In the Current **FY 2015/2016** budget, Public Works was able to realize savings in the following areas:

- The Town of Monroe purchased a robotic drainage camera recording system which will enable us to perform preliminary drainage inspections prior to commencing on road construction projects. This Camera system will also be available to the other departments for preliminary investigation of situations within our Town Buildings.
- Further utilizing the Towns Webpage/Service Request system, in conjunction with our IT Department we have been able to develop the existing system to replace our VueWorks Service Request module.
- Performed major drainage repairs utilizing in-house staff and reducing the need for outside contractors for large costly repairs.
- Continued developed our Bulky Waste Collection program and have increased our availability to our residents and have eliminated the conflicts with the ever changing winter weather conditions.
- Department continues to better manage productivity though the use of our online submissions and better overall administration of Service Requests and the Bulky Waste Collection program.

In the proposed **FY 2016/2017** budget, Public Works will work toward improving the following areas:

- Maximum utilization of GBPA GIS Program to improve scheduling and provide efficiency to maximize the effectiveness of Town Operations as well as develop their GIS Fleet Tracking capabilities to better manage severe storms and emergency situations.
- Continue to work with other departments to develop Online Street Permitting to better facilitate the process for contractors doing business in Town. This will save both staff time and make it easier to do business with Monroe.
- Reduction of sand in winter road maintenance. This reduction will both decrease clogged drainage structures and sweeping costs for road maintenance.
- Implementation of ground-speed control units on all the Highway Snow Trucks to realize a 20-50% reduction in salt use.

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Section 8 - FIVE YEAR COST & STAFFING PROJECTIONS

- Recommending staffing levels will be adjusted to reflect current service needs required to maintain the Town's infrastructure in the most cost effective manner. DPW's work order system will be used to track and document resource allocation and future staffing needs to meet service demands
- Material purchases are expected to remain the same with the exception of asphalt for patching roads. Asphalt prices fluctuate based upon the price of oil.
- Equipment replacement must increase. The Town's snow plow trucks and heavy equipment are aging and continue to incur costly repairs.
- Public Works will increasingly leverage the analytical power of GIS to develop strategic infrastructure needs and reports which will be used to document funding requests.
- Environmental concerns continue to be a significant issue. New regulations will require additional resources for compliance. (i.e. paint recycling initiatives, catch basin and street sweeping disposal) Developing MS4 regulations by DEEP are expected to require us to increase catch basin cleaning, an increased street sweeping frequency and update the Town's road drainage inventory.

Appendix A: Public Works Operating Budget (2016-2017)

PUBLIC WORKS:

PUBLIC WORKS ADMINISTRATION:
1001-10-15105-0000-0500-0000-00000-00000-150001-
1001-10-15105-0000-0500-0000-00000-00000-150003-
1001-10-15105-0000-0500-0000-00000-00000-150005-
1001-10-15105-0000-0500-0000-00000-00000-153385-
1001-10-15105-0000-0500-0000-00000-00000-153390-

Dept 0500	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW SALARY ADMIN	$ 40,607.09	$ 94,000.00	$ 94,000.00	0.00%
PW SALARY OTHER	$ 68,905.84	$ 165,153.00	$ 164,767.00	-0.23%
PW SALARIES PT	$ 4,207.50	$ 15,210.00	$ 32,760.00	115.38%
PW OFFICE EXPENSE	$ 2,063.83	$ 6,000.00	$ 6,000.00	0.00%
P W OPERATING EXPENSE	$ 754.67	$ 6,500.00	$ 7,000.00	7.69%
TOTAL PUBLIC WORKS ADMINSTRATION:	$ 116,538.93	$ 286,863.00	$ 304,527.00	6.16%

PUBLIC WORKS HIGHWAY:
1001-10-15105-0000-0510-0000-00000-00000-150001-
1001-10-15105-0000-0510-0000-00000-00000-150003-
1001-10-15105-0000-0510-0000-00000-00000-153075-
1001-10-15105-0000-0510-0000-00000-00000-153390-

Dept 0510	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW SALARY GM ADMIN	$ 32,159.40	$ 78,463.00	$ 78,463.00	0.00%
PW SALARY GM OTHER	$ 406,554.56	$ 1,024,239.00	$ 1,068,959.00	4.37%
PW GM CONTRACTED SVCS	$ 1,115.60	$ 79,200.00	$ 86,200.00	8.84%
PW GM OPERATING EXPENSE	$ 42,162.69	$ 115,000.00	$ 115,000.00	0.00%
TOTAL HIGHWAY:	$ 481,992.25	$ 1,294,902.00	$ 1,346,622.00	3.99%

PUBLIC WORKS SNOW REMOVAL:
1001-10-15105-0000-0520-0000-00000-00000-150015-
1001-10-15105-0000-0520-0000-00000-00000-153075-
1001-10-15105-0000-0520-0000-00000-00000-153390-

Dept 0520	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW SALARY SNOW OT	$ -	$ 94,400.00	$ 94,400.00	0.00%
PW SNOW CONTRACTED SVCS	$ -	$ 30,250.00	$ 30,250.00	0.00%
PW SNOW OPERATING EXP	$ 28,717.51	$ 329,395.00	$ 344,395.00	4.55%
TOTAL SNOW REMOVAL:	$ 28,717.51	$ 454,045.00	$ 469,045.00	3.30%

PUBLIC WORKS ROAD AND BUILDING:
1001-10-15105-0000-0530-0000-00000-00000-151700-
1001-10-15105-0000-0530-0000-00000-00000-151710-
1001-10-15105-0000-0530-0000-00000-00000-151720-
1001-10-15105-0000-0530-0000-00000-00000-151730-
1001-10-15105-0000-0530-0000-00000-00000-153045-
1001-10-15105-0000-0530-0000-00000-00000-153145-
1001-10-15105-0000-0530-0000-00000-00000-153485-

Dept 0530	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW DRAINAGE IMPROVEMENT	$ 22,187.00	$ 63,625.00	$ 63,625.00	0.00%
P W STREET RECONSTRUCT ENG	$ 11,917.50	$ 35,000.00	$ -	-100.00%
P W HWY STREET RESURFACING	$ 171,094.88	$ 500,000.00	$ 935,000.00	87.00%
PW BUS BARN MAINTENANCE	$ -	$ -	$ -	#DIV/0!
PW BUILDING MAINTENANCE	$ 9,504.15	$ 50,225.00	$ 44,866.00	-10.67%
PW EQUIPMENT	$ 400.00	$ 8,400.00	$ 8,400.00	0.00%
PW R & M EQUIPMENT	$ 69,709.95	$ 333,316.00	$ 315,270.00	-5.41%
TOTAL ROAD AND BUILDING:	$ 284,813.48	$ 990,566.00	$ 1,367,163.00	38.02%

PUBLIC WORKS TREE WARDEN:
1001-10-15105-0000-0540-0000-00000-00000-150003-
1001-10-15105-0000-0540-0000-00000-00000-153390-

Dept 0540	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW SALARY TREE WARD OTHER	$ 3,349.50	$ 5,280.00	$ -	-100.00%
PW TREE WARD OPERATING EXP	$ 6,830.64	$ 40,000.00	$ 48,000.00	20.00%
TOTAL TREE WARDEN:	$ 10,180.14	$ 45,280.00	$ 48,000.00	6.01%

PUBLIC WORKS TRAFFIC SIGNS & STREET LIGHTS:
1001-10-15105-0000-0550-0000-00000-00000-151740-
1001-10-15105-0000-0550-0000-00000-00000-151750-

Dept 0550	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
PW TRAFFIC SIGNS	$ 34,077.00	$ 57,500.00	$ 68,199.90	18.61%
PW STREET LIGHTS	$ 6,300.47	$ 21,895.00	$ 23,794.00	8.67%
TOTAL TRAFFIC SIGNS & STREET LIGHTS:	$ 40,377.47	$ 79,395.00	$ 91,993.90	15.87%
SUB-TOTAL PUBLIC WORKS:	$ 962,619.78	$ 3,151,053.00	$ 3,627,350.90	15.12%

Appendix A: Public Works Operating Budget (2016-2017)

PUBLIC WORKS SOLID WASTE:	Dept 0600	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
1001-10-15105-0000-0600-0000-00000-00000-150005-	PW SOL WASTE SALARY PT	$ 660.00	$ 1,716.00	$ 1,521.00	-11.36%
1001-10-15105-0000-0600-0000-00000-00000-151760-	PW SOL WASTE DISPOSAL	$ -	$ 1,500.00	$ 1,500.00	0.00%
1001-10-15105-0000-0600-0000-00000-00000-151770-	PW SOL WASTE LANDFILL OP	$ 2,200.13	$ 13,000.00	$ 18,850.00	45.00%
	TOTAL PUBLIC WORKS SOLID WASTE:	$ 2,860.13	$ 16,216.00	$ 21,871.00	34.87%

PUBLIC WORKS RECYCLING:	Dept 0610	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
1001-10-15105-0000-0610-0000-00000-00000-151780-	PW RECYCLING HAZ WASTE DAY	$ -	$ 5,800.00	$ 5,800.00	0.00%
1001-10-15105-0000-0610-0000-00000-00000-151790-	PW RECYCLING TRANSFER STATN	$ 7,890.64	$ 53,500.00	$ 53,500.00	0.00%
1001-10-15105-0000-0610-0000-00000-00000-153075-	PW RECYCLING CONTRACTED SVCS	$ 89,316.60	$ 222,200.00	$ 229,194.00	3.15%
1001-10-15105-0000-0610-0000-00000-00000-153390-	PW RECYCLE OPERATING EXP	$ -	$ -	$ -	0.00%
	TOTAL PUBLIC WORKS RECYCLING:	$ 97,207.24	$ 281,500.00	$ 288,494.00	2.48%
	TOTAL PUBLIC WORKS:	$ 1,062,587.15	$ 3,448,767.00	$ 3,937,715.90	14.18%

FIRE HYDRANT SERVICE:	Dept 0430	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET	
1001-10-15103-0000-0430-0000-00000-00000-151600-	FIRE HYDRANT SERVICE	$ 134,702.99	$ 563,768.00	$ 550,266.04	-2.39%

TOWN HALL MAINTENANCE	Dept 0160	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET		
1001-10-15101-0000-0160-0000-00000-00000-150003-	TH MAINT SALARY OTHER	$ 35,354.64	$ 90,792.00	$ 95,121.00	4.77%	
1001-10-15101-0000-0160-0000-00000-00000-151000-	TH MAINT HEAT	$ -	$ 35,778.00	$ 28,060.00	-21.57%	
1001-10-15101-0000-0160-0000-00000-00000-151010-	TH MAINT LIGHT & POWER	$ 40,563.72	$ 105,342.00	$ 85,000.00	-19.31%	
1001-10-15101-0000-0160-0000-00000-00000-151040-	TH MAINT WATER	$ 933.10	$ 3,500.00	$ 3,500.00	0.00%	
1001-10-15101-0000-0160-0000-00000-00000-153075-	TH MAINT CONTRACTED SVCS	$ 25,304.28	$ 94,987.00	$ 72,637.00	-23.53%	
1001-10-15101-0000-0160-0000-00000-00000-153145-	TH MAINT EQUIPMENT	$ 360.00	$ 8,500.00	$ 9,000.00	5.88%	
1001-10-15101-0000-0160-0000-00000-00000-153390-	TH MAINT OPERATING EXPENSE	$ 18,942.70	$ 88,204.00	$ 85,104.00	-3.51%	
	TOTAL TOWN HALL MAINTENANCE:	$ 121,458.44	$ 427,103.00	$ 378,422.00	-11.40%	$ (48,681.00)

CHALK HILL SCHOOL:	Dept 0161	15-16 YTD EXPENDED	15-16 FINAL BUDGET	16-17 PROPOSED BUDGET
1001-10-15101-0000-0161-0000-00000-00000-151150-	CHALK HILL HIBERNATION	$ -	$ -	$ -
1001-10-15101-0000-0161-0000-00000-00000-150003-	Salaries (Chalk Hill)	$ -	$ -	$ -
1001-10-15101-0000-0161-0000-00000-00000-151000-	Heat (Chalk Hill)	$ -	$ -	$ 72,212.00
1001-10-15101-0000-0161-0000-00000-00000-151010-	Light & Power (Chalk Hill)	$ -	$ -	$ 94,770.00
1001-10-15101-0000-0161-0000-00000-00000-151040-	Water (Chalk Hill)	$ -	$ -	$ 6,300.00
1001-10-15101-0000-0161-0000-00000-00000-153075-	Contracted Services (Chalk Hill)	$ -	$ -	$ 24,555.00
1001-10-15101-0000-0161-0000-00000-00000-153390-	Operating Expense (Chalk Hill)	$ -	$ -	$ 52,760.00
		$ -	$ -	$ 250,597.00

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Administration **Account: 1001-10-15105-0000-0500**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
150001 Salary - Administration	$40,607.09	$94,000	$94,000	$0	0%
Public Works Director					
150003 Salary - Other	$68,905.84	$165,153	$164,767	-$386	0%
Assume 0% increase					
Deputy Director of Public Works -	Comparative wage to Road Foreman				
Engineering Inspector					
Engineering Inspector - Longevity					
Development Services Coordinator		Move to supervisor union			
Development Services Coordinator - Longevity					
Vacation / Sick Time Replacement (120hrs @ $11.56)					
150005 PW Salries P/T	$4,207.50	$15,210	$32,760	$17,550	115%
Full Time Position - $15.75/HR X 2080 HRS					
153385 Office Expense	$2,064	$6,000	$6,000	$0	0%
Office & Field supplies/equipment		$2,500			
Seminar & Conference expenses ($75 x 20)		$1,500			
Bid & job advertising costs (10 x $200)		$2,000			
153390 Operating Expense	$754.67	$6,500	$7,000	$500	8%
Repair/calibration of office/engineering equipment		$6,500	$7,000	$500	

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Highway **Account: 1001-10-15105-0000-0510**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
150001 Salary - Administration	$83,623	$76,463	$76,463	$0	0%
assume 0% increase					
Highway Supervisor - Salary					
150003 Salary - Other	$406,279	$1,024,239	$1,068,959	$44,720	4%
assume 0% increase					
Mechanic - Police Dept. ($24.06 x 2080 hrs)					
Mechanic - Highway Dept. ($24.06 x 2080 hrs.)					
Mechanic/Clerk - Highway Dept. ($24.06 x 2080 hrs)					
NEW Maintner III Mechanics Helper ($21.50 x 2080)		$0	$44,720	$44,720	
Landfill Attendant (2 day/week x 6hr/day x 52wk/yrx $10.25/hr x 2 attendants)					
Crewleaders (2ea @ $23.53/hr x 2080 hrs.)					
Maintainer IV's (2 ea @ $22.49/hr x 2080 hrs.)					
Maintainer III's (2ea @ $21.50/hr x 2080 hrs.)					
Maintainer III pay for sign man (260 hrs @ $1.02/hr differential)					
Maintainer II's (10ea @ $20.48/hr x 2080 hrs.)					
Additional Maintainer II for Pepper Street (1 ea @ $20.48 x 2080 hrs.)					
Temporary Help (1 ea - summer-4mthsx20day/mthx8hr/dayx$18/hr)					
Wages in lieu of use of sick time					
Emergency O.T.					
Longevity					
153075 Contracted Services	$22,950	$79,200	$85,200	$7,000	9%
Catch basin cleaning (**Increasing to 2200 for MS4** from 1400ea @ $26.00)		$56,700			
Drainage ditch cleaning		$8,000			
Installation/repair guide rails		$4,000	$10,000	$6,000	
Hydraulic jet cleaning plugged drainage piping		$2,000			
Weed Control, Materials/equipment transport, rock removal		$4,500			
Detention Basin Cleaning (Increasae due to **MS4**)		$4,000	$5,000	$1,000	
153390 Operating Expense	$52,992	$115,000	$115,000	$0	0%
Uniforms & Clothes Allowance ($200 x 18)		$3,600			
ADD: Uniforms Mechanics (2ea @ $14.08/wk x 52 wks)		$1,464			
1 Pair Shoe per person ($200 x 20)		$4,000			
Tool Allowance - Mechanics (3 @ $150)		$450			
Dust control for gravel roads & bike path(Calcium Chloride 30T @ $550/T)		$14,500			
Asphalt patching materials (600 T @ $85/T)		$46,211			
Process gravel for gravel roads (2,000 T @ $15/T)		$28,000			
Misc. road maint. (tools, guide posts, etc.)		$5,275			
Screen Topsoil		$5,500			
Pump out oil/water seperators		$6,000			

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Snow Removal

Account: 1001-10-15105-0000-0520

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
150015 Salary/Overtime	$0	$94,400	$94,400	$0	0%
20 guys x 18 storms x 10 hr/storm x $24.50 avg/hr (Rate reflects a 3% increase)		$94,400			
153075 Contracted Services	$0	$30,250	$30,250	$0	0%
Dirt Roads (250 hrs x $125/hr)		$27,750			
EMS (2015/2016 Done by P&R) - Senior Center - DPW		$2,500			
153390 Operating Expense	$28,718	$329,395	$344,395	$15,000	5%
Snow removal equipment parts and repairs (**Truck washing for Industrial Stormwater Permit**)		$55,000	$60,000	$5,000	
Straight Salt: 2500T @ $74.00/T - (current Price is $72.06)		$193,000			
Sand: 3,000T @ $26.60/T		$80,000			
Snow and Ice weather service - Precision Weather		$1,395			
New Instllation and upfit for trucks to be on GIS - Est @ $1,000/Truck		$0	$10,000	$10,000	

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Roads/Building

Account: 1001-10-15105-0000-0530

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
15170 Drainage Expense	$22,187	$63,625	$63,625	$0	0%
Pipe (2000 lf @ $10.00)		$20,000			
Catch basin top replacement (50 ea @ $140)		$7,000			
Catch basin repair/replacement (35 ea @ $475)		$16,625			
Drainage materials (block, cement, seed, stone, rip rap)		$20,000			
15174 0 Engineering	$11,818	$35,000	$0	$0	-100%
Professional engineering services for Public Works projects		$30,000			
Professional engineering services for Phase II Storm water		$5,000			
Combine Engineering Line into Resurfacing Account					
15172 0 Street Resurfacing, chip sealing, paving	$174,095	$500,000	$935,000	$435,000	87%
Crack sealing		$100,000	$170,000	$70,000	
Paving		$100,000	$170,000	$70,000	
Reclaim above paving		$100,000	$170,000	$70,000	
Cold-in-place recycling & chip seal		$100,000	$170,000	$70,000	
Slurry seal overlays		$100,000	$220,000	$120,000	
NEW ***Combine Engineering Line into Resurfacing Account***					
Professional engineering services for Public Works projects		$0	$30,000	$30,000	
Professional engineering services for Phase II Storm water		$0	$5,000	$5,000	
15173 0 Bus Barn Maintenance (We need to remove this account)	$0	$0	$0	$0	0%
Account removed in 2015/2016 Budget		$0	$0		
		$0	$0		

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Roads/Building

Account: 1001-10-15105-0000-0530

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
153045 Building Maintenance	$9,604	$50,225	$44,868	$6,483	11%
Electricity (88,000 kWh @ $0.17)		$16,500	$14,960	$1,540	
Water service		$940			
Bottled gas heating		$2,200			
Bottled water		$1,200			
Building maintenance supplies		$4,000			
General building maintenance		$6,845	$15,000	$8,155	
Vehicle lift and crane hoist inspections & OSHA certifications		$750			
Septic Pump Out - Highway Garage		$450			
Fire Alarm Monitoring Contract - Highway Garage - SAS		$450			
Emergency Generator Maintenance Contract - Highway Garage -		$850			
Bus Barn Maintenance					
Electricity		$2,800	$3,800	$1,000	
Water service		$700			
#2 Heating Fuel 2,500 gal @ current Avg = $2.0632		$5,240	$5,158	-$82	
Building Maintenance & Supplies		$4,000	$5,000	$1,000	
Septic Tank Pumping		$300			
NEW - Fire Alarm System & Panel NEEDED ($5,000.00)		$3,000	$0	-$3,000	
NEW - Bus Barn Generator Maintenance		$0	$950	$950	
153146 Equipment	$400	$8,400	$8,400	$0	0%
Diagnostic vehicle/truck & NOW Large Truck software upgrade		$2,300			
Mechanic Truck Compressor		$2,500			
Mechanic Truck Welder		$3,600			
153485 Repair/Maintenance of Equipment	$89,710	$333,816	$315,270	$18,846	5%
Diesel Fuel (35,00 Gallons @ Blended Price =$2.1312		$93,902	$74,592	-$19,310	
#2 Heating Fuel (6,000 Gallons @ Blended Price = $2.0632		$15,700	$12,379	-$3,321	
Regular Gasoline 87 Octane - 15,000 Gallons @ Blended Price = $2.0866		$43,587	$31,299	-$12,288	
Maintenance of Highway & DPW Fleet & Equipment		$180,128	$197,000	$16,872	

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Tree Warden **Account: 1001-10-15105-0000-0540**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
150003 Tree Warden Salary - To Be Removed ??	$3,350	$5,280	$0	-$5,280	-100%
$20/hr x 6.5 hrs/wk x 52 wks		$4,800	$0		
Finance to resolve Transfer					
153390 Operating Expense	$6,831	$40,000	$48,000	$8,000	20%
Contracted tree removal, replacement & trimming		$40,000			

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Traffic Control

Account: 1001-10-15105-0000-0550

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
151740 Street Signs/Traffic Control Signs	$64,077	$57,500	$68,200	$10,700	19%
Signs - Street sign posts (200ea @ $20)		$4,000			
Signs - Street sign blanks (200ea @ $12.00)		$1,744			
Signs - Traffic sign posts (150ea @ $20)		$4,000			
Signs - Traffic sign blanks & faces (150ea @ $40)		$6,000			
Signs - Misc. bolts, reflective papers, repair of sign equipment		$1,000			
Meet Retro Reflectivity Requirements - Sign Replacement		$0	$7,500	$7,500	
Stripping - Stopbars (7500LF@$0.485)		$3,640			
Stripping - School cross walks (2500LF@$0.71)		$1,765			
Stripping - School zones (6ea @ $100)		$600			
Stripping - Parking stalls (150ea @ $3)		$0			
Stripping - Handicap stalls (5ea @ $25)		$125			
Striping - 4 Turn Arrows and 120' of white centerline		$200			
Stripping - Yellow double center (54 miles @ $373.63)		$20,176	$25,176	$5,000	
Stripping - White edge line (41.5 miles @ $179.52)		$7,450	$12,450	$5,000	
Stripping for Senior Center & other towned owned bldgs.		$0			
Sign Machine Replacement		$6,800	$0	-$6,800	
151750 Street Lights	$6,300	$21,895	$23,794	$1,899	9%
93 streetlights @ $215/ea		$19,995		$1,899	

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Public Works - Solid Waste **Account: 1001-100-15105-0000-0600**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
150005 Salaries - Part Time	$660	$1,716	$1,521	-$195	-11%
Landfill permits on Sat. @ police dept. (156 hrs)			$1,521		
151760 Waste Disposal (supplies, tags, stickers)	$0	$1,500	$1,500	$0	0%
Supplies, Tags & Stickers			$1,500		
151770 Landfill Operation	$2,200	$13,000	$18,850	$5,850	45%
Toilet rental, building maintenance, supplies, utility costs		$3,000			
Annual state license fees (DEEP)		$1,350			
Grind logs & brush		$8,650	$14,500	$5,850	

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Recycling Transfer Station **Account: 1001-10-15105-0000-0610**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
151789 Household Hazardous Waste Day	$0	$5,800	$5,800	$0	0%
125 Households @ $39/household		$5,800			
151790 Recycling/Transfer Station (Contract in Discussion with Trumbull)	$7,891	$53,500	$53,500	$0	0%
(30.2% cost share of $352,202)		$33,500			
(30.2% cost share of Atttendant $140,000.00)					
Equipment Costs		$10,000			
Attendant's Shed		$10,000			
153075 Contracted Services	$89,317	$222,200	$229,194	$6,994	3%
Mixed paper @ Town Hall(12 pickups x $150/ea)		$1,720			
Tires pickup @ Garder Road Bulky Waste Landfill (10 pickups x $650/ea)		$6,400			
Metal bin pickup @ Garder Road Bulky Waste Landfill (16 pickups x $110/ea)		$2,000			
sidential Recycling ($2.62/mth x 12 mth x 6958 residents + 10 from new subdivision)		$212,080	$219,074	$6,994	
153390 Operating Expense	$0	$0	$0	$0	0%
Recycling program supplies, education flyers, brochures, postage		$0			
Tags/notices		$0			
new/replacement bins (600 bins @ $8.00 per bin)		$0			

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Fire Hydrant Services **Account: 1001-10-15103-0000-0430**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increased	% Increase
151600 Fire Hydrant Service	$134,708	$566,768	$538,850	$24,918	4%
Hydrants (In service, 461 x $264.58/ea)		$106,925	$121,971	$15,047	
Distribution Per Foot (In-service, 4,780,319' x $0.09242)		$389,229	$441,797	$52,568	
Additional hydrants & distribution Increase - (76,256' x $0.09242)		$5,150	$7,048	$1,898	
Carry Reserve for WRA should PURA NOT APPROVE WICA/WRA Credit/Charge			$3,828		
2015 Anticipated 8.6% Rate increase.		$62,465			

	Hydrants, Distribution & Increased Hydrants & Distribution	Sub Total:	$570,816	**Per Aquarion**
	WICA 2.57% CHARGE ($570,816 + 2.57%) (see Aquarion email)		$13,239	*PURA ApprovalTentative*
Per Aquarion Letter 2-1-16	WRA 2.99% CREDIT to start 4-1-16 ($570,816 - 2.99%)		-$17,067	*PURA ApprovalTentative*
	ESM 1.02% CREDIT ends 8-31-16		$0.00	
	TPR 5.6% CREDIT staying the same ($570,816 - 5.6%)		-$31,966	
		Total:	$535,022	

See letter & email from Aquarion

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Aquarion Water Company
200 Monroe Turnpike
Monroe, CT 06468
www.aquarionwater.com

203.445.7310 phone
800.732.9678 (toll free)

AQUARION
Water Company

Stewards of the Environment

February 1, 2016

The Honorable Stephen Vavrek
First Selectman - Town of Monroe
7 Fan Hill Road
Monroe, CT 06468

Subject: Public Fire Service Charges
Account #: 200044071

Dear First Selectman Vavrek:

One of the ways that Aquarion Water Company serves your community is by maintaining the water distribution mains connected to your town's fire hydrants. The tables below provide a summary of the public fire protection charges for calendar year 2016. Fire service charges are based on the water distribution mains and number of hydrants in service as of December 31, 2015. The charge for transmission and distribution mains is calculated on the number of inch feet, a calculation determined by the size and length of all mains six inches and greater in diameter.

Transmission and Distribution System (Measured in Inch Feet

In Service At 12/31/14	2015 Additions	In Service at $1^2/_3$1/15	Charge Per Inch Foot	Annual Inch Foot Charge
4,780,319	76,256	4,856,575	$0.09242	$448,844.66

Hydrants

In Service At 12/31/14	2015 Additions	In Service At 12/31/15	Charge Per Hydrant	Annual Hydrant Charge
461	0	461	$264.58	$121,971.38

Your fire service charges will be $570,816.04 for calendar year 2016 based on our present rates. In addition to the amounts above, the following adjustments will be included on your invoices:

- The Tangible Property Regulation (TPR) Credit of 5.6% (which was implemented in January, 2015), will continue for the entire 2016 calendar year.
- The Water Infrastructure & Conservation Adjustment (WICA) is currently 1.57%. A cumulative increase of 1.0% to the WICA surcharge is expected during 2016. These increases are expected to take place on April 1, and October 1, 2016.
- The Water Revenue Adjustment (WRA) is currently at 0.38%. Effective April 1, 2016, this adjustment will be a credit of 2.99%.
- The Earnings Sharing Mechanism (ESM) Credit of 1.02% will end on August 31, 2016.

Your bill will show separate line items for each of these items. Charges are billed quarterly on a per diem basis. While the timing and amount of the adjustments for the WRA and WICA are still tentative and subject to PURA approval, we believe these amounts are appropriate estimates for planning purposes.

If you have any questions about your public fire service charges, please feel free to contact me at (203) 445-
7330.

Sincerely,
Lucy A. Teixeira
eixeira
Vice President, Administration
c: Elizabeth Camerino-Schultz, Community Representative
Chris Nowacki, Director of Public Works, William Davin, Fire Marshall
Ron Bunovsky, Finance Director

Chris Nowacki

From: Kerri Russell [KRussell@aquarionwater.com]
Sent: Wednesday, February 03, 2016 9:52 AM
To: Chris Nowacki
Subject: RE: Monroe Public Fire Charges

They are independent.

Kerri Russell
Supervisor, Billing
Aquarion Water Company
200 Monroe Turnpike
Monroe, CT 06468

203 445-7325
203 330-4614 fax
krussell@aquarionwater.com

Stewards of the Environment

From: Chris Nowacki [mailto:cnowacki@monroect.org]
Sent: Wednesday, February 03, 2016 9:47 AM
To: Kerri Russell
Subject: RE: Monroe Public Fire Charges

Kerri,

Thank you for clarifying the adjustments. I have a question regarding the WICA & WRA adjustments, are these independent from each other to PURA approval or are they typically approved together as a package? Please let me know at your convenience.

Thank you,

Chris

Chris Nowacki
Director of Public Works
Town of Monroe
7 Fan Hill Road
Monroe, CT 06468
(P) 203-452-2814
(F) 203-452-2966

cnowacki@monroect.org

From: Kerri Russell [mailto:KRussell@aquarionwater.com]
Sent: Tuesday, February 02, 2016 4:21 PM

To: Chris Nowacki
Subject: RE: Monroe Public Fire Charges

Hi Chris,

I apologize it took so long for me to get back to you, I had a couple meetings today. I only had 2 things to note on the budget figures you have below.

Please keep in mind that the timing and amount of the adjustments for the WRA, WICA etc, are still tentative and subject to PURA approval, we believe these amounts are appropriate estimates for planning purposes.

- ESM:
  - ESM Credit from 4/1/16-8/31/16: -$2,441.
- WICA:
  - WICA will have an additional cumulative increase of 1.0%: $13,239 was the figure I came up with based on dates/%.
  - Existing WICA rate – 1.57% + 0.5% = 2.07% for 4/1/16-9/30/16: $5,924.13.
  - Additional 0.5% to 2.07% = 2.57% for 10/1/16-3/31/17: $7,314.89

Thank you,

Kerri

Kerri Russell
Supervisor, Billing
Aquarion Water Company
200 Monroe Turnpike
Monroe, CT 06468

203 445-7325
203 330-4614 fax
krussell@aquarionwater.com

Stewards of the Environment

From: Chris Nowacki [mailto:cnowacki@monroect.org]
Sent: Tuesday, February 02, 2016 8:41 AM
To: Kerri Russell
Subject: RE: Monroe Public Fire Charges

Kerri,

Here is my budget breakdown in yellow. As discussed, please let me know if the credits & charges looks correct. Any questions please call my direct # 203-452-8625.

Line Item #	Expended 2015-2016	Adopted 2015-2016	R 2

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Town Buildings Maintenance **Account: 1001-10-15101-0000-0160**

Line Item #	Expended 2015-2016	Adpoted 2015-2016	Requested 2016-2017	Requested Increase	% Increase
150003 Salaries	$85,355	$90,792	$95,121	$4,329	4.77%
Building Maintainer / Custodian (3% increase)					
Building Maintainer / Custodian - Longevity					
Custodian (3% increase)					
Custodian - Longevity					
O.T. / Temporary Custodian (120 hrs. @ $12.50)					
Vacation Time Coverage (240 hrs @ $12.50/hr)					
Sick Time Coverage (160 hrs @ $12.50/hr)					
Holiday O.T. (3 day weekend coverage 10ea x 4 hrs = 40hrs @ $28)					
Custodian Uniforms					
Floor Maintenance O.T. (5 days twice a year= 128hrs @ $30/hr)					
151000 Heat (Town Hall)	$0	$35,778.00	$28,060.00	-$7,718.00	-21.57%
#2 Heating Fuel (13,600 Gallon @ Blended Price = $2.0632/Gal		$35,778.00	$28,060.00	-$7,718.00	
151010 Light & Power (Town Hall)	$40,564	$105,342	$85,000	-$20,342	-19.31%
500,000 kwh @ $0.17		$105,342	$85,000	-$20,342	
151040 Water (Town Hall)	$938	$3,500	$3,500	$0	0.00%
27,000 cf @ $0.12000		$3,500			

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Town Buildings Maintenance **Account: 1001-10-15101-0000-0160**

Line Item #	Expended 2015-2016	Adpoted 2015-2016	Requested 2016-2017	Requested Increase	% Increase
153075 Contracted Services (Town Hall)	$25,304	$94,987	$72,637	-$22,350	-23.53%
HVAC Maintenance Contract (Edgerton - All Buildings)		$20,000	To Be Bid		
Emergency Generator Service Contract (Sr. Center)		$700			
Emergency Generator Service Contract (Data Center)		$500			
Emergency Generator Service Contract (Dog Pound)		$0			
Emergency Generator Service Contract (Town Hall)		$850			
Emergency Generator Service Contract (Library)		$865			
Library HVAC controls contract - SNE building systems		$2,560			
Custodial Services for Police Station		$21,627	To Be Bid		
NEW - Town Hall Elevator Maintenance & Inspection Agreement ($350.00 / Month)		$3,700			
Fuel(s) Storage Tank Compliance					
DEEP Notification		$1,800	$0	-$1,800	
DEEP Reporting		$1,850	$0	-$1,850	
Tank Tightness Testing		$5,500	$0	-$5,500	
ATG Monitoring, Inspection & Calibration		$4,600			
Dispenser Testing Services & R&M		$5,250			
DEEP Required A - B Operator Inspections		$13,200	$0	-$13,200	
NEW - Highway Garage Industrial Stormwater Permit, Monitoring, Inspections					
Annual Employee Training (SWPPP & SPCC Plans)		$1,150			
Stormwater Sampling Collection & DEEP Reporting		$1,800			
Laboratory Analysis of Stormwater Samples		$2,025			
Analysis of two rounds of samples for Aquatic Toxicity		$2,550			
Monthly Inspection Reports required by SWPPP		$6,960			
Semi-Annual Inspection reports required by SWPPP		$1,000			
Quarterly Stormwater Visual Analysis and quarterly inspections required by SPCC and SWPPP		$2,000			

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Town Buildings Maintenance **Account: 1001-10-15101-0000-0160**

Line Item #		Expended 2015-2016	Adpoted 2015-2016	Requested 2016-2017	Requested Increase	% Increase
153145	Town Hall Equipment	$360	$8,500	$9,000	$500	5.88%
	Replace & Relocate Wall Hung AC Unit for Police Dept Server Room			$7,500		
	Commercial Backpack Vacuum			$570		
	Hammer Drill			$220		
	Cordless Drill & Saw Combination Kit			$210		
Bldg	Oil / Air Filter Change (Oil Change 4, Air Filter 4)			$100		
Maintianer	Tires (2 ct X $125/EA)			$250		
Van	Vehicle R&M (Tuneup, Brakes, Battery, Belts, Hoses, Fluids)			$150		
153390	Operating Expense	$18,943	$88,204	$85,104	-$3,100	-3.51%
	Cleaning/Maintenance supplies (bulbs, paper goods)		$8,111			
	Building & Equipment Maintenance		$18,850			
	Maintenance of Stepney #2, Monroe #2 & Stevenson #2 Firehouses		$16,500			
	MVFD #2 Generator Service Contract		$920.00			
	Step. #2 Generator Service Contract		$610.00			
	Stev. #2 Generator Service Contract		$830.00			
	NEW Replacement of doors @ Stepney Station #2		$7,000.00	$3,500.00	-$3,500.00	
New	Clerical Union Contract - Building Maintainer & Custodian Boots $200 X 2ct			400	400	
	Testing, adjusting & balancing HVAC system		$0			
	Clean restroom ventilation ducts		$0			
	Custodial Cleaning (Library)		$24,603	To Be Bid		
	Fire Alarm Monitoring - Library - Shelton Alarm Systems		$420			
	Fire Alarm Service Contract - Library - FAS Systems		$1,640			
	Fire Alarm Monitoring - Schools - Shelton Alarm Systems		$3,360			
	Fire Alarm Monitoring - Data Center - Shelton Alarm Systems		$420			
	Fire Alarm Monitoring - Town Hall - Shelton Alarm Systems		$420			
	Septic Pump Out - Town Hall & Library - Amherst Septic		$2,520			
	Besam Doors Service Contract at Library		$2,000			

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Appendix A: Public Works Operating Budget (2016-2017)

Dept: Town Buildings Maintenance - Chalk Hill **Account: 1001-10-15101-0000-0161**

Line Item #	Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increase	% Increase
151150 Hibernation			$0	$0	
Chalk Hill Hibernation					
150003 Salaries (Chalk Hill)			$0	$0	
151000 Heat (Chalk Hill)		$0	$72,212	$72,212	NA
#2 Heating Fuel 35,00 gal @ TOM current Avg = $2.0632			$72,212		
151010 Light & Power (Chalk Hill)		$0	$94,770	$94,770	NA
Chalk Hill 278,000 kwh (78% of their 770,000Kwh) @$0.17 - Through Newtown BOE Energy Contract endign 11/17/16			$47,260		
Chalk Hill 278,000 kwh (78% of their 770,000 Kwh) @ a TBD Rate - Using TOM rate $0.17			$47,260		
Chalk Hill Propane			$250		

Appendix A: Public Works Operating Budget (2016-2017)

Dept: Town Buildings Maintenance - Chalk Hill **Account: 1001-10-15101-0000-0161**

Line Item #		Expended 2015-2016	Adopted 2015-2016	Requested 2016-2017	Requested Increase	% Increase
151040 Water (Chalk Hill)				$6,300	$6,300	NA
	Water expenditures per Newtown BOE reports			$6,300		
153075 Contracted Services (Chalk Hill)			$0	$24,555	$24,555	NA
	Boiler Maint. & HVAC Controls			$11,000		
	Elevator @ Chalk Hill			$1,500		
	Emergency Generator @ Chalk Hill			$850		
NEEDED	Replace CoRMAX Lock Cores in the ENTIRE Building			$11,205		
153390 Operating Expense (Chalk Hill)		$0	$0	$52,760	$52,760	NA
	DEEP Required - Chalk Hill Oil tank monitoring			$1,200		
	DEEP Required - ATG Monitoring, Inspection, & Calibration			$3,500		
	DEEP Required - Tank Tightness Testing			$5,000		
	DEEP Required - Reporting			$1,800		
	Chalk Hill Quarterly DEEP septic monitoring			$2,500		
	Chalk Hill Sanitation and recycling collection			$9,960		
	Chalk Hill Smoke detection service			$1,500		
	Chalk Hill fire alarm service			$2,000		
	Chalk Hill septic pump out			$9,000		
	Chalk Hill septic pump inspection			$300		
	Chalk Hill bldg maintenance			$10,000		
	Cleaning maintenance supplies			$6,000		

Appendix B: Public Works Capital Equipment Plan

CAPITAL EQUIPMENT REPLACEMENT SCHEDULE

Current Year: **2015 / 2016**

Dept.	Year #1 Replacement:		2016 / 2017	
	Truck #	Year	Replacement Value	Comments
DPW	Backhoe	1995	$145,000	24-MON Case 590L
DPW	Explorer		$33,000	Director vehicle - Deputy to take current F150
DPW	Sweeper	2002	$245,000	Truck Style to replace 58
DPW	52	2000	$190,000	6-wheeler
DPW	41	1992	$190,000	6-wheeler
DPW	56	2002	$80,000	F-450 Crew Leader truck ,roller trailer,plowing-diesel
DPW		1996	$75,000	Chipper
DPW	52	2000	$190,000	6-wheel dump
DPW	Curb Mach.	1992	$15,000	Curb Machine
DPW	Mower	1997	$140,000	Tractor & Tiger Mower
DPW	Ford	2002	$26,000	Road Inspector Ford Ranger
DPW	Rotary		$15,000	Truck lifts - for Mason dumps 15000/18000lb lift
			$1,344,000	

Appendix B: Public Works Capital Equipment Plan

CAPITAL EQUIPMENT REPLACEMENT SCHEDULE

Dept.	Year #2 Replacement:		2017 / 2018	
	Truck #	Year	Replacement Value	Comments
DPW	Skid Steer		$80,000	High Flow
DPW	Excavator		$200,000	
DPW	37	1998	$190,000	6-wheeler
DPW	36	1988	$180,000	Stetco Crane truck
DPW	Sweeper	2008	$195,000	59-MON Sweeper- Pelican
DPW	**New Bucket Truck**		$245,000	**New Piece of Equipment**
DPW	Loader 755	1977	$160,000	John Deere Track loader used at dump
DPW				
			$970,000	

Dept.	Year #3 Replacement:		2018 / 2019	
	Truck #	Year	Replacement Value	Comments
DPW	51	2002	$200,000	6-wheeler
DPW	54	2005	$210,000	6-wheeler; box sander
DPW	28	2005	$220,000	L-90 Volvo Loader
DPW	57	1998	$30,000	Sign van
DPW		1999	$35,000	185 air compressor
DPW				
DPW				
			$695,000	

Appendix B: Public Works Capital Equipment Plan

CAPITAL EQUIPMENT REPLACEMENT SCHEDULE

Dept.	Year #4 Replacement:		2019 / 2020	
	Truck #	Year	Replacement Value	Comments
DPW	90		$200,000	6-wheeler
DPW	35		$210,000	6-wheeler with box sander
DPW	69		$200,000	6- wheel dump
DPW	Grader	1986	$150,000	
DPW	Trailer	2005	$45,000	20-T Eagle Beaver trailer
DPW				
DPW				
DPW				
			$805,000	

Dept.	Year #5 Replacement:		2020 / 2021	
	Truck #	Year	Replacement Value	Comments
DPW	42	2010	$95,000	4-wheel drive Pickup f-350 with plow and spreader
DPW	50	2001	$75,000	Mechanics Truck, compressor, welder, plow/sander
DPW	74	2005	$240,000	10-Wheeler
			$410,000	

Appendix C: Public Works Capital Project Plan 2016-2017

5 - YEAR CAPITAL PROJECT PLAN

NOTE This Plan is under Review and Compilation by Finanace into an all inclusive Plan

Dept./Facility	Year #1 Replacement:	2016 / 2017	
	Capital Project	Project Cost Est.	Comments
DPW	Convert Town Facilities to Natural Gas	$100,000	Conversion to Natural Gas at Town Hall, Chalk Hill
DPW	Road Resurfacing	$1,200,000	Road program
DPW	Town Hall HVAC Replacement	$1,200,000	Quote from Architect (add 7% increase & year)
DPW	Highway Garage Facility Study	$50,000	Environmental Stormwater Permit Upgrades
DPW	Stepney VFD#2 Roof Replacement	$250,000	Roof over 30 years old and in very poor condition*
DPW	Stevenson VFD#2 Roof Replacement	$250,000	Roof over 30 years old and in very poor condition*
DPW	Install Doors on Annex	$150,000	Enclose Annex building to better protect Highway equipment
DPW	Fire Dept Mill & Pave & Drainage at Step1	$60,700	Parking lot and drainage in very poor condition
DPW	Fire Dept Mill & Pave at Stepney Sta 2	$45,008	Pavement in poor condition
DPW	Fire Dept Mill & Pave at Monroe Sta.1	$46,200	Pavement in poor condition
DPW	Fire Dept Mill & Pave at Monroe Sta.2	$42,212	Pavement in poor condition
DPW	Fire Dept Mill & Pave at Stevenson Sta 1	$22,040	Pavement in poor condition
DPW	Fire Dept Mill & Pave at Stevenson Sta 2	$42,930	Pavement in poor condition
DPW	UST at Chalk Hill - dependant on use	$130,000	Quote from Engineer/contractor (Fuss and O'Neill)
DPW	Chalk Hill Septic Distribution Chamber	$20,000	D-Chamber concrete spalling
		$3,609,090	

Appendix C: Public Works Capital Project Plan 2016-2017

5 - YEAR CAPITAL PROJECT PLAN

NOTE This Plan is under Review and Compilation by Finanace into an all inclusive Plan

Dept./Facility	Year #2 Replacement:	2017	2018
	Capital Project	Project Cost Est.	Comments
DPW	Road Resurfacing	$1,100,000	Road program
DPW	Salt Storage Facility	$160,000	Town must comply with CTDEEP Stormwater Regulations
DPW	Town Facility Repairs	$85,000	Repair/Paint Bldg doors, Gazebo roof, Senior Center, Library
DPW	Town Hall Paving and Sidewalks	$500,000	Initial estimate; final est. dependent upon site renovation plan
DPW	Culvert Rehabilitation	$80,000	Hammertown Road
		$1,925,000	

Appendix C: Public Works Capital Project Plan 2016-2017

5 - YEAR CAPITAL PROJECT PLAN

NOTE This Plan is under Review and Compilation by Finanace into an all inclusive Plan

Dept./Facility	Year #3 Replacement:	2018 / 2019	
	Capital Project	Project Cost Est.	Comments
DPW	Road Resurfacing	$1,000,000	Road program
DPW	Drainage Inventory Mapping	$60,000	Last updated 1984
DPW	New Highway Garage Facility	$1,500,000	Proposed with public/private partnership
		$2,560,000	

Appendix C: Public Works Capital Project Plan 2016-2017

5 - YEAR CAPITAL PROJECT PLAN

NOTE This Plan is under Review and Compilation by Finanace into an all inclusive Plan

Dept./Facility	Year #4 Replacement:	2019 / 2020	
	Capital Project	Project Cost Est.	Comments
DPW	Road Resurfacing	$1,000,000	Road program
DPW	Highway Garage & Office Roof Replacement	$500,000	Dependant on public/private partnership
		$1,500,000	

Appendix C: Public Works Capital Project Plan 2016-2017

5 - YEAR CAPITAL PROJECT PLAN

NOTE This Plan is under Review and Compilation by Finanace into an all inclusive Plan

Dept./Facility	Year #5 Replacement:	2020 / 2021	
	Capital Project	Project Cost Est.	Comments
DPW	Road Resurfacing	$800,000	Road program
		$800,000	

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Stepney Sta 1			1	19224	19224.00	2136.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage						every 100 feet		
2	Layout & Stakes								$0.00
3	Erosion Control				HR	$28.00			
4	Traffic Control								
5	Clear & Grub	N/A							$0.00
6	Clean CB's & Pipes				EA	$22.00			$0.00
7	New Curbing				LF	$3.50	$ 3.50 per LF		
8	Remove Curbing						In House		
9	Cut Gutters								
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A							$0.00
13	Gradall work restore & prep.				HR	$139.00	$139.00 per hr Stone		
14	Sawcut road Keyway	N/A							
15	Dust control	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			$12,000.00
17	Drainage Structures (new)				EA				$0.00
18	Drainage Stone	N/A					covered under restore & Prep		
19	Process Aggregate	N/A					covered under restore & Prep		
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A							
22	Underdrain	N/A							
23	Filter Fabric	N/A							
24	Install CPP	N/A							
25	Milling			2136.00	SYD	$5.45	$5.45 sq yd		$11,641.20
26	Shim				Ton	$94.44			$0.00
27	Patch for chip seal	N/A							
28	Chip Seal	N/A							
29	Cold In Place			0.00	SYD	$5.50	5.50 sq yd		$0.00
30	Tack Coat			2,136.00	SYD	$0.05	$4.50		$106.80
31	Reclaim			0.00	SYD	$1.75			$0.00
32	Cut Backs				SYD				
33	Paving (whats the process??)			0.00	Tons		Class 1 $		$0.00
34	Class 2			240.3	Tons	$151.28	Class 2 $151.28 ton		$36,352.58
35	Driveway Repair				EA	$500.00	Estimated $500 per drive		
36	Landscape						covered under restore & prep.		
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk)								$600.00
38	Remove Const. Signage								
	60 to 250 tons $151.28			250 tons to 500 tons class 2 $110.68				Total Cost	$50,700.58
	mill up to 1200 sq yds. $11.48 sq yd.								
	mill up to 2400 sq yds $5.45 sq yd.								

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Stepney Sta 2			1	17748	17748.00	1972.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage								
2	Layout & Stakes						every 100 feet		
3	Erosion Control								
4	Traffic Control				HR	$28.00			$0.00
5	Clear & Grub	N/A							
6	Clean CB's & Pipes				EA	$22.00			$0.00
7	New Curbing				LF	$3.50	$ 3.50 per LF.		$0.00
8	Remove Curbing						In House		
9	Cut Gutters								
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A							
13	Gradall work restore & prep.				HR	$139.00	$139.00 per hr Stone		$0.00
14	Sawcut road Keyway	N/A							
15	Dust control.	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			
17	Drainage Structures (new)				EA				
18	Drainage Stone	N/A							$0.00
19	Process Aggregate	N/A					covered under restore & Prep		
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A					covered under restore & Prep		
22	Underdrain	N/A							
23	Filter Fabric	N/A							
24	Install CPP	N/A							
25	Milling			1972.00	SYD	$5.45	$5.45 sq yd		$10,747.40
26	Shim				Ton	$94.44			$0.00
27	Patch for chip seal	N/A							
28	Chip Seal	N/A							
29	Cold In Place			0.00	SYD	$5.50	5.50 sq yd		$0.00
30	Tack Coat			1,972.00	SYD	$0.05	$4.50		$98.60
31	Reclaim			0.00	SYD	$1.75			$0.00
32	Cut Backs				SYD				
33	Paving (whats the process??)			0.00	Tons		Class 1 $		$0.00
34	Class 2			221.85	Tons	$151.28	Class 2 $151.28 ton		$33,561.47
35	Driveway Repair				EA	$500.00	Estimated $500 per drive.		
36	Landscape						covered under restore & prep.		
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk)								$600.00
38	Remove Const. Signage								
	60 to 250 tons $151.28			250 tons to 500 tons class 2 $110.68					
	mill up to 1200 sq yds. $11.48 sq yd.							Total Cost	$45,007.47
	mill up to 2400 sq yds $5.45 sq yd.								

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Monroe Sta 1			1	27486	27486.00	3054.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage						every 100 feet		
2	Layout & Stakes								$0.00
3	Erosion Control				HR	$28.00			
4	Traffic Control								
5	Clear & Grub	N/A			EA	$22.00			$0.00
6	Clean CB's & Pipes				LF	$3.50	$3.50 per LF.		$0.00
7	New Curbing						In House		
8	Remove Curbing								
9	Cut Gutters								
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A			HR	$139.00	$139.00 per hr Stone		$0.00
13	Gradall work restore & prep.								
14	Sawcut road Keyway	N/A							
15	Dust control	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			
17	Drainage Structures (new)				EA				$0.00
18	Drainage Stone	N/A					covered under restore & Prep		
19	Process Aggregate	N/A					covered under restore & Prep		
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A							
22	Underdrain	N/A							
23	Filter Fabric	N/A							
24	Install CPP	N/A							$7,421.22
25	Milling			3054.00	SYD	$2.43	$2.43 sq yd		$0.00
26	Shim				Ton	$94.44			
27	Patch for chip seal	N/A							
28	Chip Seal	N/A							$0.00
29	Cold In Place			0.00	SYD	$5.50	5.50 sq yd		$152.70
30	Tack Coat			3,054.00	SYD	$0.05	$4.50		$0.00
31	Reclaim			0.00	SYD	$1.75			
32	Cut Backs				SYD				$0.00
33	Paving (whats the process??)			0.00	Tons		Class 1 $		$38,026.33
34	Class 2			343.57	Tons	$110.68	Class 2 $110.68		
35	Driveway Repair				EA	$500.00	Estimated $500 per drive		
36	Landscape						covered under restore & prep.		
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk)								$600.00
38	Remove Const. Signage								
	60 to 250 tons $151.28			250 tons to 500 tons class 2 $110.68				Total Cost	$48,200.25
	mill up to 1200 sq yds. $11.48 sq yd.								
	mill up to 2400 sq yds $5.45 sq yd.								

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Monroe Sta 2			1	20862	20862.00	2318.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage								
2	Layout & Stakes						every 100 feet		
3	Erosion Control								
4	Traffic Control				HR	$28.00			$0.00
5	Clear & Grub	N/A							
6	Clean CB's & Pipes				EA	$22.00			$0.00
7	New Curbing				LF	$3.50	$ 3.50 per LF.		$0.00
8	Remove Curbing						In House		
9	Cut Gutters								
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A							
13	Gradall work restore & prep.				HR	$139.00	$139.00 per hr Stone		$0.00
14	Sawcut road Keyway	N/A							
15	Dust control	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			
17	Drainage Structures (new)				EA				
18	Drainage Stone	N/A							$0.00
19	Process Aggregate	N/A					covered under restore & Prep		
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A					covered under restore & Prep		
22	Underdrain	N/A							
23	Filter Fabric	N/A							
24	Install CPP	N/A							
25	Milling			2318.00	SYD	$5.45	$5.45 sq yd		$12,633.10
26	Shim				Ton	$94.44			$0.00
27	Patch for chip seal	N/A							
28	Chip Seal	N/A							
29	Cold In Place			0.00	SYD	$5.50	5.50 sq yd		$0.00
30	Tack Coat			2,318.00	SYD	$0.05	$4.50		$115.90
31	Reclaim			0.00	SYD	$1.75			$0.00
32	Cut Backs				SYD				
33	Paving (whats the process??)			0.00	Tons		Class 1 $		$0.00
34	Class 2			260.78	Tons	$110.68	Class 2 $110.68		$28,863.13
35	Driveway Repair				EA	$500.00	Estimated $500 per drive		
36	Landscape.						covered under restore & prep.		
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk).								$600.00
38	Remove Const. Signage								
	60 to 250 tons $151.28								
	mill up to 1200 sq yds. $11.48 sq yd.							Total Cost	$42,212.13
	mill up to 2400 sq yds $5.45 sq yd.								

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Stevenson Sta 1			1	6948	6948.00	772.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage								
2	Layout & Stakes						every 100 feet		
3	Erosion Control								
4	Traffic Control				HR	$28.00			$0.00
5	Clear & Grub	N/A							
6	Clean CB's & Pipes				EA	$22.00			$0.00
7	New Curbing				LF	$3.50	$ 3.50 per LF		$0.00
8	Remove Curbing						In House		
9	Cut Gutters								
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A							
13	Gradall work restore & prep.				HR	$139.00	$139.00 per hr Stone		$0.00
14	Sawcut road Keyway	N/A							
15	Dust control	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			
17	Drainage Structures (new)				EA				
18	Drainage Stone	N/A							$0.00
19	Process Aggregate	N/A					covered under restore & Prep		
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A					covered under restore & Prep		
22	Underdrain	N/A							
23	Filter Fabric	N/A							
24	Install CPP	N/A							
25	Milling			772.00	SYD	$11.48	$11.48 sq yd.		$8,862.56
26	Shim				Ton	$94.44			$0.00
27	Patch for chip seal	N/A							
28	Chip Seal	N/A							
29	Cold In Place			0.00	SYD	$5.50	5.50 sq yd		$0.00
30	Tack Coat			772.00	SYD	$0.05	$4.50		$38.60
31	Reclaim			0.00	SYD	$1.75			$0.00
32	Cut Backs				SYD				
33	Paving (whats the process??)				Tons		Class 1 $		$0.00
34	Class 2			86.85	Tons	$151.28	Class 2 $151.28 ton		$13,138.67
35	Driveway Repair				EA	$500.00	Estimated $500 per drive		
36	Landscape						covered under restore & prep.		
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk)								
38	Remove Const. Signage								
	60 to 250 tons $151.28			250 tons to 500 tons class 2 $110.68					
	mill up to 1200 sq yds. $11.48 sq yd.							Total Cost	$22,039.83
	mill up to 2400 sq yds $5.45 sq yd.								

Road Name	From	To	Length in LF	AVG. Width in LF	Sq Ft	SQYD
Stevenson Sta 2			1	25515	25515.00	2835.00

Item	Time & Materials	Days Needed	Men	Qty	U/M	Unit Cost	Notes	Sq Ft	Total Cost
1	Signage								
2	Layout & Stakes						every 100 feet		
3	Erosion Control								
4	Traffic Control								
5	Clear & Grub	N/A			HR	$28.00			$0.00
6	Clean CB's & Pipes								
7	New Curbing				EA	$22.00			$0.00
8	Remove Curbing				LF	$3.50	$3.50 per LF		$0.00
9	Cut Gutters						In House		
10	Sweeping	N/A							
11	Tree Work	N/A							
12	Rock Work	N/A							
13	Gradall work restore & prep.								
14	Sawcut road Keyway	N/A			HR	$139.00	$139.00 per hr Stone		$0.00
15	Dust control	N/A							
16	CB Tops & Repair			2	EA	$1,000.00			
17	Drainage Structures (new)				EA				
18	Drainage Stone	N/A							
19	Process Aggregate	N/A							$0.00
20	Clean Pipe outflows	N/A					covered under restore & Prep		
21	Rip Rap Outflows	N/A					covered under restore & Prep		
22	Underdrain	N/A					covered under restore & Prep		
23	Filter Fabric	N/A							
24	Install CPP	N/A							
25	Milling								
26	Shim			2835.00	SYD	$2.43	$2.43 sq yd		$6,889.05
27	Patch for chip seal	N/A			Ton	$94.44			$0.00
28	Chip Seal	N/A							
29	Cold In Place								
30	Tack Coat			0.00	SYD	$5.50	5.50 sq yd		
31	Reclaim			2,835.00	SYD	$0.05			$0.00
32	Cut Backs			0.00	SYD	$1.75	$4.50		$141.75
33	Paving (whats the process??)				SYD				$0.00
34	Class 2			0.00	Tons				
35	Driveway Repair			318.93	Tons	$110.68	Class 1 5 Class 2 $110.68 ton		$0.00
36	Landscape				EA	$500.00	Estimated $500 per drive		$35,299.17
37	Line Painting (stop bars, DBL Yellow, Fog Line, Cross Walk)						covered under restore & prep.		
38	Remove Const. Signage								
	60 to 250 tons $151.28								$600.00
	mill up to 1200 sq yds. $11.48 sq yd.			250 tons to 500 tons class 2 $110.68					
	mill up to 2400 sq yds $5.45 sq yd.							Total Cost	$42,929.97

FUSS & O'NEILL

December 24, 2015

Mr. Chris Nowacki
DPW Director
Town of Monroe
7 Fan Hill Road
Monroe, CT 06468

Re: Design/Build Services "Turn-key" Proposal
UST Removal/ Replacement
Chalk Hill School
375 Fan Hill Road, Monroe, CT
DAS On-Call Contract 12PSX0097
Fuss & O'Neill Project No. 20091294.P3X

Dear Mr. Nowacki:

Fuss & O'Neill is pleased to submit this "turn-key" proposal to the Department of Public Works for design, permitting, environmental compliance monitoring and reporting; material procurement and site construction services associated with underground storage tank (UST) removal and replacement at the Chalk Hill School at 375 Fan Hill Road. The UST system will be replaced in kind with a new Xeres 15,000 gallon FRP unit.

Based on this understanding, our site visit and discussions, the following scope of services is proposed. The pricing included in this proposal reflects pricing from our tank subcontractor, Lemelin Environmental Services, and our supplier Wildco Petroleum Products. This proposal is for a complete "turn-key" installation and includes the necessary design and "permit level" plan development, obtaining local permits, coordinating with state and local authorities, O&M manual submission, system startup and on-site training of facility personnel.

Furthermore, as we discussed, as is the nature of design/build and the design has yet to be performed, we have included an engineering and construction Contingency/Allowance if during design it is determined that additional items are required. Examples of these items may include:

- Installation of concrete hold down pad in lieu of concrete dead-men if buoyancy calculations warrant the additional concrete
- Pump and/or day tank to move fuel to and from the UST source (*does not seem likely upon initial site visit*)
- Transition sump/leak sensor for product piping

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This Allowance will not be used without prior discussion with you of their importance and without your prior authorization.

Scope of Services

Engineering and Permitting and Construction Management Services

Fuss and O'Neill will prepare necessary design drawings for this work as required by the Town's Building Department. You will be able to review these plans prior to submission to the Town. Plans will be stamped by a Professional Engineer licensed in the State of Connecticut as required.

During this phase we will also perform the following:

- Notify Town Fire Marshal of the pending UST Removals and/or abandonments
- Contact Call-Before-You-Dig and obtain Dig Safe Number
- Finalize field measurements to prepare a more detailed set of permit plans to be reviewed by the Town
- Perform a code compliance evaluation of all products
- Prepare and submit permit applications (fees to be waived by the town)
- Work with the Town Building Department to address any concerns prior to construction
- Obtain permit approvals and immediately place materials on order
- Review shop drawing for new equipment
- Coordinate all aspects of Construction and perform Construction Management Services throughout the project
- Prepare O&M documentation for the Town

Underground Storage Tank Removal

The following tasks will be performed during the removal process:

- Transfer usable product to and from site (The Town of Monroe will be responsible to have their fuel delivery company remove and replace any remaining usable product prior to tank removals). This proposal assumes no more than 6" of product/sludge will be in the UST upon our arrival. Additional fees may apply for the removal and disposal of any additional product discovered in the UST.
- Shut down existing UST system
- Pump and clean UST and associated piping of sludge and any product; steam clean interior of tank
- Remove and dispose of residual sludge/product and tank cleaning water (Provide documentation of all liquid/sludge removed)

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- Excavate, remove transport and dispose UST as listed in the site specific scope of work below apparatuses. (Bottom tank slabs to be removed only if they impact installation.)
- Collect soil samples from tank graves in accordance with DEEP Guidance documents
- Backfill and compact excavations with structural gravel
- Complete surface restoration in kind including replacing concrete sidewalk and performing asphalt repairs as necessary

UST and Appurtenance Installation

- Prepare base material in preparation for setting concrete deadmen
- Install new Xerxes 15,000 gallon Double Walled FRP UST
- Provide crane service as needed for setting UST
- Install double wall product piping system and code compliant accessory package
- Provide and install new backfill material as needed for proper backfilling of tank and piping
- Provide and install new electrical conduit and wiring and monitoring probes and sensors for the existing Pneumercator TMS-2000 tank monitoring system
- Provide and install new top tank pad or pads to match preexisting conditions
- Repair any disturbed concrete sidewalks or blacktop areas disturbed by the new installations
- Repair and landscaped areas
- Provide startup of new system and train personnel on the system as necessary
- Site Specific Additional Notes for Removal:
- Provide and install new 15,000 gallon Xerxes Double-Wall FRP including full code compliant fit-out package including containment sump and double-wall piping system to the building
- Transition to existing piping within the building
- Provide and Install probes and sensors to be compatible with the existing Pneumercator TMS-2000 tank monitoring console
- Replace concrete sidewalk run to parking lot in kind

Assumptions

For this effort, we include the following assumptions:

- There have been no releases from any of the underground storage tank systems. If contaminated soil is encountered, we will immediately notify the DPW before proceeding with CTDEEP notification. Unit costs associated with the management of contaminated media are included in this proposal and will be reviewed prior to proceeding with any work.
- Groundwater will not be encountered in the excavations

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- **Permit approval from the Town does not involve significant changes to the scope identified above. Any potential changes required by the Town will be reviewed with you prior to costing (if necessary) and/or implementation.**
- Free and clear access will be provided to all work areas. We will work closely with the DPW and Chalk Hill School representatives throughout the project to minimize impact to facility operations.
- DPW will be responsible for getting fuel levels below 6" (or close to) prior to our arrival
- Interior piping system retrofits are excluded from this contract and will be left in place. The transition from new exterior piping to existing interior piping will be at the soonest possible location within the building.
- Shoring of excavations is not anticipated and is not included in either the fee or contingency/allowance below

Schedules

Fuss & O'Neill is prepared to begin this work upon your Authorization to Proceed (Attached), though we expect the work to be performed during the Summer of 2016. The current lead time on a new UST and some appurtenances is approximately 10 weeks from the date of shop drawing approval and are subject to change based on production load at the time of release. We have a very good relationship with our suppliers and can work to minimize lead times on equipment as your schedule dictates.

We envision approximately 3-4 weeks will be needed to complete the majority of the on-site work.

Fee

Fuss & O'Neill will provide these services using a time and materials basis for professional services and construction administration services, and cost plus basis for subcontracted services and unit costs, both plus 10%, in accordance with our DAS Contract 12PSX0097.

In the event that contaminated soil is encountered, we have provided unit costs below to address the management of contaminated soils and surface restoration. The cost for any such services will be evaluated with the Town prior to initiating this work.

The Base Scope of Services includes the preparation of the permit package for the Town. It is understood that the Town's fees for these permits will be waived. However if this is not the case, fees for permits will be invoiced separately at a cost plus 10%. **The fees listed below do not account for any changes made by the Planning and Zoning Department or any other Town Department reviewing and approving this work.**

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Mr. Nowacki
December 24, 2015
Page 5 of 6

Furthermore, please note that the fees listed below are based on 2016 dollars. Should this work be performed in 2017, we would recommend a budget increase between 5% and 7%.

Item and Description	Price
Clark Hill School	
Professional Services	*T&M*
➢ Engineering and Permitting	$7,800
➢ Construction Management /Project Coordination/Closeout	$6,950
➢ Environmental Compliance Monitoring & Reporting	$5,500
Construction Services	*Cost Plus*
➢ Labor and materials for installation of complete UST system	$119,815
Design Contingency/Allowance (Only to be used if design conditions warrant)	$ 10,500
Unit Prices if Contaminated Soil is Present	*Units Cost Plus*
➢ Remove and Dispose Liquid/Sludge/Product from UST above and beyond 6"	2.04/Gal
➢ Remove, load, transport and dispose of contaminated soil and supply and install replacement backfill	$107.80/Ton
➢ Additional paving due to management of contaminated soil	$4.95/SF
➢ Additional concrete sidewalks due to management of contaminated soil	$385/CY
➢ Additional process/prep due to management of contaminated soil	$82.50/SF

* As the Town is tax exempt, State sales tax is excluded from this proposal

We thank you for your interest in Fuss and O'Neill and our ability to provide you with a "turn-key" solution for your needs using our on-call DAS contract. We look forward continuing out work with you.

If you have any questions or comments, please do not hesitate to contact me at 860-646-2469 ext. 5217, or on my cell at 860-966-1972.

Sincerely,

Charles D. Ahles, PE
Vice President

Attachments: Authorization to Proceed
DAS Contract 12PSX0097

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AUTHORIZATION TO PROCEED

Charles D. Ahles, PE
Vice President
Fuss & O'Neill Design Build Services, LLC
146 Hartford Road
Manchester, CT 06040

Re: Design/Build Services "Turn-key" Proposal
UST Removal/ Replacement
Chalk Hill School
375 Fan Hill Road, Monroe, CT
DAS On-Call Contract 12PSX0097
Fuss & O'Neill Project No. 20091294.P3X

Dear Mr. Ahles,

I hereby authorize Fuss & O'Neill, Inc. to proceed with the above-referenced project in accordance with their on-call DAS Contract No. 12PSX0097 and the proposal dated December 24, 2015. I understand that billing will be monthly, payable within thirty (30) days of date of invoice.

Printed Name _____ Date _____

Signature _____ Title _____

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Aquarion Water Company
200 Monroe Turnpike
Monroe, CT 06468
www.aquarionwater.com

203.445.7310 phone
800.732.9678 (toll free)

AQUARION
Water Company

Stewards of the Environment

RECEIVED
First Selectman's Office
Town of Monroe
FEB 04 2016 J.B.

February 1, 2016

The Honorable Stephen Vavrek
First Selectman - Town of Monroe
7 Fan Hill Road
Monroe, CT 06468

Subject: Public Fire Service Charges
Account #: 200044071

Dear First Selectman Vavrek:

One of the ways that Aquarion Water Company serves your community is by maintaining the water distribution mains connected to your town's fire hydrants. The tables below provide a summary of the public fire protection charges for calendar year 2016. Fire service charges are based on the water distribution mains and number of hydrants in service as of December 31, 2015. The charge for transmission and distribution mains is calculated on the number of inch feet, a calculation determined by the size and length of all mains six inches and greater in diameter.

Transmission and Distribution System (Measured in Inch Feet)

In Service At 12/31/14	2015 Additions	In Service at 12/31/15	Charge Per Inch Foot	Annual Inch Foot Charge
4,780,319	76,256	4,856,575	**$0.09242**	$448,844.66

Hydrants

In Service At 12/31/14	2015 Additions	In Service At 12/31/15	Charge Per Hydrant	Annual Hydrant Charge
461	0	461	**$264.58**	$121,971.38

Your fire service charges will be $570,816.04 for calendar year 2016 based on our present rates. In addition to the amounts above, the following adjustments will be included on your invoices:

- The Tangible Property Regulation (TPR) Credit of 5.6% (which was implemented in January, 2015), will continue for the entire 2016 calendar year.
- The Water Infrastructure & Conservation Adjustment (WICA) is currently 1.57%. A cumulative increase of 1.0% to the WICA surcharge is expected during 2016. These increases are expected to take place on April 1, and October 1, 2016.
- The Water Revenue Adjustment (WRA) is currently at 0.38%. Effective April 1, 2016, this adjustment will be a credit of 2.99%.
- The Earnings Sharing Mechanism (ESM) Credit of 1.02% will end on August 31, 2016.

Your bill will show separate line items for each of these items. Charges are billed quarterly on a per diem basis. While the timing and amount of the adjustments for the WRA and WICA are still tentative and subject to PURA approval, we believe these amounts are appropriate estimates for planning purposes.

If you have any questions about your public fire service charges, please feel free to contact me at (203) 445-7330.

Sincerely,

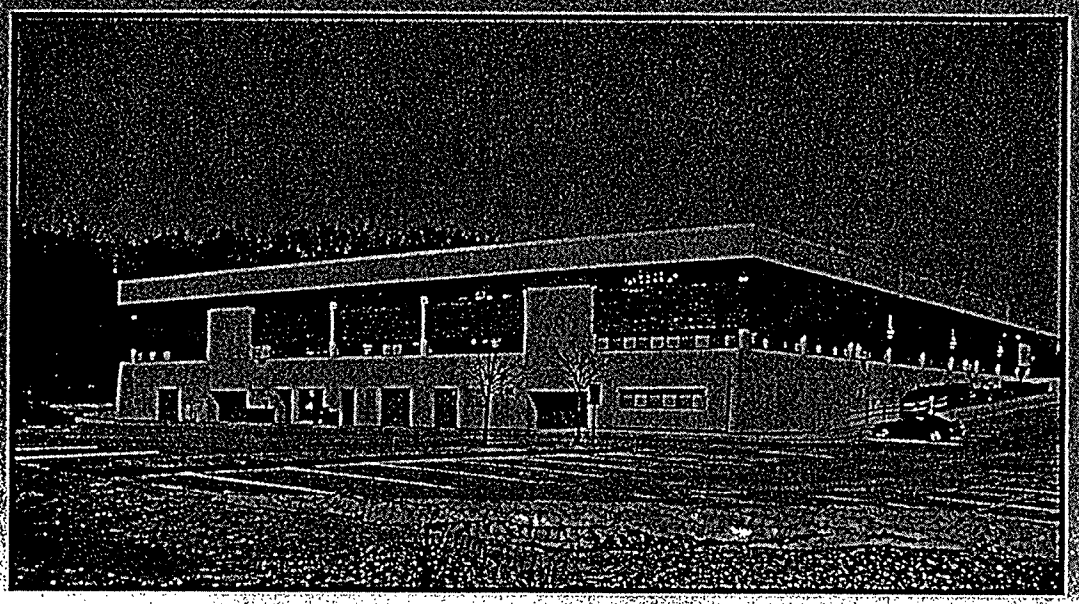
Lucy A. Teixeira
Vice President, Administration

c: Elizabeth Camerino-Schultz, Community Representative
Chris Nowacki, Director of Public Works, William Davin, Fire Marshall
Ron Bunovsky, Finance Director

Town of Monroe

Chalk Hill School
Mothballing & Demolition Study

7 Fan Hill Road
Monroe, Connecticut 06468



Chalk Hill School – Rear Elevation

Draft Report: December 30, 2010
Final Report:

Silver Petrucelli & Associates, Inc.
Architects / Engineers / Interior Designers
3190 Whitney Avenue
Hamden, Connecticut
203-230-9007

Town of Monroe, Connecticut

Chalk Hill School
Mothballing & Demolition Study

Town of Monroe
7 Fan Hill Road
Monroe, Connecticut 06468

Draft Report: December 30, 2010
Final Report:

Prepared by:

Silver Petrucelli & Associates, Inc.
Architects / Engineers / Interior Designers
3190 Whitney Avenue
Hamden, CT 06518
(203) 230-9007

Acknowledgements

We wish to thank the Town of Monroe for the opportunity to serve the town in evaluating alternative cost options for the potential future mothballing or demolition of Chalk Hill Middle School. We would also like to thank the director of public works and school administration and staff for their helpfulness and input, as their feedback and comments have been invaluable to the thoroughness of this report.

Town of Monroe

Stephen J. Vavrek
First Selectman

Chalk Hill School

Bruce M. Lazar
Principal

Robert Orsino
Head Custodian

Craig Tunks
Director of Technology

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Executive Summary

This report is the result of a study commissioned by the Town of Monroe, Connecticut to assess alternative cost options associated with mothballing or demolishing Chalk Hill School, as it may become vacant after the end of the 2010/11 school year.

Per town directive, three potential options were explored;

Option 01 - Mothball entire building
Option 01-A - Mothball upper floors while maintaining occupancy in the basement.
Option 02 - Demolish Chalk Hill School

In addition to detailing the initial costs required to properly secure and mothball the building, this study outlines annual inspection, maintenance, and operational costs associated with preserving the facility for potential future use.

This report was prepared by the architecture and engineering firm of Silver/Petrucelli + Associates, Inc. Architects and Engineers (S/P+A) of Hamden, Connecticut, a firm specializing in municipal and educational planning and design, historic restoration, feasibility analyses and building condition investigations including building envelope surveys and window and roof repair and replacement.

Process

The information contained in this report was gathered by S/P+A via meetings with town staff and school administrators, visual observations of existing facility conditions, discussions with local health department and utility companies, and analyses of existing building conditions and systems as described in the Chalk Hill School Facilities Study prepared in 2008 by S/P+A. The collected data was organized and appears in sections of this report in the form of meeting minutes, descriptive narratives with recommendations, and opinions of probable cost.

Findings

Mothballing Chalk Hill School, either fully or partially, would require minor modifications to the existing mechanical and electrical systems including providing a new temporary electrical service, removing the indoor generator and modifying the fire alarm system. In addition, preventative measures should be taken to ensure the building is properly protected, heated and ventilated by maintaining the existing fire suppression system, running the heat at 45-50 degrees during cold and damp months, partially opening exterior windows to allow adequate air exchanges and leaving interior doors and ceilings open to allow for proper air circulation.

Is it recommended by S/P+A that in each of the mothballing options, particularly full mothballing, that the town perform periodic site, interior, and roof inspections to check for building vandalism, deterioration, damage and leaks.

Demolition of Chalk Hill School will require all asbestos containing material (ACM), polychlorinated biphenyls (PCBs), and other hazardous materials be properly removed and disposed of prior to any potential disturbance.

Note: A complete investigation for asbestos containing materials, lead based paint and other hazardous materials was completed by TRC Environmental Corporation (TRC) in conjunction with the 2008 Chalk Hill School Facilities Study and Comprehensive Master Plan, prepared by S/P+A. This environmental analysis identified the location and type of hazardous materials throughout Chalk Hill School, along with an estimated full abatement and/or demolition cost of approximately $650,000. The body of this report along with the abatement and demolition cost estimate can be found in Appendix A of this report.

Polychlorinated biphenyl (PCB) testing of sealants was not common practice during the time of the 2008 study, and therefore, samples were not taken for testing at this time. PCBs are now known to be most commonly found in caulking for buildings constructed between the years of 1950 and 1978, but can also be found in a variety of other materials used during this time period. Constructed in 1968, there is a good probability that Chalk Hill School contains traces of PCBs in window caulking. If PCBs do exist in the caulk, there is the potential that these chemicals have migrated into the surrounding masonry or soil below, which would require additional abatement. Testing for PCBs is now mandated, (effective 2010), by the Connecticut State Department of Education and Health Department for all school facilities undergoing renovations or demolition.

Site work required for the demolition option will include crushing all hollow septic structures, providing a new water line to the irrigation system serving the athletic fields and providing a new electrical service and meter to maintain site lighting.

Conclusions and Recommendations

The costs to fully mothball and partially mothball Chalk Hill School, including the 1st year's maintenance and operational costs, are almost identical, estimated at roughly $150,000 and $146,000. Subsequent annual maintenance and operational costs are estimated at roughly $55,000 per year. The similarity in costs is a result of the recommendation by S/P+A that in either scenario all mechanical, electrical, plumbing, and fire protection systems remain active and be serviced regularly to help prevent deterioration of the structure and to extend the life of the systems. The mothball estimates do not include costs for certain tasks that will be performed by the Town of Monroe, including furniture removal, general cleaning, and routine site inspections. In addition, the cost to partially mothball the building does not address any renovation or abatement costs that may occur on the lower level should the Town decide to renovate this portion of the building.

The demolition costs, estimated at almost $1.9 million, are significantly greater than mothballing, due in large part to the fact that all hazardous materials must be removed and disposed of properly prior to demolition. While these abatement costs necessary for demolition are avoided

in the initial stages of mothballing, it is probable that a large portion of these abatement costs will still be required as building systems, components and finishes are replaced. All of this being considered, it is the recommendation of S/P+A that the town mothball all or part of the building in order to preserve the structure for future use, and to avoid the substantial upfront costs to abate and demolish the building.

Note: S/P+A contacted the State Department of Education to inquire about potential grant repayment that may be required by the Town of Monroe in the event that Chalk Hill School be abandoned or demolished. It has been determined that the town will not be responsible for any grant repayment due to;

1) No state funded projects over $2 million have occurred at Chalk Hill School in the last 20 years
2) No state funded projects have occurred at Chalk Hill School within the last 10 years (with the exception of code violation remediation projects).

The following information is from the Connecticut State Department of Education document entitled 'The Grant Process – School Construction Grants'.

PART EIGHT: PROJECT COMPLETION AND AUDIT
Amortization Schedule and Grant Repayment

- Except for projects solely for the correction of code violations, audited grant calculation for all Progress Payment projects will include computation of an amortization schedule for the State Share.
- For projects with costs equal to or greater than $2 million, the state grant for the school building project will be amortized on a straight-line basis over a 20-year period.
- For projects with costs less than $2 million, the state grant for the school building project will be amortized on a straight-line basis over a 10-year period.
- Any town or regional school district which abandons, sells, leases, demolishes or otherwise redirects the use of such a school building project to a non-public use during the amortization period shall refund to the state the unamortized balance of the state grant remaining s of the date the abandonment, sale, lease, demolition, or redirection occurs.
- The amortization period shall begin on the date the project was accepted as complete by the local Board of Education.
- A request for forgiveness of such refund may be submitted if the building is redirected for public use. Requests of this nature will be included as an addendum to the annual school construction Priority List and must be approved by the General Assembly.

Section I - Introduction

Study Overview and Purpose

Silver/Petrucelli & Associates, Inc. Architects & Engineers were retained by the Town of Monroe to prepare a feasibility study examining (2) possibilities for the future of Chalk Hill School. This study analyzes the initial, up-front costs required to mothball or demolish the structure along with the annual maintenance and operational costs associated with maintaining a mothballed structure.

1. The study focuses on the building system modifications required to maintain minimum heat and ventilation throughout the building to prevent freezing, condensation and mold.

2. The study outlines a suggested observation and maintenance plan to ensure safety and to prevent decay and vandalism for the unoccupied mothball scenario.

3. The study incorporates suggestions and costs to provide additional security measures for the mothball scenario.

4. The study analyzes potential costs associated with removing, relocating, and/or modifying existing utility and site systems as required per each option.

5. The study examines potential system and code implications associated with a later requested 3rd option of abandoning the upper floors while maintaining occupancy on the lower level.

Chalk Hill School - South Elevation

Study Services

The following services were provided to complete the Town of Monroe Mothballing and Demolition Study.

1. The project was initiated through a meeting with the director of public works, school principal, head custodian, and technology director.

2. S/P+A visited the site and examined the 2008 report in order to evaluate the existing conditions of the structures and site.

3. S/P+A contacted the local health department to discuss requirements for the subsurface septic system, if the building were vacant or demolished.

4. S/P+A contacted the utility companies to discuss the modification or removal of service based on mothballing or demolishing Chalk Hill School.

5. Initial recommendations and costs were outlined for each of the mothballing schemes and forwarded to the town for use in the 2011 budget meetings.

6. Demolition costs were developed and mothballing costs were revised and incorporated into a comprehensive spreadsheet outlining each of the (3) options.

7. A draft report, including conceptual cost estimates, narratives, and recommendations was developed and forwarded to the town for review and use during the upcoming budget approval meeting.

8. The draft report was modified to incorporate comments and feedback from the town.

9. The final report was completed and presented to the town.

SILVER/PETRUCELLI+ASSOCIATES
Architects and Engineers

3190 Whitney Avenue, Hamden, CT 06518-2340
Tel: 203 230 9007 Fax: 203 230 8247
silverpetrucelli.com

MEMORANDUM OF MEETING # 1

PROJECT: Chalk Hill School – Mothballing & Demolition Study

OWNER: Town of Monroe

MEETING PLACE: Chalk Hill School, Monroe, Connecticut

DATE AND TIME: November 24, 2010; 8:30 AM

ATTENDEES:

Bruce M. Lazar	Principal, Chalk Hill School
Arthur D. Baker	Director of Public Works, Monroe
Robert Orsino	Head Custodian, Chalk Hill School
Craig Tunks	Director of Technology
William Silver	Silver/Petrucelli & Associates (S/P+A)
Christopher Nardi	Silver/Petrucelli & Associates

Purpose: Kick-Off meeting for the Chalk Hill School study.

---

1. Study objectives and goals were discussed and are as outlined below.

   - The study will analyze (2) potential options for the Chalk Hill School.
     Option 1 – 'mothball' the school, and preserve for potential future use.
     Option 2 – demolish the school.

     Note: Per discussions with Art Baker on December 3rd, 2010

     Option 1A – 'mothball' the upper floors of the school, while maintaining occupancy on the basement level. This will require all building systems to remain operational and emergency egress maintained.

     Per discussions with Town Fire Marshal, if entire building is mothballed, sprinkler system could be drained and deactivated.

- If mothballed, all furniture, books, shelving, etc. should be removed to prevent deterioration and damage. According to Chalk Hill administration, there are 5-6 classrooms with new desks that would be salvaged. In addition, roughly half of the existing furniture throughout the school could be reused. The remainder of desks and furniture will be disposed of.
- Town and school staff indicated that they did not believe vandalism would be an issue in this area should the school be vacated and mothballed. S/P+A will include an alternate price in the conceptual estimate indicating the costs associated with incorporating a security system.
- If mothballed, mechanical, electrical, plumbing, and fire protection systems will need to be either shut off or altered. A maintenance program will need to be implemented to maintain and monitor the systems. Suggestions for each system will be made in the report, and operational costs to maintain these systems will be examined.
- If mothballed, the school will need to remain well ventilated. Suggested ventilation methods and associated costs will be outlined in the report.
- AHU's on top of school are relatively new and may be salvaged for reuse. S/P+A will investigate and make suggestions regarding the salvage and reuse of all pertinent systems and equipment.
- If school is demolished, all parking, paving, sidewalks, and exterior lighting are to remain in order to provide access to sports fields west of the school.
- If demolished, building is to be taken down to foundation, and area graded and fenced off.
- Current irrigation system for fields is fed from and powered by Chalk Hill School. If demolished, irrigation system will need to be reworked and fed from Jockey Hollow School.
- IT Department and equipment is currently located in basement of Chalk Hill School, with conduit, cable and fiber optics running to Jockey Hollow (servers are located in Jockey Hollow due to generator and superior a/c temperature control). If building is demolished or mothballed, IT Department and equipment will need to be relocated, along with all associated conduit, cable, & fiber. Option 1A, would allow IT to remain in its current location.
- Existing telecommunication lines are also fed from Chalk Hill to Jockey Hollow. These lines would need to be relocated under certain options.
- Weather station and equipment on roof will need to be relocated to Jockey Hollow.

- Parks and Rec. has offices on first floor of Chalk Hill School, and uses the school facilities for numerous activities throughout the year. If demoed or mothballed, offices and activities will need to be relocated.
- Town budget meetings begin on the week of December 13, 2010, with an estimated budget approval date of January 03, 2010. S/P+A will provide preliminary cost information to the town for use at the budget meetings, and will have a draft report completed prior to the scheduled budget approval date.

Next Action:

- Per discussions with Art Baker, S/P+A will provide preliminary notes and conceptual costs of mothballing Options 1 and 1A for use at the December 13, 2010 budget meetings.
- S/P+A will arrange site visits with school administration, as required.
- S/P+A will investigate potential code implications of mothballing the upper levels of Chalk Hill School, while maintaining occupancy in the basement.
- Town will investigate the relocation of IT and Parks and Recreation, should it be required.

Any corrections, additions, or comments should be made in writing to Silver Petrucelli & Associates within 14 days of the date of this meeting.

Distribution: Attendees via email, file.

Section II – Mothballing Options 01 and 01-A

S/P+A investigated the (2) primary options to mothball Chalk Hill School, in order to preserve the integrity of the structure and systems for potential, future building use. Option 01 examined vacating and mothballing the entire building, while a new Option 01-A included mothballing the upper floors, but maintaining occupancy in the existing basement.

Site Analysis

In both Option 01 or 01-A, there is little site work required in order to mothball the structure. Since the majority of utilities and services to Chalk Hill School will remain in either scenario, there is no need to modify fuel lines, water lines, or the subsurface irrigation system serving the athletic fields west of the school. In addition, electrical service to exterior site lighting will need to remain or be reworked, and exterior bituminous and concrete paving will need to be maintained in order to sustain accessibility and safety for those utilizing the athletic fields. Discussions with the local health department indicate that the septic system can remain intact under the assumption that the building may once again be occupied.

Maintenance for the site will require routine cleaning, pruning and trimming, along with repairs to the concrete and bituminous pavements on an as needed basis. It is recommended that the town perform periodic site visits to inspect site pavement and landscaping

Hazardous Materials

It is not anticipated in either of the mothballing options that ACM, PCBs or other hazardous materials would be disturbed, and therefore, not required to be abated at this time. In the event that the town chooses to perform additional renovations or demolition, above and beyond what is suggested in this report, then the project should be reevaluated for asbestos and PCB abatement requirements. If the building undergoes renovations or selective demolition in the future, all potentially disturbed hazardous materials would need to be abated at that time.

Architectural, Structural & Code Analysis

One of the most important precautions when vacating and mothballing a building is to ensure that the building envelope is sealed and in good condition in order to prevent moisture from entering the building. At Chalk Hill School, a significant advantage for mothballing is that the roof was recently replaced, and the exterior masonry and grout are in good condition. The windows are in need of replacement but can remain, since it is recommended they be left open slightly to allow the building to remain ventilated. Structurally, the building appears sound with no evidence of settling. It is recommended by S/P+A that the building envelope and roof continue to be monitored regularly and repaired on an as needed basis.

If the lower level of the building remains occupied a full code analysis will need to be performed and permits and approvals granted by the local building official, fire marshal and others. At this point, a potential program for the lower level has not been decided and therefore, no code analysis was performed. Some potential code issues with this scenario are plumbing fixture count, travel distance and number/capacity of exits, among others.

Mechanical Analysis

General

1. It is recommended that the building be ventilated during the dormant period. This can be done primarily by opening windows slightly, keeping interior doors open and running existing exhaust fans. In the case of some exhaust fans it may be beneficial to change the drive pulleys in order to slow fans to move less air. In addition, the structure should be maintained above dew point which will require heat during cold and damp weather. Since the majority of the building has perimeter radiation for heating, maintaining a minimum temperature in the building can be done efficiently without running most of the air handling equipment.

2. Routing of existing domestic water and sprinkler piping should be reviewed to make certain that piping in any areas subject to freezing is somehow protected.

3. Building consists of two full floors plus basement. Approximately 92,000 sf gross area.
   - Basement – 11,000 sf
   - First Floor – 43,000 sf
   - Second Floor – 38,000 sf

4. Areas with perimeter radiation
   - Window slightly open,
   - Heat at 45 to 50 deg during cold and damp weather.
   - Doors open.
   - Some ceiling tile removed.
   - Central exhaust fans on. Possibly replace sheaves to slow fans.

3. Areas with central AHU's
   - Run AHU's periodically. Run time to be determined by timeclock or temp/humid.
   - If areas have central exhaust, run exhaust fans only.
   - Leave interior doors open.
   - Drain coils on units not used

4. Heating Plant:
   - Maintain Heating Plant Operational.
   - Start pumps by timeclock or outdoor temp/humid.
   - Install temporary hot water pump or VFD to conserve energy?
   - Occasional fuel delivery.

Basement HVAC

1. IT Room (approx 1600sf): AHU-1, Run Unit periodically
2. Storage Rm Industrial Arts(approx 3500sf): AHU-2, Run Unit periodically
3. General Classroom (approx 800 sf):
   - Window slightly open,
   - Heat at 45 to 50 deg during cold and damp weather.
   - Doors open.
   - Some ceiling tile removed
   - Central exhaust fans on. Possibly replace sheaves to slow fans.

First Floor

1. General: Classrooms served by perimeter radiation w/ general exhaust and operable windows.
   - Window slightly open,
   - Heat at 45 to 50 deg during cold and damp weather.
   - Doors open.
   - Some ceiling tile removed
   - Central exhaust fans on. Possibly replace sheaves to slow fans.

2. Gym (5400 sf): Served by AHU-5 & AHU-6, 6200 cfm each, Run Units periodically

3. Lecture Hall – 200 seats (approx 3600 sf): served by AC-1
   - Run Unit periodically
   - If area has central exhaust, run exhaust fans only. Interior doors open

4. Admin Offices (1900 sf): Served by AHU-3, Run Unit periodically

5. North - Old Science Labs & Prep Rm (2300 sf): served by AHU-4
   - Run Unit periodically
   - If area has central exhaust, run exhaust fans only. Interior doors open

6. No-East - Old Science Classrms (3050 sf): served by EF – 1, run exhaust fans only. Interior doors open

7. No-West - Old Science Classrms (2250 sf): served by EF – 2, run exhaust fans only. Interior doors open

8. West – Music, Art, Teacher's Lounge (5200 sf): served by AHU-8, 4600 CFM
   - Run Unit periodically
   - If area has central exhaust, run exhaust fans only. Interior doors open

9. So-West (4060 sf): EF-3, 2900 cfm

10. So-East (3689 sf): EF-4, 2200 cfm

11. Exercise Room (1034 sf): AHU-7, 2500 cfm
    - Run Unit periodically
    - If area has central exhaust, run exhaust fans only. Interior doors open

Second Floor

1. General: Classrooms served by perimeter radiation w/ general exhaust and operable windows.
    - Window slightly open,
    - Heat at 45 to 50 deg during cold and damp weather.
    - Doors open.
    - Some ceiling tile removed
    - Central exhaust fans on. Possibly replace sheaves to slow fans.

2. Library/Media Center (approx 3600 sf): served by AC-2 – 5700 cfm
    - Run Unit periodically
    - If area has central exhaust, run exhaust fans only. Interior doors open

3. No-East Classrooms (3875 sf): EF-5, 2320 cfm

4. No-West Classrooms (3875 sf): EF-6, 2320 cfm

5. East Classrooms (2325 sf): EF-9, 1400 cfm

6. So-East Classrooms (3689 sf): EF-7, 2200 cfm

7. So-West Classrooms (4061 sf): EF-8, 2400 cfm

8. Cafeteria & Teacher's Rm (4930 sf): AHU-9, 11,000 cfm

9. Kitchen:
    - Kitchen Hoods: EF-21, 6750 cfm. Fan off
    - Dishwash: EF-22, 700 cfm, Fan on
    - Kitchen Storage: EF-23, 1425 cfm, Fan on

Maintenance and Supervision

1. Periodic walk-thru especially during cold and wet weather.

2. Temperature and humidity sensors recording conditions is representative spaces.

3. Maintain plumbing traps

Electrical Analysis

Electrical Service

Under the full mothballing scheme it would be advantageous to provide a new small electrical service (estimated at 200 amp, 208 volt, 3-phase) and disconnect the existing service. This has two advantages: It reduces the risk fire due to old wiring, and it allows CL&P to remove their vault transformers. Under the partial mothballing scheme the new service would need to power many more loads (Lower Level power, building heat, exterior lights, etc). This would require a considerably larger service and refeeding of a number of existing loads. The expense for this likely does not warrant the reduced risk. Unused portions of the existing electrical distribution would still be disconnected.

Indoor Generator

Under both mothballing schemes it is highly recommended to remove the existing emergency generator and its indoor fuel tank. This unit is currently in fair condition but 5 or more years without operation or maintenance will likely render it useless to any future application. The existing transfer switch can be manually set to Utility position thus keeping all associated loads powered but any life safety loads would need to be served in another way. This would likely only include lower level emergency lighting.

Fire Alarm System

The fire alarm system is recommended to stay active under both mothballing schemes and would be required under the partial scheme. While most notification equipment would not be required to remain active, some initiating devices (smoke or heat detectors) would be added to enhance monitoring of the building. This monitoring would be substantially limited if areas of the building are allowed to go below freezing as most detectors do not function properly at that temperature. Under the partial scheme, telephone lines to the building would still be active and would allow outside monitoring of the fire alarm system. Under the full scheme this monitoring is still recommended but it would result in a continued operational expense. In this case, we could provide several exterior fire alarm notification devices but the lack of nearby neighbors would limit the effectiveness of this approach.

Electronic Security

The installation of several outdoor cameras should be considered. This equipment will help minimize vandalism and unauthorized use of the site. The complexity and cost of such a system can vary greatly. While not recommended, it could be as simple as installing inoperable "dummy" cameras to make trespassers think they are being recorded. The next step would be a small number of active cameras with on-site video recording which would allow viewing of the images if an incident occurred. A top of the line system would incorporate equipment to broadcast the images to a remote site for viewing or recording.

Weather Station

We understand that the Town would like to relocate the existing rooftop weather station and all associated equipment to Jockey Hollow School. This will require some demolition and patching at Chalk Hill and some electrical preparation at Jockey Hollow.

Battery Equipment

There are a number of batteries in the facility used primarily for emergency lighting. In any mothballing scheme where these lights are no longer required, removal of the batteries should be considered. Long periods without charging can cause these batteries to fail and leak electrolyte, potentially causing damage to surrounding materials.

Lower Level Emergency Lighting

Based on removal of the generator and continued occupancy of the Lower Level, some number of new emergency lights will need to be installed.

Tele/Data System Relocations

We will need further information from the town regarding the scope of work required to maintain operation of telephone and data systems which feed through Chalk Hill to serve Jockey Hollow. It is conceivable that under either mothballing scheme these cables could simply remain in place with minimal required work and expense.

Section III – Demolition Option 02

S/P+A analyzed an option of demolishing Chalk Hill School while maintaining all site lighting, irrigations systems and paving necessary to access and utilize the athletic fields located west of the school.

Site Analysis

The irrigation system serving the athletic fields is currently served by a water line running from Chalk Hill School. In this demolition scenario, water service to Chalk Hill School will be cut off, requiring a new primary water service and meter be installed for the irrigation system. The most logical connection is to tie the existing system back to the main water line at Fan Hill Road.

If the building is demolished, all site paving and lighting will need to remain in order to provide access and safety for those using the field. The bituminous and concrete paving vary in condition and should be repaired on an as needed basis. The site lighting requirements are discussed in further detail within the electrical analysis.

Per discussions with the Trumbull-Monroe Chief of Environmental Health, all hollow septic structures must be crushed in the event of a building demolition. This will require unearthing the hollow structures, demolishing, filling, and regrading. In this scenario, it is recommended that the Connecticut DEP be contacted to discuss the possibility that the septic field remain for possible reuse, in the event that a future building is constructed on this site.

Hazardous Materials

In the event that the school is demolished, all identified ACM and other hazardous materials will need to be properly removed and disposed. In addition, the building will need to undergo PCB testing for all potentially contaminated sources, as required by the recent 2010 Connecticut State Health Department.

Architectural, Structural & Code Analysis

Architecturally, little to no work preliminary work is required in the event of a non-explosive demolition. It is recommended that all items of value be removed from the building prior to demolition. In addition, a 'deconstruction' of the building is recommended rather than a pure demolition, in order to separate materials in an effort to minimize material going to landfill while maximizing recyclable materials.

Per the International Building Code (IBC) Section 3303, *"Construction documents and a schedule for demolition must be submitted when required by the building official."*

In addition, pedestrian protection must be provided during all demolition activities and once complete, the building pit must be filled and graded. The local building department will dictate any other special requirements involved with a structural demolition.

Mechanical Analysis

The IBC – Section 3303 states that in the event of a building demolition,

"all service utility connections shall be discontinued and capped in accordance with the approved rules and the requirements of the authority having jurisdiction."

Outside of this requirement there is no extra mechanical preparation required outside of normal demolition procedures. In addition, S/P+A does not believe there is any value, outside of scrap value, in salvaging any of the existing mechanical equipment.

Electrical Analysis

Electrical Service

The town has expressed the desire to keep existing pole mounted site lights and the field irrigation system active after the building has been removed. It is assumed that all or most of these loads are currently served by the Chalk Hill School main electrical service and as such a new source of power would be required. The best solution for this will be to provide a small new electrical service to a free-standing enclosure. This enclosure would accommodate the new utility meter, disconnect, panel and any required controls. Branch circuit conduit and wire would then need to be extended from the enclosure to the remaining loads.

Communication Services to Jockey Hollow

We understand that telephone and data services for the Jockey Hollow School currently feed through Chalk Hill. These services will need to be extended to Jockey Hollow through another route. While much of the cable installation would likely be provided by the respective service providers, there would almost certainly be an associated cost. Further evaluation would be required to determine if a suitable route from the Utility poles in shared access road to Jockey Hollow exists. It is possible that sufficient underground conduits exist for this purpose. The cost estimate allows for service provider fees and some conduit infrastructure work but not a full new conduit run. This cost does not include modifications required to the telephone and data system head-end equipment if necessary to accommodate the new service connection.

Section IV – Maintenance Plan

The following plan has been provided as a suggestion to monitor and maintain Chalk Hill School, in the event that the building is vacated and mothballed. It is assumed that the Town of Monroe will adjust this plan as necessary based upon their budget, desired safety measures, and manpower, among others.

Monthly Visit

- **Walk site and perform visual inspection of site and structure for vandalism, graffiti, and deterioration.**
- **Inspect windows and doors for possible points of forced entry.**
- **Mowing as necessary.**

3-Month Visit

- **Open doors and windows to 'air out' structure.**
- **Walk building interior inspecting for moisture damage, leaks, rodent/pest intrusion and vandalism.**
- **Check battery packs and lights in areas still connected to electrical service.**

6-Month Visit (Spring and Fall)

- **Site clean up, pruning and trimming**
- **Walk roof to check for tears in roofing, blocks in roof drains and scuppers, or any other potential damages.**

Annual (or as needed)

- **Maintenance and service for equipment and utilities**
- **Repairs to building and site**
- **Cleaning of building exterior**

Section V – Conceptual Cost Estimate

Preliminary Opinion of Probable Construction Cost

The following preliminary estimate outlines projected costs to fully mothball, partially mothball and demolish Chalk Hill School. In each of the mothball scenarios, additional line items have been provided for annual estimated maintenance, fuel and service charges for all building systems. Renovation and abatement costs have not been included for the partial mothball option because a scope of work and building use have not yet been determined. In addition, alternative cost line items have been included in each of the mothball options to provided new security systems, relocate the rooftop weather station, and secure lower windows to prevent unauthorized entry to the building.

At this stage, the numbers used are conceptual only, based upon industry standards and historical data for comparable projects. These estimates are schematic in nature and do not reflect detailed construction document grade estimates.

Soft costs have been included and customary cost contingencies added, as actual construction costs cannot reasonably be predicted at this early stage of the project and may vary based upon location, time of year, and status of economy.

CHALK HILL SCHOOL - MOTHBALLING & DEMOLITION STUDY

S/P+A PROJECT No. 10.231
FEASIBILITY PHASE
OPINION OF PROBABLE CONSTRUCTION COST

December 30th, 2010

LEGEND

OPTION 01 - MOTHBALL ENTIRE SCHOOL

OPTION 01-A - MOTHBALL UPPER FLOORS
MAINTAIN BASEMENT OCCUPANCY

OPTION 02 - DEMOLISH SCHOOL

OPTION 01: MOTHBALL ENTIRE SCHOOL

SECTION	WORK CATEGORIES	UNIT	UNIT COST	AREA	TOTAL $	ADD ALTERNATIVES $
	MOVING & CLEANING					
	REMOVE & SALVAGE EXISTING DESKS, CASEWORK, ETC.				by Owner	
	BROOM SWEEP & CLEAN SCHOOL				by Owner	
	HAZARDOUS MATERIAL REMOVAL & DISPOSAL					
	ASBESTOS CONTAINING MATERIAL (per 2008 TRC Estimate)					
	(See Appendix A for detailed cost breakdown)	LS			unlikely	
	PCB CONTAINING MATERIAL (no PCB tests performed to date	LS			unlikely	
	ARCHITECTURAL					
	REINFORCE DOOR ENTRY POINTS	LS			$1,500	
	SECURE LOWER WINDOWS	LS				$2,500
	MECHANICAL					
	SYSTEM ALTERATIONS	LS			$20,000 - $30,000	
	ELECTRICAL					
	DISCONNECT & INSTALL NEW SERVICE	LS			$10,000	
	REMOVE INDOOR GENERATOR & FUEL TANK	LS			$4,000	
	MODIFY FIRE ALARM SYSTEM	LS			$4,000	
	INSTALL SECURITY CAMERAS & SYSTEM	LS				$1000 - $8000
	REMOVE/REPLACE BATTERIES	LS			$4,000	
	TELE/DATA RELOCATIONS	LS			may not be required	
	ROOF WEATHER STATION RELOCATION	LS				$1,000
	OPERATIONAL EXPENSES (ANNUAL)					
	EXTERIOR WALK AROUND/INSPECTION (EACH MONTH)				by Owner	
	INTERIOR INSPECTION (EVERY 3 MONTHS)				by Owner	
	ROOF INSPECTION (TWICE/YEAR)				by Owner	
	SITE CLEANING, PRUNING & TRIMMING				by Owner	
	ROUTINE MAINTENANCE				by Owner	
	POWER	LS			$15,000	
	TELEPHONE	LS			$3,000	
	FIRE ALARM	LS			$2,000	
	MECHANICAL MAINTENANCE / SUPERVISION	LS			$10,000 - $15,000	
	FUEL COSTS	LS			$15,000 - $20,000	
		ANNUAL MAINTENANCE SUB-TOTAL			$55,000	
		TOTAL (INCL 1ST YEAR OPERATION COSTS)			$108,500	$11,500.00
		120% CONTINGENCY			$130,200	$13,800.00

NOTE: SEE PAGE 15.3 FOR ADDITIONAL SOFT COSTS

CHALK HILL SCHOOL - MOTHBALLING & DEMOLITION STUDY

S/P+A PROJECT No. 10.231
FEASIBILITY PHASE
OPINION OF PROBABLE CONSTRUCTION COST

December 30th, 2010

OPTION 01-A: MOTHBALL UPPER FLOORS, CONTINUE USE OF LOWER LEVE

SECTION	WORK CATEGORIES	UNIT	UNIT COST	AREA	TOTAL $	ADD ALTERNATIVES $
	MOVING & CLEANING					
	REMOVE & SALVAGE EXISTING DESKS, CASEWORK, ETC.				by Owner	
	BROOM SWEEP SCHOOL				by Owner	
	HAZARDOUS MATERIALS REMOVAL & DISPOSAL					
	ASBESTOS CONTAINING MATERIAL (per 2008 TRC Estimate)					
	(See Appendix A for detailed cost breakdown)	LS			unlikely	
	PCB CONTAINING MATERIAL (no PCB tests performed to date	LS			unlikely	
	ARCHITECTURAL					
	REINFORCE DOOR ENTRY POINTS	LS			$750	
	SECURE LOWER WINDOWS	LS				$2,600
	MECHANICAL					
	SYSTEM ALTERATIONS	LS			$20,000 - $30,000	
	ELECTRICAL					
	MODIFY EXISTING ELECTRICAL SERVICE	LS			$5,000	
	REMOVE INDOOR GENERATOR & FUEL TANK	LS			$4,000	
	MODIFY FIRE ALARM SYSTEM	LS			$4,000	
	INSTALL SECURITY CAMERAS & SYSTEM	LS				$1000 - $8000
	REMOVE/REPLACE BATTERIES	LS			$4,000	
	LOWER LEVEL EMERGENCY LIGHTING	LS			$3,000	
	TELE/DATA RELOCATIONS				may not be required	
	ROOF WEATHER STATION RELOCATION					$1,000
	OPERATIONAL EXPENSES (ANNUAL)					
	EXTERIOR WALK AROUND/INSPECTION (EACH MONTH)				by Owner	
	INTERIOR INSPECTION (EVERY 3 MONTHS)				by Owner	
	ROOF INSPECTION (TWICE/YEAR)				by Owner	
	SITE CLEANING, PRUNING & TRIMMING				by Owner	
	ROUTINE MAINTENANCE (DAMAGES)				by Owner	
	POWER	LS			$15,000	
	TELEPHONE	LS			$3,000	
	FIRE ALARM	LS			$2,000	
	MECHANICAL MAINTENANCE / SUPERVISION	LS			$10,000 - $15,000	
	FUEL COSTS	LS			$15,000 - $20,000	
		ANNUAL MAINTENANCE SUB-TOTAL			$55,000	
		TOTAL			$105,750	$11,500.00
		+30% CONSTRUCTION CONTINGENCY			$126,900	$13,800.00

NOTE: SEE PAGE 15.3 FOR ADDITIONAL SOFT COSTS

CHALK HILL SCHOOL - MOTHBALLING & DEMOLITION STUDY

S/P+A PROJECT No. 10.231
FEASIBILITY PHASE
OPINION OF PROBABLE CONSTRUCTION COST

December 30th, 2010

OPTION 02 - DEMOLISH SCHOOL

SECTION	WORK CATEGORIES	UNIT	UNIT COST	AREA	TOTAL $	ADD ALTERNATIVES
	MOVING & CLEANING					
	REMOVE & SALVAGE EXISTING DESKS, CASEWORK, ETC.				by Owner	
	HAZARDOUS MATERIAL REMOVAL & DISPOSAL					
	ASBESTOS CONTAINING MATERIAL (per 2008 TRC Estimate)					
	(See Appendix A for detailed cost breakdown)	LS			$652,660	
	PCB CONTAINING MATERIAL (no PCB tests performed to date	LS			unknown	
	STRUCTURAL DEMOLITION					
	BUILDING DEMOLITION	CF	$0.50	1,256,000	$628,000	
	SITE & MISCELLANEOUS WORK					
	NEW ELECTRICAL SERVICE FOR SITE LIGHTING	LS			$20,000	
	CRUSH ALL HOLLOW SEPTIC STRUCTURES	LS			$12,500	
	NEW WATER LINE FOR FIELD IRRIGATION					
	(Includes excavation, fill & repairs to paving)	LS			$25,000	
	NEW CONDUIT, CABLE & FIBER TO JOCKEY HOLLOW	LS			$25,000	
	GRADE AND FENCE OFF SITE	LS			$4,500	
	ROOF WEATHER STATION RELOCATION	LS			$1,000	
	RELOCATE IT DEPTARTMENT & EQUIPMENT				by Owner	
		TOTAL			$1,368,660	
		+20% CONSTRUCTION CONTINGENCY			$1,642,392	

NOTE: SEE BELOW FOR ADDITIONAL SOFT COSTS

TOTAL CONSTRUCTION COSTS

		Add Alternative $
OPTION 01 - FULL MOTHBALL	$130,200	$13,800
OPTION 01-A - PARTIAL MOTHBALL	$126,900	$13,800
OPTION 02 - DEMOLITION	$1,642,392	$0

SOFT COSTS

CHALK HILL SCHOOL - MOTHBALL & DEMO
FEASIBILITY PHASE
OPINION OF PROBABLE CONSTRUCTION COST

	OPTION 01	OPTION 01-A	OPTION 02
Structure & Site Development Cost	$130,200	$126,900	$1,642,392
State Education Permits ($0.26 per $1000.00)	$334	$333	$427
Hazardous Material Design	Unlikely	Unlikely	$15,000
Performance Bonds	$1,000	$1,000	$24,638
Builder's Risk Insurance	$1,302	$1,269	$16,424
Printing Costs (Incl. Bidding)	$4,000	$4,000	$4,000
A&E fees (demolition cost may vary depending on extent extent of drawings required by Town)	$5,000	$5,000	$30,000
Contingency (Owner) 10%	$13,020	$12,690	$164,239
Total Project Cost Estimate	$150,556	$146,892	$1,897,118

GENERAL NOTES:
CONSTRUCTION COSTS ARE BASED ON 2009/2010 CONSTRUCTION COSTS.
ESCALATE 5% PER YEAR THEREAFTER.
COST ESTIMATES BASED ON HISTORICAL DATA FOR COMPARABLE PROJECTS.

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Section VI – Appendix A

TRC Environmental Report dated March 2008

REPORT

INVESTIGATIVE SURVEY FOR ASBESTOS CONTAINING MATERIALS, LEAD BASED PAINT & OTHER HAZARDOUS MATERIALS CHALK HILL MIDDLE SCHOOL 375 FAN HILL ROAD MONROE, CONNECTICUT

Prepared for

Silver/Petrucelli and Associates, Inc.
Hamden, Connecticut

Prepared by

TRC Environmental Corporation
Bridgeport, Connecticut

March 2008

41.1

INVESTIGATIVE SURVEY FOR ASBESTOS CONTAINING MATERIALS, LEAD BASED PAINT & OTHER HAZARDOUS MATERIALS CHALK HILL MIDDLE SCHOOL 375 FAN HILL ROAD MONROE, CONNECTICUT

Prepared for
Silver/Petrucelli and Associates, Inc
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Prepared by
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Bridgeport, Connecticut

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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) of Bridgeport, Connecticut was retained by Silver/Petrucelli and Associates, Inc. to perform a survey for asbestos, lead, and other hazardous materials at Chalk Hill Middle School, located at 375 Fan Hill Road in Monroe, Connecticut. The site was inspected by TRC for the presence of lead based paint, asbestos containing materials, and other hazardous materials from February 2008- March 2008. This report serves to provide Silver/Petrucelli and Associates, Inc. with detailed information concerning the location, condition and overall assessment of the lead, asbestos and other hazards identified at the site.

The lead survey was conducted by David T. Kohl, a licensed Connecticut lead inspector (License# 002112). Lead based paint sample measurements were conducted on-site utilizing a Niton XL-309 X-Ray Fluorescence (XRF) L and K-shell spectrum analyzer. The Niton XL is a portable unit capable of producing fast, accurate, non-destructive measurements of lead concentrations in dry painted surfaces. Lead (Pb) measurements are recorded by the analyzer in milligrams per square centimeter (mg/cm^2) with a detection limit of 0.1 mg/cm^2. Further, either screening calculations of total lead mass loading or composite building material sampling and Toxicity Characteristic Leaching Procedure (TCLP) analysis is conducted to characterize the building debris waste stream for hazardous/non-hazardous waste disposal requirements due to lead in paint. Refer to **Appendix A** for a copy of the inspector license and laboratory certifications. Refer to **Appendix B** for XRF Results.

The asbestos inspection was conducted by David T. Kohl, a licensed Connecticut asbestos inspector (License # 000637) in accordance with current United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) protocol (40 CFR part 763 Subpart E). Bulk samples of suspect materials were collected and analyzed via Polarized Light Microscopy (PLM) as well as Transmission Electron Microscopy (TEM) methods. Refer to **Appendix A** for a copy of the inspector license and laboratory certifications. Refer to **Appendix D and E** for asbestos sample chain-of-custody records and laboratory analysis results.

The survey for the identification of other hazardous materials (e.g. PCB containing fluorescent light ballasts and transformers, mercury (Hg) containing fluorescent lamps and thermostat ampoules, oil storage tanks, "household hazardous wastes", etc.) was conducted by Eric J. Hastedt, a TRC representative trained and experienced in conducting Phase I Environmental Site Assessment (ESA) site walkover surveys for the identification of building and property environmental hazards and liabilities. The survey was conducted as a visual site walkover and inventory of suspect materials containing hazardous or regulated materials/wastes.

2.0 SITE DESCRIPTION

Chalk Hill Middle School is located at 375 Fan Hill Road, Monroe, Connecticut. The structure consists of an original two (2) story building, with basement, constructed circa 1969. Windows are generally made from metal. Doors are generally made from metal and wood. Classrooms and offices consist of sheetrock, plaster, suspended ceiling tiles and fixed ceiling tiles. Main exterior walls are masonry and floors are cement. The main structure consists of a built-up flat roof with installed roof drains. Refer to **Appendix F** for site sketches of the building.

3.0 SURVEY

3.1 Lead Based Paint Survey

On February 21, 2008, Mr. David T. Kohl, a representative of TRC, performed a lead-based paint screening of the subject building. The purpose of the investigation was to determine the applicability of the OSHA Lead in Construction Final Rule, 29 CFR 1926.62, EPA Hazardous Waste Disposal Regulations, 40 CFR Parts 260 through 271, and the CT Hazardous Waste Management Regulations, 22a-209-1, 22a-209-8(c), 22a-449(c)-11, and 22a-449(c)-100 through 110 as relates to building renovation/demolition activities.

On-site lead in paint measurements were conducted utilizing a Niton XL-309 L and K-shell XRF spectrum analyzer. The Niton XL is a portable unit that is designed to make fast, accurate non-destructive measurements of lead concentrations in dry painted surfaces. Lead (Pb) measurements are recorded in milligrams of lead per square centimeter (mg/cm^2) with a minimum detection limit of 0.1 mg/cm^2. XRF measurements were conducted in accordance with protocols outlined in the manufacturer's specifications for lead inspecting in construction settings dated June 1998. Representative measurements of painted building components were conducted throughout the subject building. Measurement readings were then classified as either positive ($\geq$ 0.1 mg/cm^2) or below detectable levels (BDL) (<0.1 mg/cm^2).

A total of one hundred sixty two (162) measurement readings were taken utilizing the Niton XL of which six (6) were calibration check readings. The remaining one hundred fifty six (156) measurements comprised the survey. The results of the lead survey indicated that ninety one (91) of the building surfaces tested contained lead while the remaining sixty five (65) revealed no detectable levels of lead (i.e. less than 100 micrograms per square centimeter). Four (4) of the lead containing building surfaces tested, contained a toxic level of lead ($\geq$1.0 mg/cm^2). All of the surfaces measured for lead content were also evaluated for paint coating condition. Each component was identified as either intact or defective. Refer to **Appendix B** for the Lead Based Paint XRF Measurement Summary Table.

The State of Connecticut Department of Environmental Protection requires building construction waste, to be generated during demolition/renovation, be characterized for hazardous/non-hazardous disposal requirements, for each type of building material (paint and substrate) which exceeds the toxic level of lead (1.0 mg/ cm^2). A representative TCLP sample, of the toxic level lead containing material may be collected and analyzed for lead waste toxicity, or the waste may be characterized through the CTDEP knowledge of process "screen and calculate" method. The toxic level lead containing ceramic tile wall and baseboard was characterized for lead waste using the "screen and calculate method. Refer to **Appendix C** for the screen and calculate method results. The toxic level lead containing ceramic wall tile and baseboard was characterized as non-hazardous for lead waste. All other building material type XRF readings were below 1.0 mg/cm^2. As such, no additional TCLP representative sample was collected. All other building material types were identified as containing less than 1.0 mg/cm^2 lead. These materials may be disposed of a non-hazardous for lead waste.

3.2 Asbestos Survey

The asbestos inspection of Chalk Hill Middle School, located at 375 Fan Hill Road, Monroe, Connecticut, was conducted from February – march, 2008, by David T. Kohl of TRC. The purpose of the asbestos survey was to determine the applicability of the Occupational Safety and Health Administration (OSHA) Asbestos Exposure in Construction Standard (29 CFR 1926.1101) as well as the U.S. Environmental Protection Agency (USEPA) Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) Regulation (40 CFR Part 61 Subpart M) and the State of Connecticut Department of Public Health (CTDPH) Standards for Asbestos Abatement, Licensure and Training (19a-332a-1 through 16, 20-440-1 through 9 & 20-441), for materials to be impacted by planned renovation/demolition. Destructive techniques were utilized by TRC to gain access into areas of the subject building such as wall chases and fixed ceilings, as the building is scheduled for renovation/demolition. During the inspection, TRC identified both friable and non-friable suspect asbestos-containing materials (ACM). The following

suspect materials were identified and sampled: exterior soffit seam caulk, exterior pipe opening sealant, louver frame caulk, exterior door frame caulk, exterior window frame caulk, exterior window glazing, expansion joint caulk, Roof air handling unit (AHU) support truss flashing cement, roof AHU vibration insulation cloth, roof expansion joint flashing cement, roof skylight base flashing cement, roof skylight window glazing, roof vent duct flashing cement, roof electrical box flashing cement chimney flashing patch, perimeter roof flashing cement, built-up roofing material, sprinkler pipe wall sealant, ceramic floor tile grout, ceramic wall tile adhesive, ceramic tile wall grout, ceramic baseboard grout, joint compound, interior window frame caulk, cement desktop, cement counter top, cove baseboard, cove baseboard adhesive, radiator backing board, sink under coating, stair tread, stair tread adhesive, fixed ceiling tile glue daub, gymnasium wood flooring adhesive. TRC collected sixty (60) samples of the above-mentioned materials in accordance with USEPA AHERA protocol for Polarized Light Microscopy (PLM) analysis at TRC's Windsor, Connecticut laboratory. In addition, twenty-five (25) of the samples were sent to ProScience Analytical in Woburn, Massachusetts and submitted for Transmission Electron Microscopy (TEM) confirmation analysis in accordance with EPA protocol governing non-friable organically bound (NOB) materials. Laboratory analysis revealed three (3) of the material types sampled were found to be ACM (> 1% asbestos). TRC also reviewed the current asbestos management plan (AMP), provided by Monroe Public Schools, for Chalk Hill Middle School. Insulation paper/foil backing behind radiators, pipe fitting insulation, spray applied fireproofing, transite cement panels, boiler rib insulation, tank/cylinder insulation, flue cement, duct breaching cement, textured paint, and cove base adhesive residue were tested and found to contain asbestos. Blackboard and bulletin board adhesive and boiler internals (under gaskets, gasketing, roping) were assumed to be ACM, as noted in the AMP. Newer spray-applied fireproofing, plaster and skim coat, sheetrock and joint compound, ceiling tiles and office wall glue were sampled previously and determined not to contain asbestos, as noted in the AMP. Refer to **Table 3-1** for a summary of the bulk samples collected, location, and asbestos content. Refer to **Table 3-2** for a summary of the Identified ACM and their general locations and quantities. Refer to **Table 3-3** for a summary of the Confirmed Non-ACM. Refer to **Appendix D** for chain of custody records which document the transfer of bulk asbestos samples from the

subject property to the respective laboratories. The PLM and TEM laboratory analysis results are included in the report as **Appendix E.**

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
1	Exterior Rear Soffit	Grey Seam Caulk	ND<1%
2	Exterior Rear Soffit	Grey Seam Caulk	ND<1%
3	Exterior	Orange Vent Pipe Opening Sealant	ND<1%
4	Exterior Louver	Black/Grey Frame Caulk	ND<1%
5	Exterior Louver	Black/Grey Frame Caulk	ND<1%
6	Exterior – Rear	Grey Door Frame Caulk I	ND<1%
7	Exterior – Rear	Grey Door Frame Caulk I	ND<1%
8	Exterior – Rear	Grey Boiler Room Door Frame Caulk II	ND<1%
9	Exterior – Rear	Grey Boiler Room Door Frame Caulk II	ND<1%
10	Exterior	Grey Window Frame Caulk I	ND<1%
11	Exterior	Grey Window Frame Caulk I	ND<1%
12	Exterior	White Expansion Joint Caulk	ND<1%
13	Exterior	White Expansion Joint Caulk	ND<1%
14	Roof Air Handling Unit (AHU)	Black/Grey Support Truss Caulking	ND<1%
15	Roof Air Handling Unit (AHU)	Black/Grey Support Truss Caulking	ND<1%
16	Roof Air Handling Unit (AHU)	Black Support Truss Flashing Cement	ND<1%
17	Roof Air Handling Unit (AHU)	Black Support Truss Flashing Cement	ND<1%
18	Roof Air Handling Unit (AHU)	White Vibration Insulation Cloth	ND<1%
19	Roof Air Handling Unit (AHU)	Black Vibration Insulation Cloth	ND<1%
20	Roof	Black Expansion Joint Flashing Cement	ND<1%
21	Roof	Black Expansion Joint Flashing Cement	ND<1%
22	Roof	Black Skylight Base Flashing Cement	ND<1%
23	Roof	Black Skylight Base Flashing Cement	ND<1%
24	Roof	Black Skylight Window Glazing	ND<1%
25	Roof	Black Skylight Window Glazing	ND<1%
26	Roof	Grey Electrical Box Flashing Cement	ND<1%

TABLE 3-1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

Sample No.	Location	Material	% and Type Asbestos
27	Roof	Grey Electrical Box Flashing Cement	ND<1%
28	Roof	Black Vent Pipe Flashing Cement	ND<1%
29	Roof	Black Chimney Flashing Patch	ND<1%
30	Second Floor Electrical Closet	Red Sprinkler Pipe Sealant	ND<1%
31	Second Floor Electrical Closet	Red Sprinkler Pipe Sealant	ND<1%
32	First Floor Men's Bathroom	Grey Ceramic Tile Floor Grout	ND<1%
33	First Floor Men's Bathroom	Yellow Ceramic Wall Tile Adhesive	ND<1%
34	First Floor Men's Bathroom	Yellow Ceramic Wall Tile Adhesive	ND<1%
35	First Floor Men's Bathroom	Joint Compound	ND<1%
36	First Floor Men's Bathroom	White Ceramic Tile Floor Grout	ND<1%
37	Room 207	Grey Window Frame Caulk	ND<1%
38	Room 102	Grey Window Frame Caulk	ND<1%
39	Exterior Cafeteria	Grey window Glazing	ND<1%
40	Room 105	Black Desk Top	ND<1%
41	Room 106	Black Counter Top	3%
42	First Floor Corridor	Dark Brown Baseboard Adhesive	ND<1%
43	Room 209	Radiator Backing Board	ND<1%
44	First Floor Faculty Room	Radiator Backing Board	ND<1%
45	Art Room	Black Sink Undercoating	3%
46	--	--	NA/PS
47A	Stair #5	Black Stair Tread Adhesive	ND<1%
47B	Stair #5	Grey Stair Tread	ND<1%
48	Gymnasium	Black Baseboard	ND<1%
49	Basement	Black Baseboard	ND<1%
50	Cafeteria	Brown Ceiling Tile Glue Daub	3%
51	--	--	NA/PS
52	Gymnasium	Tan Wood Floor Adhesive	ND<1%
53	Gymnasium	Tan Wood Floor Adhesive	ND<1%
54	Second Floor Men's Room	Light Grey Ceramic Wall Tile Grout	ND<1%
55	Second Floor Men's Room	Light Grey Ceramic Wall Tile Grout	ND<1%
56	Roof	Black Perimeter Flashing Cement	ND<1%
57	Roof	Built-up Roofing Top Layer	ND<1%
58	Roof	Built-up Roofing Middle Insulation Layer	ND<1%

TABLE 3-1 BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS CHALK HILL MIDDLE SCHOOL MONROE, CONNECTICUT			
Sample No.	Location	Material	% and Type Asbestos
59	Roof	Built-up Roofing Bottom Felt Paper Layer	ND<1%

ND<1% Non-Detected, less than 1%
* Confirmed by TEM analysis
1 Quantified via PLM Point Counting Technique
+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive under AHERA protocol

TABLE 3-2
IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%)
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

Material	Sampled-Assumed	General Location	NESHAP Category	AHERA Category	Quantity
Black sink undercoating	Sampled 3/08	Art Room 113, Room 112, Library Reception Closets, Office	Category II Non-friable	Miscellaneous	40 Square Feet
Ceiling tile glue daub	Sampled 2/08	Cafeteria, Library, Auditorium	Category II Non-friable	Miscellaneous	10,000 Square Feet
Laboratory counter top	Sampled 3/08	Science Rooms	Category II Non-friable	Miscellaneous	650 Square Feet
Pipe Fitting Insulation	Sampled 1987 Previous AMP	Basement, First and Second Floor Corridors, Boiler Room, Kitchen, Gym Practice Room, Closets and Store Rooms, Locker Room, Office Closets, Classroom Closets, Toilet Rooms, Generator Room, Photo Lab, Incinerator Room	Friable	TSI	4,000 Square Feet
Spray Applied Fireproofing	Sampled 1987 Previous AMP	Throughout First Floor Corridor (with exception of front lobby area) and behind lockers, First Floor Classrooms, First Floor Lavatories, First Floor Custodial and Storage Closets	Friable	TSI	40,000 Square Feet
Transite Cement Panels	Sampled 1987 Previous AMP	Science Rooms 107 and 108	Category II Non-friable	Miscellaneous	365 Square Feet

TABLE 3.2
IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%)
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

Material	Sampled-Assumed	General Location	NESHAP Category	AHERA Category	Quantity
Surface Textured Paint	Sampled 1987 Previous AMP	First Floor Rear Corridor	Category II Non-friable	Miscellaneous	1,000 Square Feet
Paper/Foil Backing Behind Radiators	Sampled 1987 Previous AMP	First Floor Classrooms, Main Office and adjoining offices, Nurse's Office, Conference Room, Copy Room	Category II Non-friable	Miscellaneous	2,500 Square Feet
Cove Base Adhesive Residue mixed with new adhesive	Assumed	First Floor Classrooms, Second Floor Classrooms, Stairwells, Library Closets, Offices, Exercise Room, Basement Corridor.	Category II Non-friable	Miscellaneous	8,000 Linear Feet
Blackboard/Bulletin Board Adhesive	Assumed	First Floor Classrooms, Second Floor Classrooms, Corridors, Cafeteria, Offices, First Floor Lobby	Category II Non-friable	Miscellaneous	1,500 Square Feet
Tank/cylinder Insulation	Sampled 1987 Previous AMP	Boiler Room	Friable	TSI	300 Square Feet
Boiler Rib Insulation	Sampled 1987 Previous AMP	Boiler Room	Friable	TSI	275 Square Feet
Duct Breaching and Flue Cement	Sampled 1987 Previous AMP	Boiler Room	Category II Non-friable	Miscellaneous	700 Square Feet

TABLE 3-2 IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%) CHALK HILL MIDDLE SCHOOL MONROE, CONNECTICUT					
Vibration Insulation Cloth	Sampled 1987 Previous AMP	Boiler Room, Generator Room	Category II Non-friable	Miscellaneous	20 Square Feet
Boiler Internal Insulation	Assumed	Boiler Room	Friable	TSI	Not quantified

AHERA Categories = thermal system insulation (TSI), surfacing material or miscellaneous
NESHAP Categories = friable, category I non-friable or category II non-friable
Friable = crumbled, pulverized or reduced to powder by hand pressure when dry
Category I Non-friable = packings, gaskets, resilient floor covering and asphalt roofing
Category II Non-friable = all non-friable that is not Category I

TABLE 3-3
CONFIRMED NON-ASBESTOS CONTAINING MATERIALS
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

General Location	Material
Exterior Soffit	Grey Seam Caulk
Exterior	Orange Vent Pipe Opening Sealant
Exterior Louver	Black/Grey Frame Caulk
Exterior	Grey Door Frame Caulk I
Exterior	Grey Boiler Room Door Frame Caulk II
Exterior	Grey Window Frame Caulk I
Exterior	Grey Window Glazing
Exterior	White Expansion Joint Caulk
Roof – Air Handling Unit (AHU)	Black/Grey Support Truss Caulking
Roof - AHU	Black Support Truss Flashing Cement
Roof - AHU	White Vibration Insulation Cloth
Roof - AHU	Black Vibration Insulation Cloth
Roof	Black Expansion Joint Flashing Cement
Roof	Black Skylight Base Flashing Cement
Roof	Black Skylight Window Glazing
Roof	Grey Electrical Box Flashing Cement
Roof	Black Vent Pipe Flashing Cement
Roof	Black Chimney Flashing Patch
Roof	Black Perimeter Flashing Cement
Roof	Built-up Roofing Top Layer
Roof	Built-up Roofing Middle Insulation Layer
Roof	Built-up Roofing Bottom Felt Paper Layer
Throughout Building	Red Sprinkler Pipe Sealant
Bathrooms	Grey Ceramic Tile Floor Grout
Bathrooms	Yellow Ceramic Wall Tile Adhesive
Bathrooms	White Ceramic Tile Floor Grout
Bathrooms	Grey Ceramic Tile Wall Grout
Throughout Building	Interior Grey Window Frame Caulk
Throughout Building	Black Desk Top
Throughout	Black Counter Top
Throughout	Newer Dark Brown Baseboard Adhesive
Stairwells	Black Stair Tread Adhesive
Stairwells	Grey Stair Tread
Throughout Building	Black Baseboard
Throughout Building	Joint Compound

TABLE 3-3
CONFIRMED NON-ASBESTOS CONTAINING MATERIALS
CHALK HILL MIDDLE SCHOOL
MONROE, CONNECTICUT

General Location	Material
Gymnasium	Wood Flooring Adhesive
Throughout Building	Sheetrock/white joint compound
Throughout Building	Plaster and skim coat
First Floor lobby and hallway including office suites 101-104: before fire doors leading into halls	Newer spray-applied fireproofing
Throughout Building	Ceiling tiles

3.3 Other Hazardous Materials Survey

On February 19, TRC representative Eric J. Hastedt conducted a visual site walkover of the subject site to identify and inventory the presence of other regulated and/or hazardous materials/wastes which may be present. The purpose of this inventory was to determine the potential applicability of regulations promulgated under the OSHA, TSCA, RCRA and CERCLA Acts, which may be pertinent to any hazardous materials/wastes identified which are likely to be impacted during the planned renovation/demolition activities, such as the USEPA TSCA PCB Regulations (40 CFR Part 761), the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260 through 271) and the CTDEP special waste regulations (22c-209-8).

During the site inventory, the following items were identified which should receive special attention if impacted by the renovation/demolition activity. **Table 3-4** lists those items and their location.

TABLE 6-4
SUMMARY INVENTORY OF OTHER HAZARDOUS OR CONTROLLED MATERIALS
CHALKHILL MIDDLE SCHOOL
MONROE, CONNECTICUT

Quantity	Material/Item	General Location	Potential Hazard
One Thousand Eight Hundred and Twenty Six (1,826)	Fluorescent light bulbs	Throughout interior and exterior	UW-mercury lamps
Nine Hundred and Twenty Six (926)	Fluorescent light ballasts	Throughout interior and exterior	CRW-PCB ballasts
Twenty (20)	Thermostats	Throughout Classrooms, Offices and Basement Boiler Room	UW-mercury ampoule
Fifty Two (52)	Motion sensors	Throughout Classrooms and Halls	UW – used electronics
Thirty Two (32)	Emergency lights	Lavatories, Hallways, Stairwells	UW-lead acid battery
Forty Six (46)	Exit signs	Hallways	UW – used electronics
Thirty Four (34)	Fire alarms	Hallways	UW – used electronics
Twenty (20)	Smoke detectors	Throughout interior	Low-level radioactive source
Eighteen (18)	Fire Extinguishers	Hallways and Classrooms	CRW- waste chemical solid
Eight (8)	Wall Mounted Air Conditioners	Offices and Classrooms	CRW-PCB capacitor CFCs/Freon
One (1)	Platform Mounted Air Conditioning Unit	Exterior Side B	CRW-PCB capacitor CFCs/Freon

CRW- Connecticut Regulated Waste – PCBs (CR01), Oils (CR02/CR03), waste chemical liquids - antifreeze, latex & solvent paints, sludges, etc. (CR04), waste chemical solids (CR05)
UW- Universal Waste (batteries, thermostat ampoules, fluorescent lamps, used electronics)
IH- Inhalation hazard (silicas, etc.)
I- Ignitable - may contain ingredients which are ignitable (materials which have a flashpoint <140°F) (D001)
C- Corrosive - may contain ingredients which are alkaline or acidic (materials with a PH<2 or >12.5) (D002)
T- Toxic - may contain ingredients which are harmful if swallowed or which release vapors that can cause irritation

4.0 TRC RECOMMENDATIONS

4.1 Assessment of LBP and Control Responses

Representative XRF measurements identified low concentrations of lead-based paint (LBP) on most components in the subject building. "Abatement" of lead based paint is not required in buildings other than residential dwellings/day care facilities with children under the age of six. However, due to the presence of LBP on interior and exterior surfaces of the on-site building, any renovation/demolition activity which would impact the LBP must be conducted in compliance with the OSHA Lead in Construction Standard 29 CFR 1926.62. Until an employee exposure assessment is performed which documents that the employee is not exposed above the PEL of 50 micrograms of lead per cubic meter of air (ug/m^3) when performing tasks where lead is present, protective measures shall be implemented including, but not limited to:

- Personal protective clothing
- Change areas
- Good housekeeping
- Hand washing facilities
- Medical monitoring/physical exam
- Blood sampling and analysis for lead and zinc protoporphyrin levels
- Training, and
- Respiratory protection

Respiratory protection shall be at a minimum in accordance with the following when performing tasks where lead is present until an exposure assessment documents exposure under the PEL:

- Half mask APR with HEPA filters when performing manual demolition of structures, manual scraping, heat gun application, and power tool cleaning with dust collection systems.

- Full face HEPA filter APR when performing rivet busting, power tool cleaning without dust collection systems, cleanup using dry expendable abrasives, abrasive blasting enclosure movement and removal, using lead containing motor, and lead burning.

- Supplied air respirator when performing abrasive blasting, welding, cutting, and torch burning.

All other provisions of the OSHA Lead in Construction Standard including the provision to maintain surfaces as free as practicable from accumulations of lead dust and debris, shall be complied with when performing construction/renovation/demolition tasks where lead is present as well.

4.2 Assessment of Leaded Building Material Hazardous Waste Disposal

Ceramic wall tile and baseboard XRF readings were greater than 1.0 mg/cm^2. All other building material/component XRF readings were below 1.0 mg/cm^2. The toxic level lead containing ceramic wall tile and baseboard were characterized as non-hazardous for lead waste utilizing the CTDEP knowledge of process "screen and calculate" method. Renovation/demolition debris to be offered for disposal, from Chalk Hill Middle School, Monroe, Connecticut, is characterized as non-hazardous construction and demolition (C+D) bulky waste in accordance with the CTDEP/USEPA clarification memo of July 22, 1997.

Metal substrates should be segregated during renovation/demolition and recycled rather than disposed of, in an effort to minimize the waste generated in accordance with the RCRA standards. Further, recycled scrap metals are exempt from of the USEPA RCRA/CTDEP disposal requirements and when recycled do not require characterization.

4.3 Assessment of ACM and Control Responses

The TRC survey of Chalk Hill Middle School, 375 Fan Hill Road, Monroe, Connecticut, established that asbestos containing material/presumed asbestos containing material (ACM/PACM) was present in the form of black sink undercoating, ceiling tile glue daubs, laboratory counter tops. Pipe fitting insulation, spray-applied fireproofing, transite cement panels, surface texture paint, paper/foil backing behind radiators, tank/cylinder insulation, boiler rib insulation, duct breaching and flue cement, vibration insulation cloth and assumed residual cove base adhesive, blackboard/bulletin board adhesive and boiler internal insulation were confirmed present and identified in the current Asbestos Management Plan (AMP) for Chalk Hill Middle School. Each identified ACM was categorized in accordance with USEPA NESHAP and AHERA regulations. Categorization of the materials is made to help facilitate proper response actions needed to be taken with respect to the ACM prior to any demolition/renovation activities and to provide a safe environment for building occupants.

4.3.1 Recommendations Regarding Demolition/Renovation Activities

The current NESHAP regulations require that regulated asbestos-containing material (RACM) be removed from a facility being renovated or demolished prior to any activity that would break-up, dislodge, or similarly disturb the material or preclude the access to the material for subsequent removal. The NESHAP regulations define an RACM as *"(a) friable asbestos-material, (b) Category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (c) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by forces expected to act on the material in the course of demolition or renovation operations..."* In addition, the State of Connecticut has been delegated by the USEPA to enforce the federal Asbestos NESHAP standards through the Connecticut Department of Public Health (CTDPH) Standards for Asbestos Abatement (19a-332a-1 through 16), and the CTDPH does not

distinguish between friable and non-friable ACM. As such, all ACM should be considered RACM, and would therefore require removal prior to any renovation/demolition activity that would cause disturbance.

Using these definitions and the data collected from this survey, TRC recommends that proper asbestos abatement plans and specifications be created by a licensed Connecticut Asbestos Project Designer prior to any future demolition/renovation plans that may occur at the subject building.

It is the responsibility of the building owner or the operator of the demolition/renovation activity to comply with all applicable requirements of the federal NESHAP regulations, AHERA regulations as well as the OSHA and state regulations, prior to and during any renovation/demolition activities.

4.3.2 Discussion and Recommendations Regarding ACM Removal

The removal of ACM from within buildings is strictly regulated by the CTDPH as well as the USEPA and OSHA. The regulations for asbestos removal within interiors of buildings are quite stringent, requiring a containment structure consisting of two (2) layers of polyethylene sheeting on floors and walls as well as other specific engineering controls (refer to the State of Connecticut Standards for Asbestos Abatement Regulations, 19a-332a Parts 1 through 16 inclusive and the OSHA Lead in Construction Regulations 29 CFR 1926.1101).

Removal practices involving ACM found on the exterior of building structures are regulated by USEPA and OSHA regulations. The USEPA has provided relief for certain non-friable ACM (Category I) in that the material need not be removed prior to demolition or renovation if the demolition/renovation activity does not make it friable. Non-friable roofing materials and floor covering products fall into this category. However, the disposal costs might be affected if the

demolished material cannot be separated and, therefore, be disposed of as ACM, as required by the State of Connecticut DEP and USEPA NESHAP. Further, removal/disturbance of ACM from either interiors or exteriors must be undertaken by CTDPH licensed contractors following the OSHA regulations to ensure proper worker protection during such activities.

In consideration of the varying demolition and renovation practices utilized by contractors as well as the variations which exist between federal and state regulating agencies, TRC recommends that all identified ACM be considered as RACM and be removed and disposed of accordingly prior to the activities at the facility that would impact the materials. This recommendation will protect against the liability of any improper removal or disposal of the identified ACM, provide the safest working environment for general renovation personnel, as well as building occupants, and achieve maximum regulatory compliance.

4.4 Assessment of Other Regulated Materials/Wastes

TRC's visual inventory of other hazardous wastes/materials identified several regulated material/waste items. These materials shall require proper handling, packing, disposal and recordkeeping documentation prior to demolition of the building. TRC recommends recycling as many of the materials as possible (e.g. fluorescent lamps and ballasts, mercury thermostat ampoules, etc.) to practice waste minimization techniques in accordance with RCRA standards and reduce the costs and future liability associated with disposal.

5.0 COST ESTIMATE FOR ABATEMENT AND DEMOLITION

TRC recommends that all ACM and hazardous/regulated items located within the building located at Chalk Hill Middle School, 375 Fan Hill Road, Monroe, Connecticut that may potentially be impacted during renovations/demolitions be properly removed by an appropriately licensed abatement/remediation contractor prior to such activity.

TRC estimates the cost for the proper removal and disposal of all the ACM identified during this survey, to be approximately **$637,159.13**. The cost for handling and disposal of the identified hazardous/regulated materials, identified during this survey, is approximately **$15,500.00**. The total estimated cost for removal and disposal of ACM and identified hazardous/regulated material is approximately **$652,659.13**. This estimate includes a 10% contingency for construction administration. This does not mandate the removal of these materials but rather attempts to provide a framework of estimated costs from which to work. Actual removal need only take place on those materials that will be impacted by renovation/demolition activity or are in a damaged condition and presenting a hazardous condition to building occupants. This cost is an estimate and final costs could be lower with competitive bids. Selection of unit costs were based on standard estimating guides, discussions with local contractors who are familiar with abatement procedures and specific requirements, and the USPS standard specification unit price schedules. **Appendix G** contains detailed cost estimates.

Further, TRC would recommend including a 10-15% premium in the construction/renovation cost budget for all activities that the General Contractor will undertake that involve impacting any lead paint (high or low concentrations), providing employee exposure protection, and recycling metal components.

TRC ENVIRONMENTAL CORPORATION
ASBESTOS ABATEMENT AND IDENTIFIED HAZARDOUS MATERIAL REMOVAL COST ESTIMATE

SITE Chalk Hill Middle School, Monroe, CT
TRC # 52242-0000-00001
Firm

ITEM	ITEM DESCRIPTION	QTY	UNIT	COST	MULT	TOTAL
	ASBESTOS REMOVAL					
AR-001	HEPA VACUUMING		SF	$ 0.50	1	$ -
AR-002	PIPING REMOVAL <6"		LF	$ 5.00	1	$ -
AR-003	PIPING REMOVAL 6"-12"		LF	$ 7.50	1	$ -
AR-004	REMOVE DUCT BREACHING/FLUE CEMENT	700	SF	$ 8.00	1	$ 5,600.00
AR-005	MUDDED PIPE FITTINGS	4,000	SF	$ 25.00	1	$ 100,000.00
AR-006	GLOVEBAG 25-50		EA	$ 60.00	1	$ -
AR-007	GLOVEBAG OVER 50		EA	$ 50.00	1	$ -
AR-008	REMOVE EQUIPMENT INSULATION	575	SF	$ 10.00	1	$ 5,750.00
AR-009	REMOVE BALCKBOARD/BULLETIN BD. ADHESIVE	1500	SF	$ 10.00	1	$ 15,000.00
AR-010	REMOVE HVAC VIB. INSUL. CLOTH	20	SF	$ 7.50	1	$ 150.00
AR-011	REMOVE CEILING TILE GLUE DAUBS	10,000	SF	$ 8.00	1	$ 80,000.00
AR-012	REMOVE SURFACE TEXTURE PAINT	1,000	SF	$ 10.00	1	$ 10,000.00
AR-013	SPRAY ON FIREPROOFING	40,000	SF	$ 6.00	1	$ 240,000.00
AR-020	TRANSITE PANELS	365	SF	$ 2.50	1	$ 912.50
AR-021	LABORATORY COUNTER TOPS	650	SF	$ 7.00	1	$ 4,550.00
AR-022	REMOVE RADIATOR PAPER BACKING	2500	SF	$ 10.00	1	$ 25,000.00
AR-023	REMOVE SINK UNDERCOATING	40	SF	$ 2.50	1	$ 100.00
AR-024	WALL BASE MASTIC	8,000	LF	$ 5.00	1	$ 40,000.00
	MISCELLANEOUS ITEMS					
MI-001	MOBILIZATION (1 PER WORK AREA)	4	EA	$ 250.00	1	$ 1,000.00
MI-002	WORKER DECON (1 PER WORK AREA)	4	EA	$ 250.00	1	$ 1,000.00
MI-003	TEMP ELECTRICAL CONNECTION (LICENSED ELECTRICIAN)		EA	$ 100.00	1.1	$ 110.00
MI-004	TEMP GENERATOR		EA		1.1	$ -
MI-005	PREP WORK AREA (ROOM SIZE)		SF	$ 3.00	0.36	$ -
MI-006	PLYWOOD BARRIERS OR TUNNELS		SF	$ 2.50	0.36	$ -
MI-007	ACM DISPOSAL (INCLUDES TRANSPORTATION)	400	CY	$ 55.00	1	$ 22,000.00
MI-008	HAZARDOUS WASTE DISPOSAL (INCLUDES TRANS)		CY	$ 250.00	1	$ -
MI-009	CONSTRUCTION DEBRIS DISPOSAL (INCLUDES TRANS)		CY	$ 25.00	1	$ -
MI-010	STANDBY ABATEMENT PERSONNEL	8	HR	$ 50.00	0.36	$ 144.00
MI-011	SELECTIVE DEMOLITION TO ACCESS ACM		SF	$ 3.00	0.36	$ -
MI-012	FIXED SCAFFOLDING		SF		1.1	$ -
MI-013	EXCAVATION TO EXPOSE UNDERGROUND PIPE		CY		1.1	$ -
MI-014	PROJECT NOTIFICATION ($50 + 1% OF ABATEMENT COST)		EA	$ 5,918.17	1.1	$ 6,509.98
	REWORK ITEMS					
RW-001	REINSULTE PIPE 1" THICK FIBERGLASS ASJ		SF	$ 5.00	0.36	$ -
RW-002	REINSULTE PIPE 11/2" THICK FIBERGLASS ASJ		SF	$ 6.00	0.36	$ -
RW-003	REINSULTE PIPE 2" THICK FIBERGLASS ASJ		SF	$ 7.50	0.36	$ -
RW-004	REINSULATE PIPE FITTING 1" THICK		EA	$ 12.00	0.36	$ -
RW-005	REINSULATE PIPE FITTING 11/2" THICK		EA	$ 15.00	0.36	$ -
RW-006	REINSULATE PIPE FITTING 2" THICK		EA	$ 18.00	0.36	$ -
RW-007	REINSULATE MECHANICAL EQUIPMENT 3PCF 2" THICK		SF	$ 7.50	0.36	$ -
RW-008	REINUSLATE HVAC DUCT (WRAP) 11/2 " .75 PCF		SF	$ 3.00	0.36	$ -
RW-009	REINUSLATE HVAC DUCT(BOARD) 3PCF 11/2 THICK		SF	$ 7.00	0.36	$ -
RW-010	REPLACE FLEX CONNECTORS		SF	$ 5.00	0.36	$ -
	ESCALATION FACTORS					
EF-1	WORK SURFACES 10-20 FEET HIGH			$ -	15%	$ -
EF-2	WORK SURFACES OVER 20 FEET HIGH				30%	$ -
EF-3	NON REGULAR WORK HOURS 6:00PM-6:00AM AND WEEKEND				30%	$ -
EF-4	EMERGENCY RESPONSE				30%	$ -
EF-5	CONFINED SPACE WORK				15%	$ -
EF-6	REMOVAL OF MULTIPLE LAYERS OF TILE (EACH ADDIT LAYER)				30%	$ -
EF-7	REMOVE ON LIVE STEAM EQUIPMENT				25%	$ -
EF-8	EXTERIOR WORK			$ -	30%	$ -
	MISCELLANEOUS ITEMS					
					1	$ -
					1	
	Interior boiler materials, gasketing		@			$ 20,000.00
	Identified hazardous/regulated waste handling and disposal		@		1	$ 15,500.00
			@		1	$ -
			@		1	$ -
	CONTINGENCY (10%)				10%	$ 59,332.65
	TOTAL					$ 652,659.13