

Town of Middlebury

Capital Budget

2016



MIDDLEBURY

The name of the town derives from the central position its meeting house occupies, six miles from three older neighbors, Waterbury, Southbury and Woodbury.

Winter ecclesiastical privileges, permitting local church services, were established for West Farms, originally the southwest portion of Waterbury, in 1786. In 1790, West Farms and adjoining portions of Woodbury and Southbury became a distinct ecclesiastical society under the name of Middlebury. The first

house in the area was erected by Isaac Bronson before 1702 on Breakneck Hill. During the Revolutionary War, French General Rochambeau and his troops established a camp in the Breakneck Hill section on their march to the final campaign at Yorktown, Virginia.

First petition to the General Assembly for independence of Middlebury from Waterbury was made in 1800. After much opposition incorporation was granted in October, 1807.

Erected by the Town of Middlebury
the Middlebury Historical Society, Inc.
and the Connecticut Historical Commission

1976



The Capital Planning Process

A Capital Plan is a blueprint for planning a community's capital expenditures. Capital expenditures provide the physical infrastructure upon which the town bases its delivery of services. This infrastructure includes roads and other Town Buildings, Recreational Facilities and Heavy Machinery.

Why Capital Planning?

Failure to have a plan in place virtually assures that our resources will only be able to react to crisis situations without regard to the proper funding of new endeavors.

This results in expensive but ineffective stop-gap measures, and never truly addresses recurring problems.

Unless we utilize our available resources (Capital Planning/Bonding) and critical facilities, infrastructure and equipment will continue to deteriorate.

History of Improvements Funding

- Improvements over the last 30 years include
 - Senior Housing
 - Greenway
 - Bridges
 - Town Hall ADA Compliance
 - Department of Public Works (DPW)
 - Shepardson Community Center
 - Library
 - Parks
 - Water/Sewer Systems
 - Transfer Station
 - Recycling
 - Animal Control Facilities

To: Ed St. John, First Selectman, Town of Middlebury

From: Joseph P. Fasi, Bond Counsel

Date: 9/2/16

Re: Pay As You Go Portion of the CIP Program

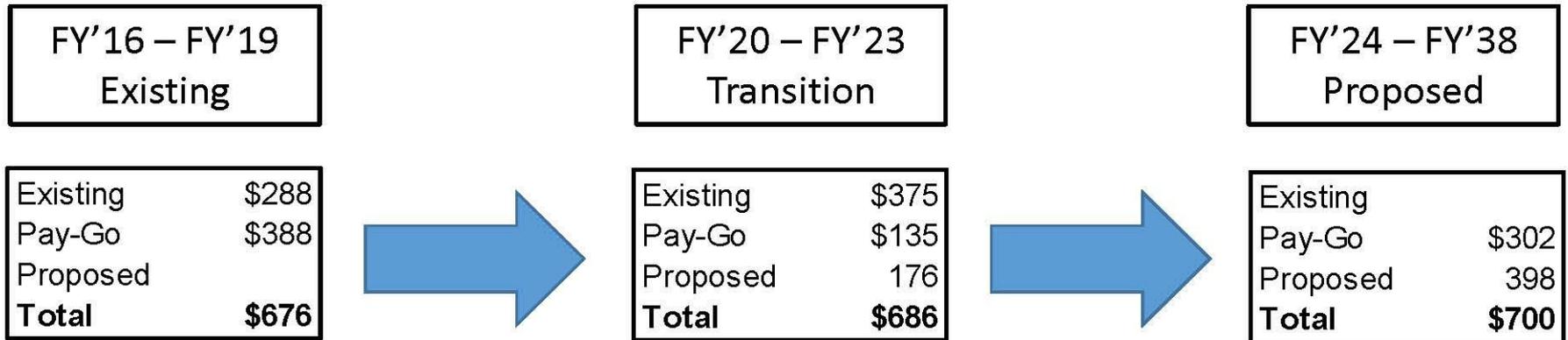
The resolution appropriating \$1.2 million for the pay as you go portion of the Middlebury Capital Asset Revitalization Program requires the town to include \$400,000 in town budgets until the \$1.2 million is fully funded and contains the following language: “[t]he adoption of this resolution constitutes an obligation legally binding upon the Town to levy taxes at the times and in the amount sufficient to pay the fixed charge set forth in section 2.”

The quoted language means that the \$400,000 (which is the fixed charge referred to in section 2) is to be included in town budgets and funded. As with all budgets, the revenue side of the budget must equal the expense side of the budget, but, as a result of the resolution, the expense side of the budget must include the \$400,000. If the budget is in balance, which it must be, the \$400,000 will be funded. Whether the \$400,000 is funded as a result of the tax levy raising the \$400,000 or from utilizing the undesignated fund balance, or from grants, or other sources, is not material. What is required is that the \$400,000 be included in the budget and be funded as a result of a balanced budget.

Proposed Capital Plan Information Sheet

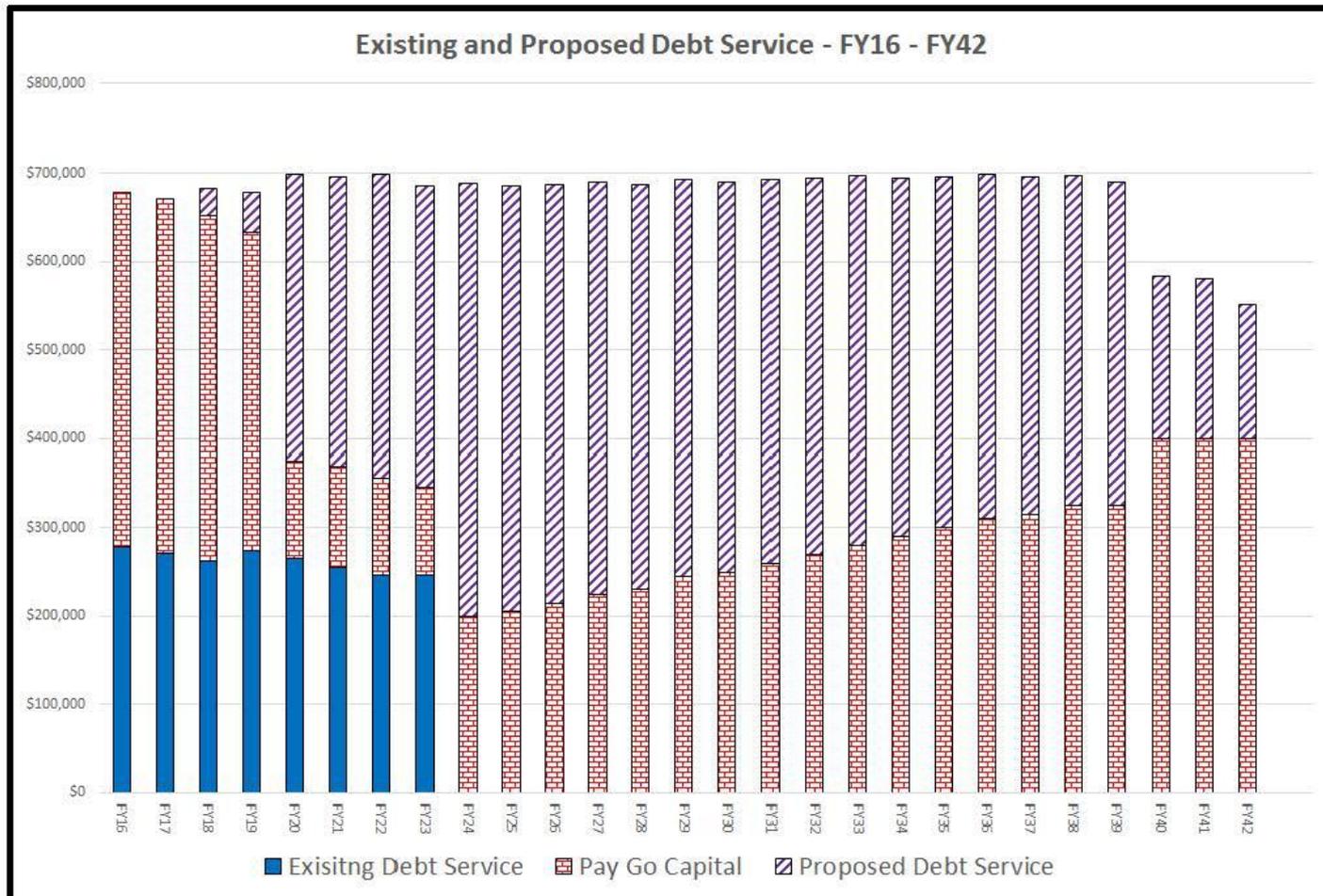
The Middlebury Republican Town Committee favors the passage of the proposed Capital Plan Ballot Questions and asks you to support both the Board of Selectmen and the Board of Finance who asked that these proposals go to you, the Voter, for approval.

Totals for Existing and Proposed Debt Service Will Remain Essentially Flat Over the Proposed Timeline. Existing Debt Service & Pay-As-You-Go Will Be Replaced By the Proposed Debt Service & Pay-As-You-Go.



Numbers (\$ 000) represent an average year in each group.

Existing Debt Service would be replaced by the Proposed Debt Service keeping Total Debt Service payments essentially flat over the out-going years.



By keeping Total Debt Service payments flat, there would no increase in taxes due to this Proposed Capital Improvement Plan.

Historical Building

- **Mechanical Upgrades**
 - Extensive heat loss. Replace existing Hot Air Ductwork which has been previously patched.
- **Sidewalk/Concrete Repairs**
 - Concrete deterioration. New front walk and steps.

Historical Building

	PHASE 1	BOND PROJECTS
GRAND TOTAL	\$1,188,065.00	\$5,950,000.00
Mechanical Upgrade	\$3,400.00	
Sidewalk/Concrete Repairs	\$14,400.00	
Total for Section	\$17,800.00	\$0.00

Police Department

- **Replace Roof**
 - Existing roof needs to be replaced; continual repairs and leaks occur throughout the course of every year. Mechanical systems need to be replaced simultaneously with the roof replacement.
- **Clean and Seal Brick Siding**
 - Rain and snow water is penetrating brick siding causing moisture to infiltrate into interior walls which is causing paint delamination and potential mold problems.
- **HVAC Improvements**
 - Computer Server Room which was originally a storage closet when the building was built was never designed to be air conditioned. A new air conditioning unit is required to maintain the temperature requirements for the Server equipment. Roof top HVAC Unit replacement is necessary to facilitate Multi-zone temperature control. Booking room HVAC temperature control is not possible with the existing equipment.
- **Remove/Dispose existing Underground Storage Tanks**
 - Mandated by Connecticut State law, these tanks must be removed and disposed of by 2017.

Police Department



- Existing roof needs to be replaced; continual repairs and leaks occur throughout the course of every year. Mechanical Systems need to be replaced simultaneously with the roof replacement.

Middlebury Police Department

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Replace Roof		\$60,000.00
Clean and seal brick siding	\$20,000.00	
HVAC Mechanical Upgrades		
Server Room Cooling		\$9,800.00
Booking Room A/C		\$11,900.00
Roof Top Unit Replacement		\$18,500.00
Interior Multizone		\$9,500.00
Removal and disposal of existing USTs, pumps, piping and all related equipment		\$80,500.00
TOTAL FOR SECTION	\$20,000.00	\$190,200.00

Transfer Station/Scale

- Resurface paved areas
- Repair large concrete block wall
- Equipment
 - Replace compactor
 - Purchased used in 1988 (15 year expected life)
- Replace scale



Paving at the DPW





Deteriorating concrete block wall at the Transfer Station



Deteriorating concrete block wall at the Transfer Station



Deteriorating concrete block wall at the Transfer Station





Compactor purchased in 1988

Town of Middlebury CT 2016

Middlebury Transfer Station

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Resurface paved areas not paved in 2011		\$70,000.00
Point or repair large concrete block wall	\$40,000.00	
Replace compactor		\$60,000.00
Refurbish scale		\$100,000.00
TOTAL FOR SECTION	\$40,000.00	\$230,000.00

Parks and Recreation

- **Tennis Courts**
 - Resurface Basketball/Tennis/Park Improvements



Basketball Court at Ledgewood Park



Tennis Courts at the MRA

Parks and Recreation

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Ledgewood Park Veteran's Area	\$20,000.00	
Recreational Facility Improvements		
Resurface Basketball and Tennis Courts, Greenway Upgrades	\$170,000.00	
TOTAL FOR SECTION	\$190,000.00	\$0.00

Fire Department(s)

- Clean and Seal Brick Siding
- HVAC Repairs
 - Roof Top Unit Replacement
 - Multizone Conversion
- Painting
- Overhead Doors
- Simulcast (radio upgrades)







Paint needed

Trim beginning to pull away from building



Trim beginning to fall off building





Garage door beginning to rot



Doors no longer seal and are very inefficient



Middlebury Fire Headquarters

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Clean and seal brick siding	\$23,000.00	
HVAC Repairs		
Rooftop unit replacement		\$18,500.00
Interior multi-zone conversion		\$9,500.00
Painting		
Interior	\$49,000.00	
Exterior	\$32,450.00	
Sidewalk repairs	\$3,000.00	
Replace overhead doors (8)	\$54,800.00	
Simulcast (Radio upgrades)		\$185,000.00
TOTAL FOR SECTION	\$162,250.00	\$213,000.00

Middlebury Fire Headquarters (Station 2)

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Painting (including basement and garage)		
Interior	\$25,000.00	
Exterior	\$23,000.00	
Overhead doors on west-end of Fire Station (4)	\$29,665.00	
Security System/Camera Upgrades	\$10,000.00	
TOTAL FOR SECTION	\$87,665.00	\$0.00

Fenn's Farm

- Cow barn repair roof
- Siding/Paint house





Fenn's Farm

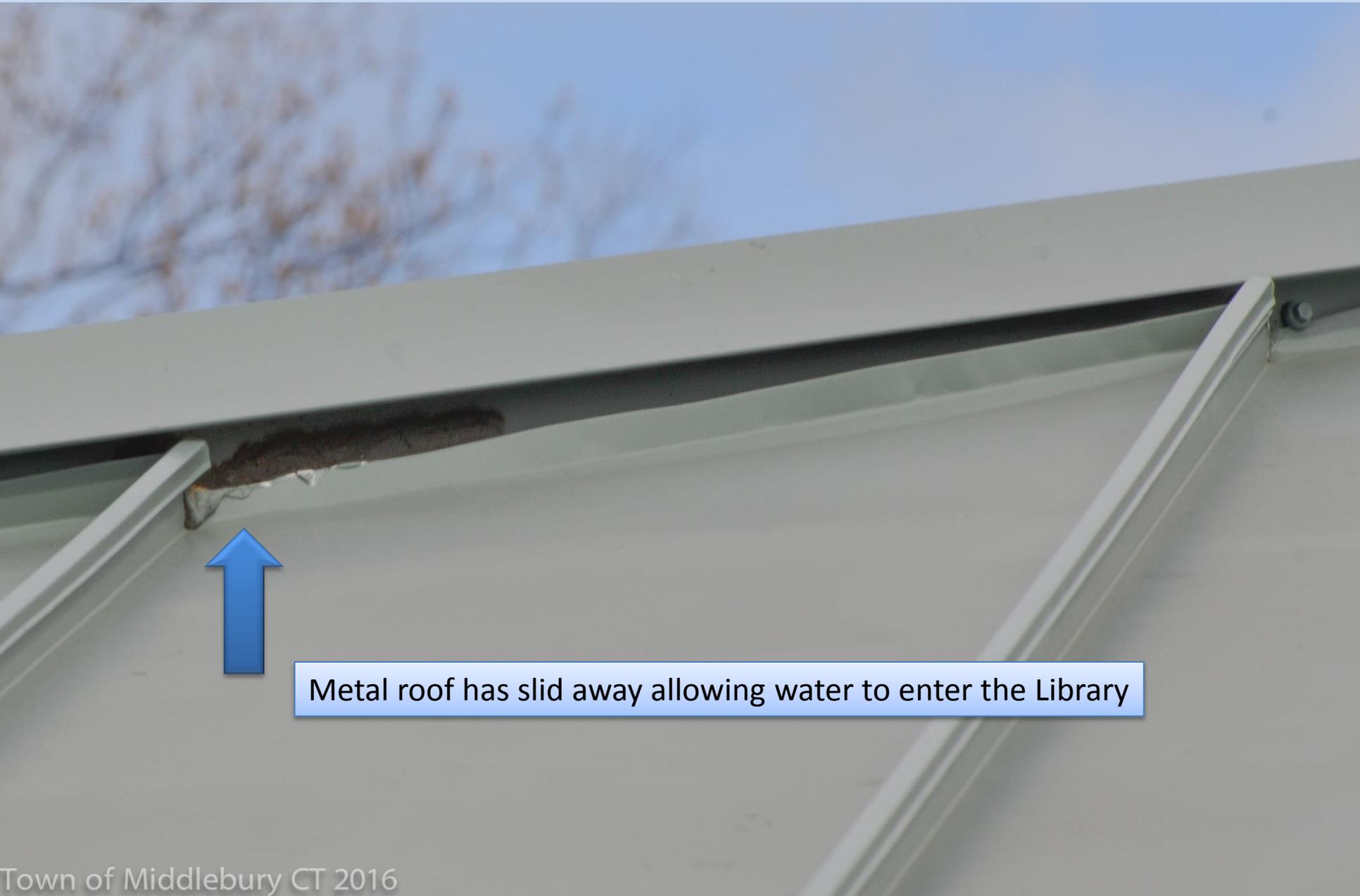
	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Fenn's Farm	\$25,000.00	
Cow barn structure repair, roof replacements and other projects	\$110,000.00	
Siding and painting on the house	\$12,000.00	
TOTAL FOR SECTION	\$122,000.00	\$0.00

Library

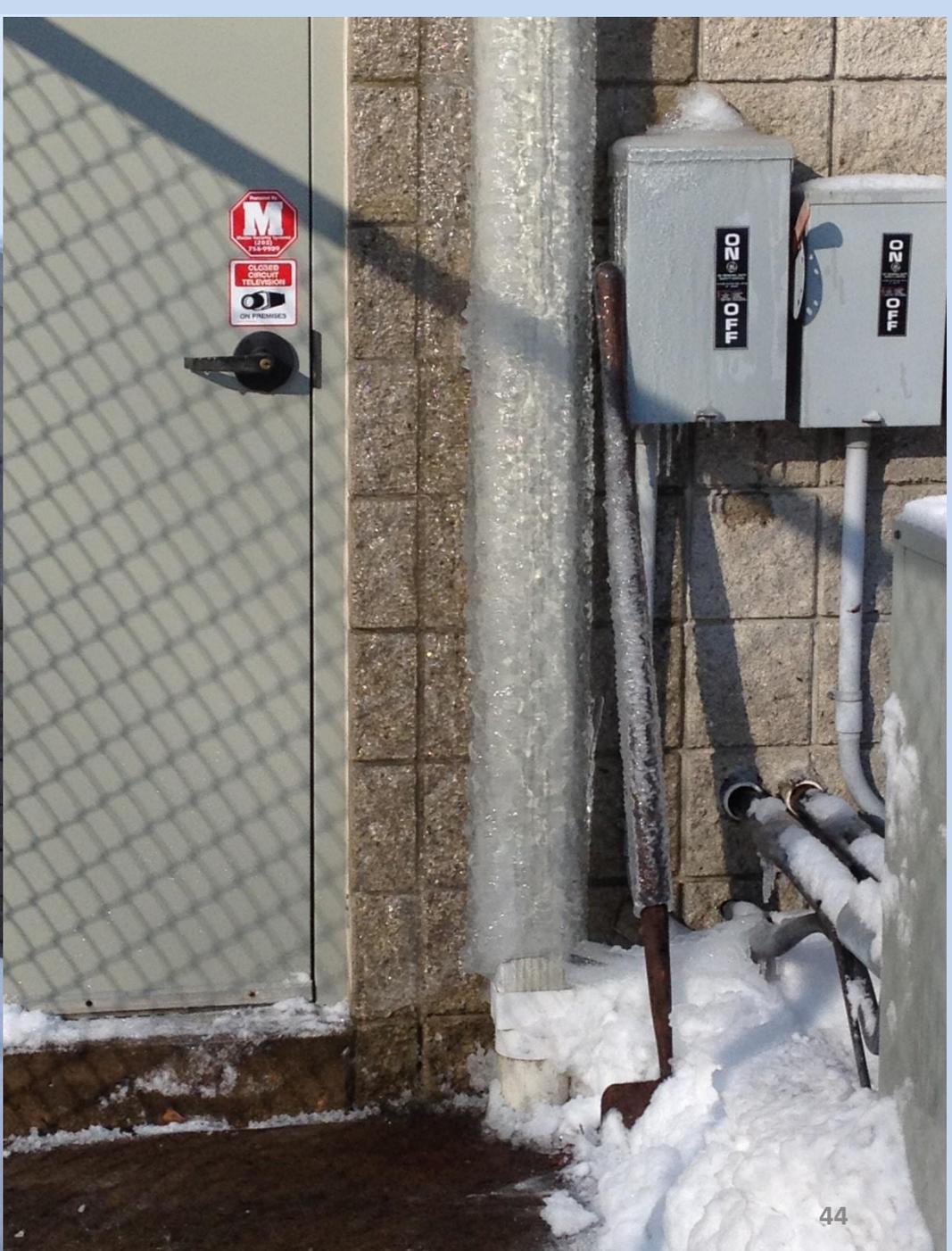
- Repair old roof
- Add heat cables to gutters
 - The Northeast section of the Library Roof experiences extreme ice buildup during winter storms which results in roof damage and leaks.
- Mechanical (Larkin Room)
 - Existing Heating Ventilating Air Conditioning Unit for the Larkin Room requires replacement.

Center portion of the Original Metal Standing Seam Roof requires a new system to correct Standing Seam Locking System. Metal Roof Panels keep sliding away from existing Locking System leaving gaping openings of exposed decking to the weather resulting in ceiling leaks within the main structure. This condition was not addressed during the 2011 – 2012 addition/renovation due to lack of funds





Metal roof has slid away allowing water to enter the Library



Middlebury Public Library

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Repairs to old metal roof	\$30,000.00	
HVAC Mechanical – Larkin Room* (\$5,000 of work covered by grant)	\$15,950.00	
Add gutter heat cables on east side	\$30,000.00	
TOTAL FOR SECTION	\$75,950.00	\$0.00

Town Hall

- Replace roof, Clean, Point & Seal Masonry, Gutter Heat
 - Winter Ice accumulation in the gutter system causes significant damage annually leading to water penetration throughout the total gutter system.

Town Hall

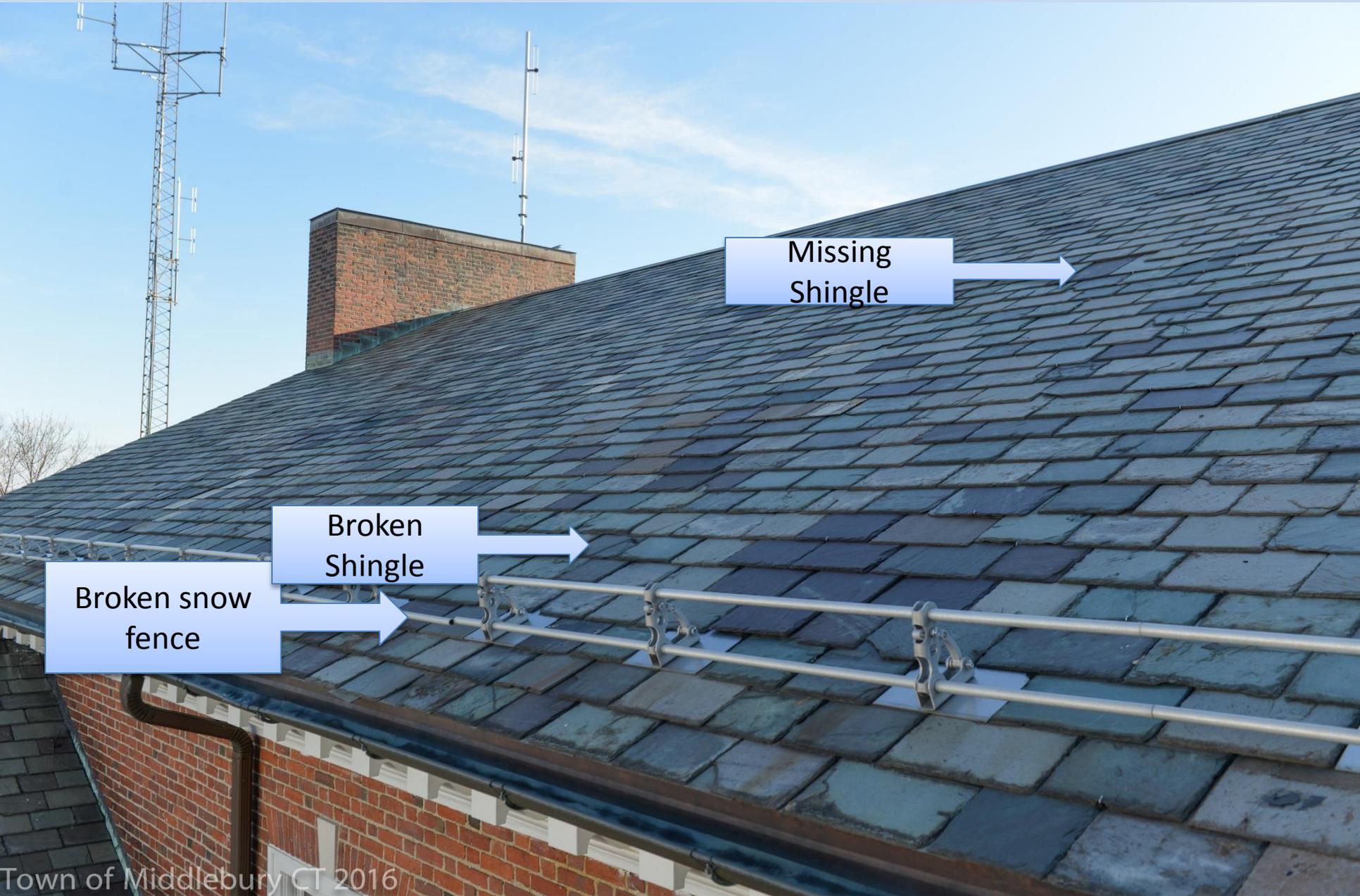
- **Mechanical, Upgrade Cooling, Heat Zone Controls**
 - The 1st and 2nd floors of the building require HVAC upgrades to control cooling temperatures. Existing unit must be replaced
 - Heating and Air Conditioning controls throughout the building require replacement, obsolete.
- **Paving**
 - Existing paving must be replaced
- **Upgrades To Assessor's Office**
 - New Furniture, Carpets, Counters

Existing Roof should have been replaced several years ago. Existing Roof under decking is rotted, Slate Shingles have deteriorated and broken leaving portions of the roof exposed to weather with major water infiltration to interior ceilings



Missing Shingles

Broken Shingles and Gutter



Broken snow
fence

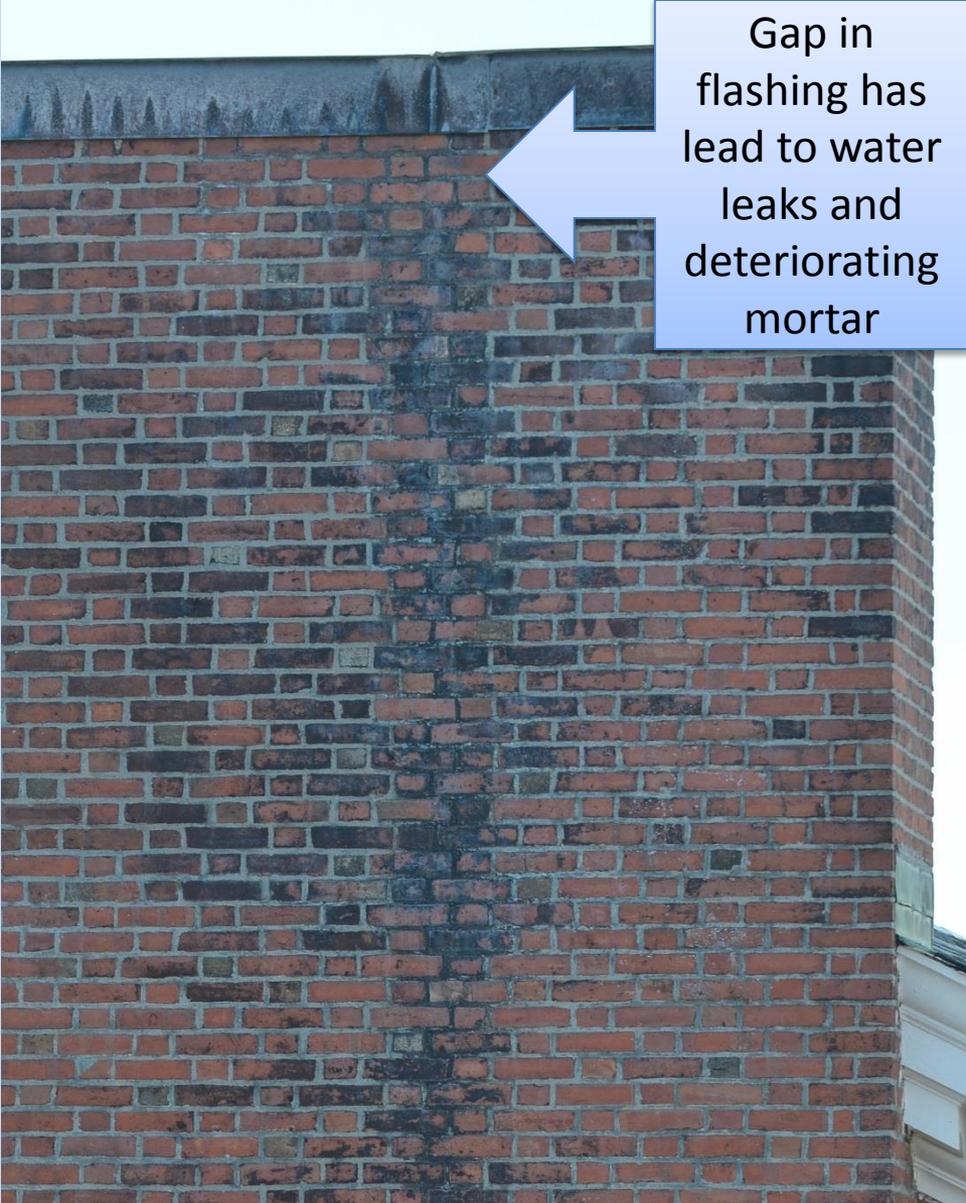
Broken
Shingle

Missing
Shingle



Missing Shingles

Broken Shingles



Gap in flashing has lead to water leaks and deteriorating mortar



Extensive masonry repair will be required during the Roof Replacement. All existing and replaced masonry requires sealing to extinguish water penetration. Interior walls and ceilings have been damaged

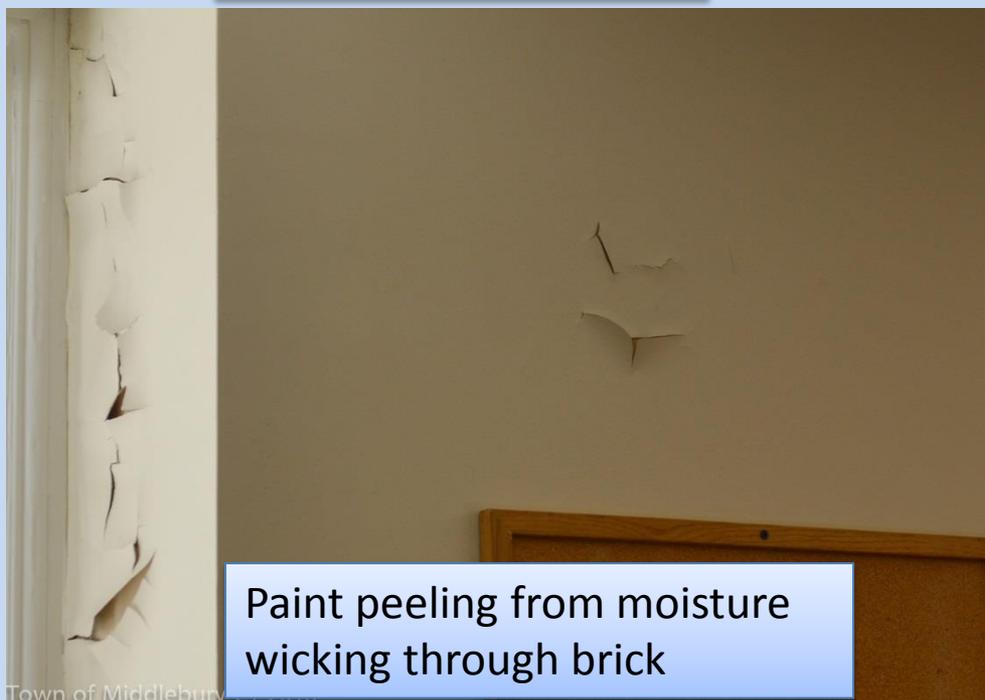


Water Damage from
rook leak

Town of Middlebury



Repainted in 2015



Paint peeling from moisture
wicking through brick

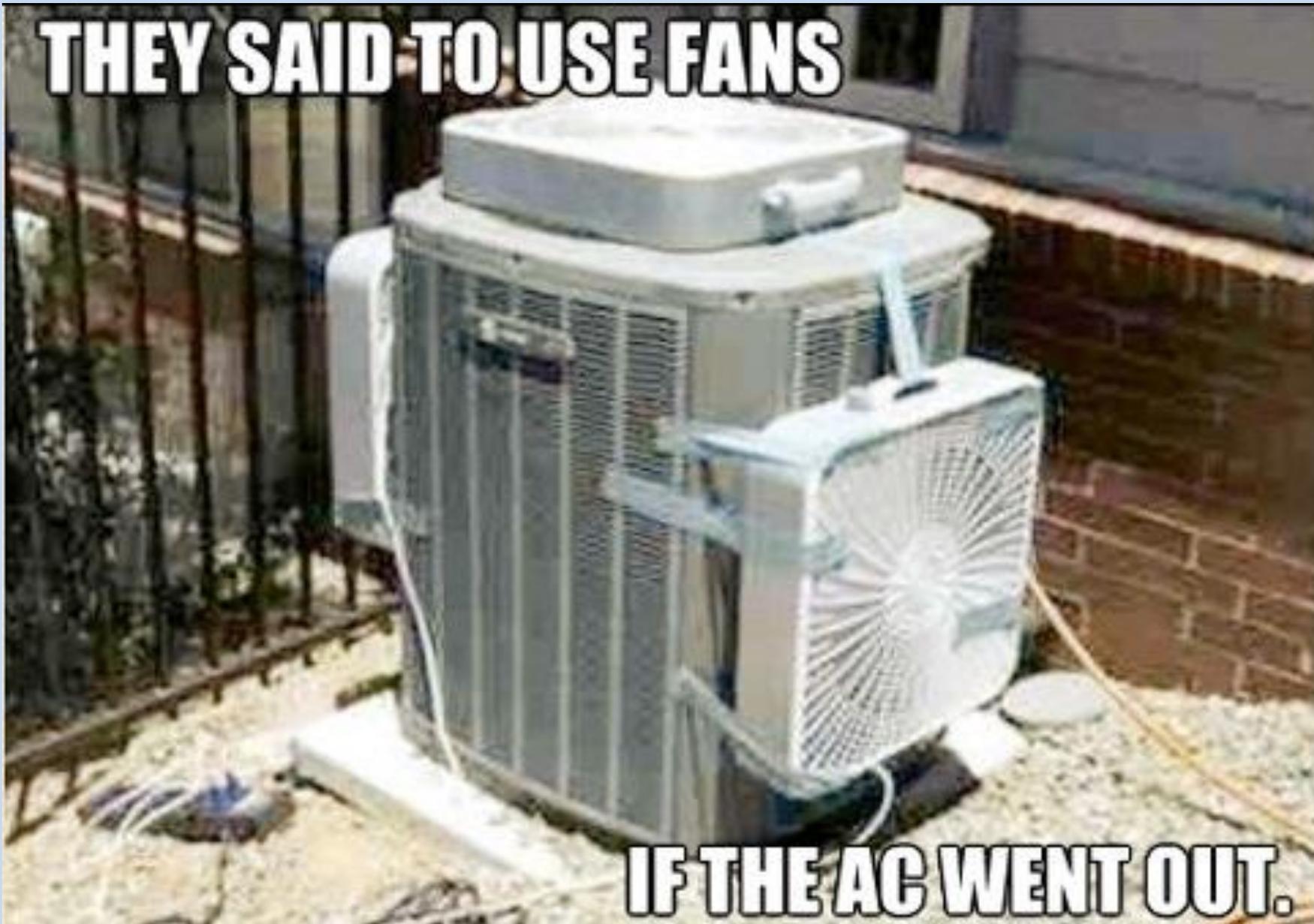
Town of Middlebury

Town of Middlebury CT 2016



- The 1st and 2nd floors of the building require HVAC upgrades to control cooling temperatures. Existing unit must be replaced
- Heating and Air Conditioning controls throughout the building require replacement, obsolete.

THEY SAID TO USE FANS

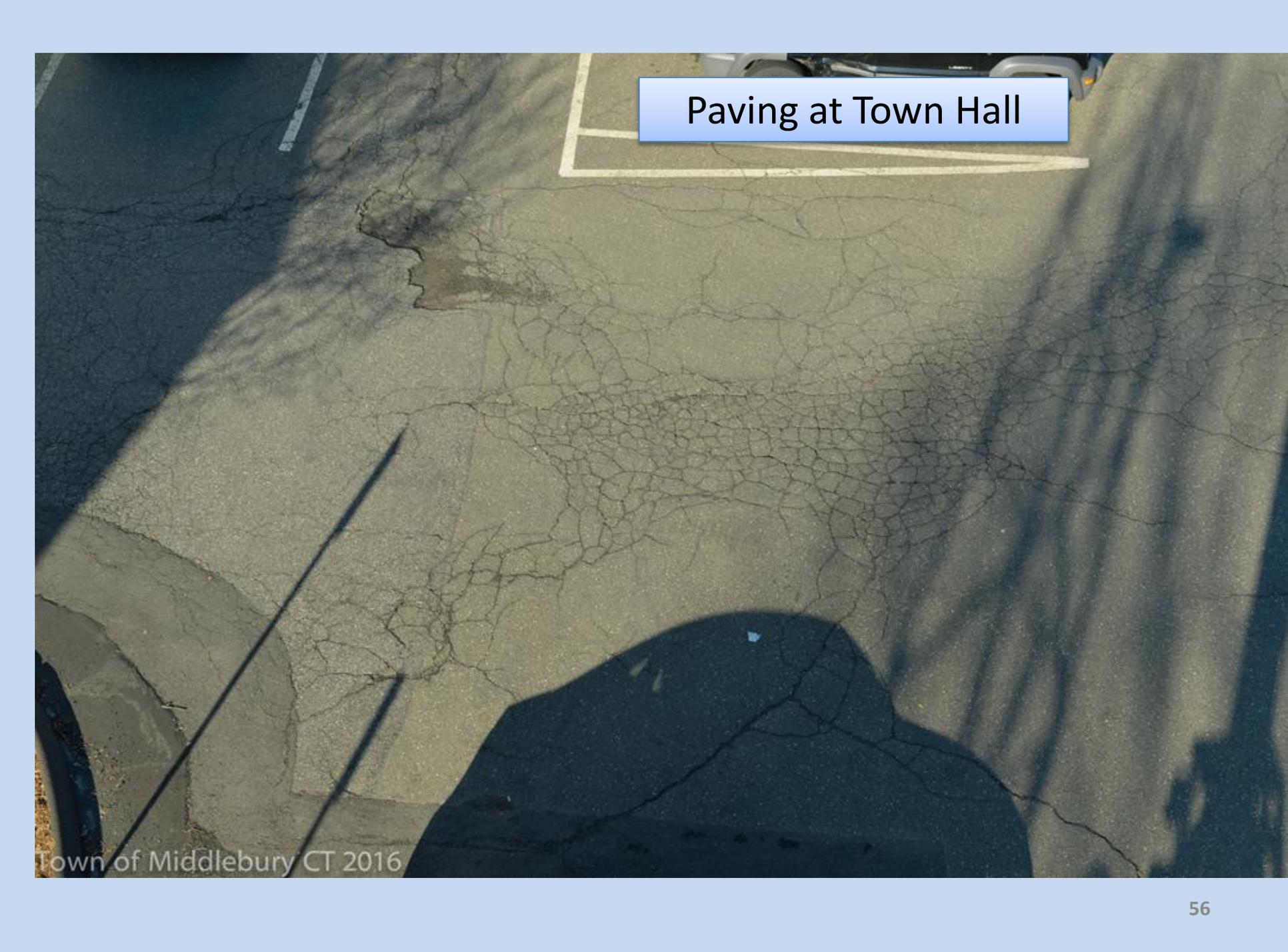


IF THE AC WENT OUT.

A photograph of a parking lot with cracked asphalt, a sidewalk, and a white building with stone accents. A blue text box is overlaid on the image.

Town Hall parking lot

Town of Middlebury CT 2016

A photograph of a cracked asphalt parking lot. The asphalt is heavily cracked with a network of small, irregular cracks. A white rectangular parking space is visible in the upper right. A blue text box is overlaid at the top center. Long shadows are cast across the pavement from the left and right sides. The bottom left corner contains a white text watermark.

Paving at Town Hall

Town of Middlebury CT 2016



Carpet in Assessors



Counters in Assessor's Office

Middlebury Town Hall

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Replace Roof, point and seal masonry above roofline, carpentry at eaves		\$469,380.00
Add gutter heat		\$30,000.00
Clean and seal brick siding	\$25,000.00	
Mechanical upgrade cooling on first and second floors		\$56,000.00
Upgrade heat zone controls	\$16,800.00	
Pave parking area		\$55,000.00
Upgrades to Assessor's Office		\$45,000.00
TOTAL FOR SECTION	\$41,800.00	\$655,380.00

Shepardson Community Center

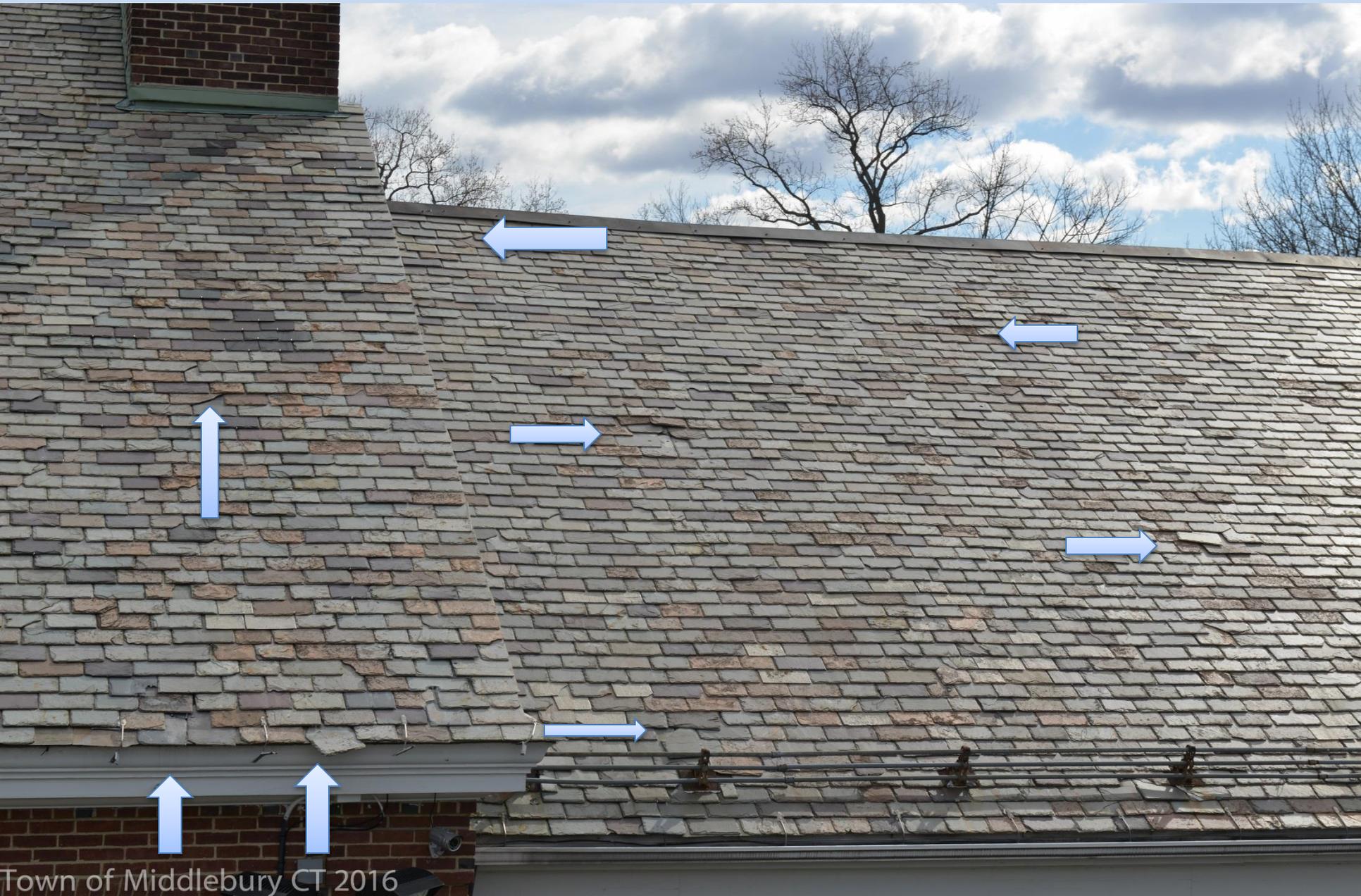
- Replace roof, Clean, Point & Seal Masonry, Gutter Heat
 - The same conditions and reasons apply to the Community Center as Town Hall
- Mechanical
 - Lower Level A/C solution must be implemented, Steam Radiators Upgrades are required for temperature control. Existing Chiller / Pumps / and miscellaneous equipment needs to be replaced
- Paint
- Paving
 - Replacement required





Mastic Repairs and broken slate

Gutters rendered useless by ice and snow



Town of Middlebury CT 2016

**I'D TELL YOU THE JOKE
ABOUT THE ROOF**



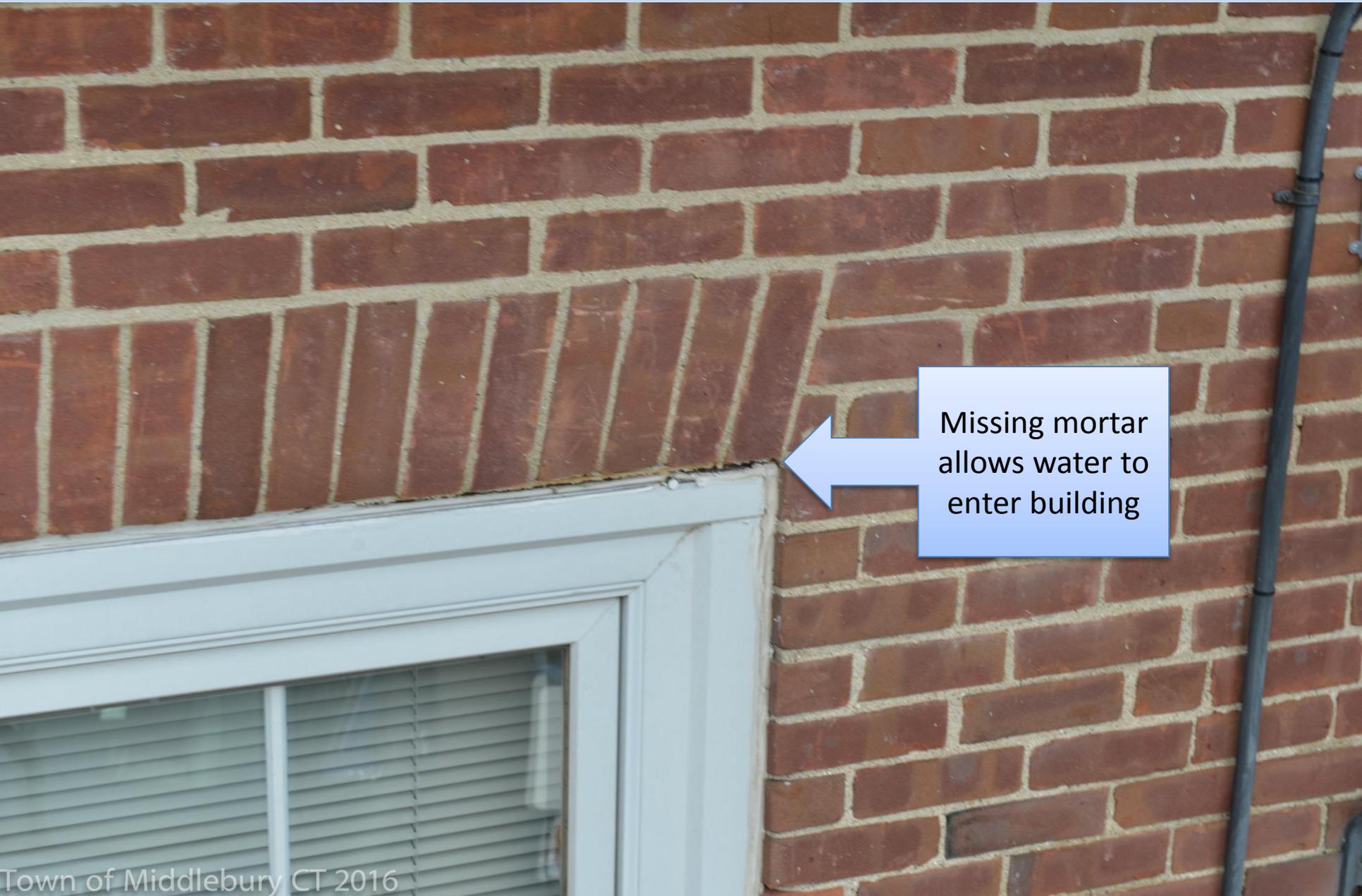
**BUT IT'S OVER
YOUR HEAD**



Deteriorated
mortar



Deteriorating
mortar joints



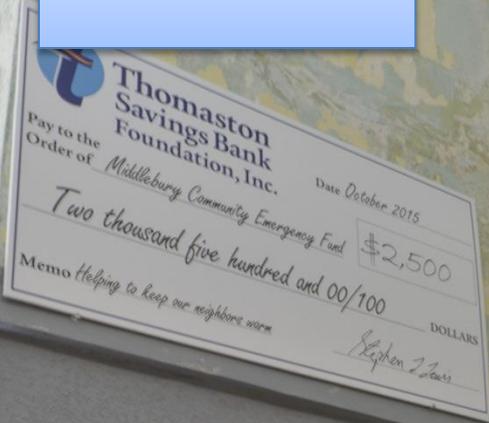






Window damaged by water leak

Water damage



Peeling paint



THIS IS HOW



YOU STOP A LEAK



Shepardson Community Center

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Replace roof, point and seal masonry above roofline, carpentry at eaves		\$675,680.00
Add gutter heat		\$37,309.00
Clean and seal brick siding	\$22,600.00	
Mechanical		
Lower level A/C Solution		\$35,000.00
Steam Radiator Upgrades	\$19,500.00	
Chiller/Pumps/Miscellaneous		\$18,000.00
Interior painting	\$31,500.00	
Paving driveway and parking areas		\$107,000.00
TOTAL FOR SECTION	\$73,600.00	\$872,989.00

??Questions??



Public Works/Vehicle Maintenance

- Removal of Existing Underground Fuels Storage Tanks, Pumps, Pipes ETC.
- Install 2 New Above Ground Storage Tanks
Construct New Fuel Depot
- Paint
- Resurface Yard
- Replace Salt Shed Doors
- HVAC Multi-Zone Conversion

Public Works/Vehicle Maintenance

- Upgrade Truck Lift
- Grounds Maintenance Equipment
- Replace Doors and other work
- Alarm System Upgrade
- High Band Radio Conversion
- Close in shed area
- Road Resurfacing



Underground Fuel storage at DPW
Mandated to be replaced by DEEP







Door at DPW







Need to enclose this area



Town of Middlebury CT 2016

To shelter this equipment



Town of Middlebury CT 2016



Town of Middlebury CT-2016



Town of Middlebury CT 2016



Town of Middlebury CT 2016



Town of Middlebury CT 2016



Future Grant & Bonding Opportunities

- Based on the criteria established for grant eligibility, Middlebury will not likely receive any substantial grants for future improvements of our infrastructure.
- The Town of Middlebury has the ability to bond its Capital Improvements
- Asphalt prices and bonding rates are at record lows (It's cheaper to pave roads now than 15 years ago)

Middlebury Public Works

	<u>PHASE 1</u>	<u>BOND PROJECTS</u>
Removal and disposal of existing USTs, pumps, piping and other related equipment		\$245,268.00
Install 2 new AST and construct new fuel depot		\$198,164.00
Painting		
Interior	\$35,000.00	
Exterior (includes garages)	\$20,000.00	
Resurfacing yard		\$195,000.00
Replace three salt shed doors	\$44,000.00	
HVAC multi-zone conversion	\$10,000.00	
Upgrade truck lift	\$120,000.00	
Replace doors and other work at Public Works and Vehicle Maintenance	\$68,000.00	
Alarm System Upgrades	\$10,000.00	
High Band radio conversion		\$150,000.00
Road resurfacing		\$3,000,000.00
Close in shed area between DPW and salt shed for Buildings & Grounds	\$50,000.00	
TOTAL FOR SECTION	\$357,000.00	\$3,788,431.00

??Questions??



CAPITAL PLAN NARRATIVE

June 8, 2016

Historical Society Building

1. Heating / Air Conditioning Upgrades – Extensive Heat Loss. Replace existing Warm Air Ductwork which has been repaired multiply times.
2. Sidewalk / Concrete Repairs – New front walk and steps. Concrete deterioration.

Police Department Building and Site

1. Roof Replacement – Existing Roof needs to be replaced, continual repairs and leaks on an annual bases leaves no choice but to replace entire roof. Simultaneously Heating / Ventilating / Air Conditioning units must be replaced; they have surpassed Manufactures life expectancy.
2. Clean & Seal Exterior Brick Siding – Ice, snow and rain has been penetrating Brick Exterior to become porous allowing moisture to infiltrate thru the brick into the Interior Walls resulting in sheetrock delaminating and paint peeling. Mold testing must be part of the repair process.
3. Computer Server Room – The Computer Server Room which originally was a storage closet was never designed to be Air Conditioned. New Air Conditioning / Ventilating are required to maintain computer equipment temperature requirements. New Roof Top Heating / Ventilating / Air Conditioning units will facilitate Multizone Temperature Control which currently does not exist. Bookkeeping Room temperature control is currently nonexistent due to lack of Temperature Control Zoning.
4. Removal and Disposal of USTS – Underground Fuel Storage Tank must be removed by 2017 as mandated by the State of Connecticut.

Transfer Station

1. Repair or Replace Concrete Block Wall – Concrete Block Retaining Wall has deteriorated and shifted from their original placement.
2. Resurface Paved Areas – Area was not repaved in 2011.
3. Replace Trash Compactor – Originally purchased as a Used Piece of Equipment, has been repaired multiple times as components continue to wear and break.

Parks and Recreation

1. Asphalt Replacement – Tennis Courts and Basketball Courts have extensive surface deterioration and are required to be resurfaced for Safety Concerns and Liability Exposure.

Fire Department Headquarters and Fire Department West End

1. **Clean and Seal Brick Exterior Walls** – Water infiltration through the Brick Masonry has resulted in damp interior walls. Interior Surface walls are delaminating, paint is peeling and mold problems may exist.
2. **Heating / Ventilating / Air Conditioning Repairs and Replacement** – New HVAC Roof Top Units will replace the original equipment. Multizone Temperature Controls will be installed to control temperature regulation in order to save fuel consumption. Currently Temperature Control is manually operated.
3. **Security System / Camera Upgrades** – Upgrades or replacement of these systems are required for Public Safety and Mandated Regulations.
4. **Painting or Replacement** – Interior and Exterior Painting has been neglected. Exterior Redwood Siding needs attention before further damage is done. Replacement may be required.
5. **Overhead Doors** – Replace (8) Overhead Doors at F.D. Headquarters and (4) Overhead Doors at F.D. West End. Doors have rotted wood frames, glass falling from their frames and rails that need replacement.
6. **Sidewalk Replacement** – Replace crumbling sidewalks.
7. **Simulcast Radio Upgrades** – Radio Upgrades are required for all Public Safety Departments.

Fenn Farm

1. **Cow Barn Structure Repair and Roof Replacements** – Roof replacements for the barns.
2. **House Siding** – The Fenn House needs to be resided.

Library

1. **Repair Old Existing Roof** – Center Portion of the original Standing Seam Metal Roof requires a new Seam Locking System to correct the present system which continually slides away from other components leaving gapping subsurface areas exposed to the weather. Leaks occur. This condition was not addressed during the 2011-2012 renovation and addition.
2. **Larkin Room Heating / Ventilating / Air Conditioning** – Existing HVAC unit requires replacement; this is original equipment and has surpassed manufacturer end of life. This is original HVAC Equipment from when the Larkin Room was added to the Library.
3. **Gutter Heaters** – Gutter Heaters must be installed on the Northeast Section of the Library which experiences extreme Ice buildup during Winter Storms. This has resulted in continuous leaks and damage.

Town Hall

1. Roof Replacement – Existing Roof should have been replaced several years ago. The roof under decking is rotted, Slate Shingles have deteriorated and broken leaving portions of the roof exposed to the elements with major water infiltrations to ceiling areas.
2. Gutter Heat Requirements – Winter Ice accumulation and seasonal rain has caused significant damage annually leading to water penetration throughout the total gutter system.
3. Clean and Seal Exterior Brick Masonry – Extensive masonry repair and replacement will be required during the roof replacement. Water penetration through the brick system has eroded Ceilings and Interior Walls causing continual damage.
4. Heating / Ventilating / Air Conditioning Upgrades – The first and second floors of Town Hall require extensive HVAC replacement along with new Temperature Controls to regulate the building environment, current system is obsolete.
5. Paving Parking Area – Existing paved parking area must be replaced.

Sheparson Senior Center

1. Roof Replacement – The same conditions and reasons apply to the Senior Center as Town Hall. Gutter heat is required as well as Clean and Seal Brick Exterior.
2. Mechanical Upgrades – Lower Level Air Conditioning solution must be implemented. Steam Radiator upgrades are required in order to install temperature control. Existing Chiller, pumps and miscellaneous equipment needs to be replaced.
3. Parking Areas – Replacement required.
4. Interior Painting – Required as a result of water damage to ceilings and walls.

Pubic Works and Vehicle Maintenance

1. Painting – Interior and Exterior painting including garage areas. Preventive Maintenance.
2. Salt Shed Doors – Replace (3) Salt Shed Sliding Doors. Salt has eroded doors and rails they slide on.
3. Alarm Upgrades – Public Safety Building required upgrades.
4. Shed Area – Located between the Main DPW Garage and the Salt Shed. Enclose this area, (1) structural face wall, to create a Buildings and Grounds Equipment storage and maintenance area. Currently this space is exposed to the elements.
5. Replace Doors and Other Upgrades at DPW and Vehicle Maintenance
6. Heating / Ventilating / Air-conditioning Multi-zone Conversion – Temperature Control Zoning to control temperature and fuel and energy savings.
7. Truck Lift – Upgrade existing Truck Lift

DPW and Vehicle Maintenance – Continued

8. *UST / Underground Storage Tank Removal* – Mandated by the State of Connecticut to be removed by 2017. All piping, pumps and related equipment is required to be removed.
9. *Construct New Fuel Depot* – Above Ground Storage Tanks (2) to be installed as part of the fuel storage consolidation. All fueling will be located at DPW Fuel Depot.
10. *Resurface DPW Yard* – This will be part of and in conjunction with the New Fuel Storage Depot project.
11. *High Band Radio Conversion* – Currently the DPW cannot communicate directly with the Police and Fire Departments. All three Departments must be able to communicate with each other as Public Safety Departments. DPW was not included in the changeover when the Police and Fire Departments were converted.

Town of Middlebury, Connecticut

Debt Management Plan, Interest Rate & Credit Overview



August 2016

**Barry Bernabe
Managing Director**



Long-term Interest Rates

Ten Year U.S. Treasury Yield - January 1, 1970 to August 2016



Bond Ratings

Standard & Poor's versus Moody's Rating Categories

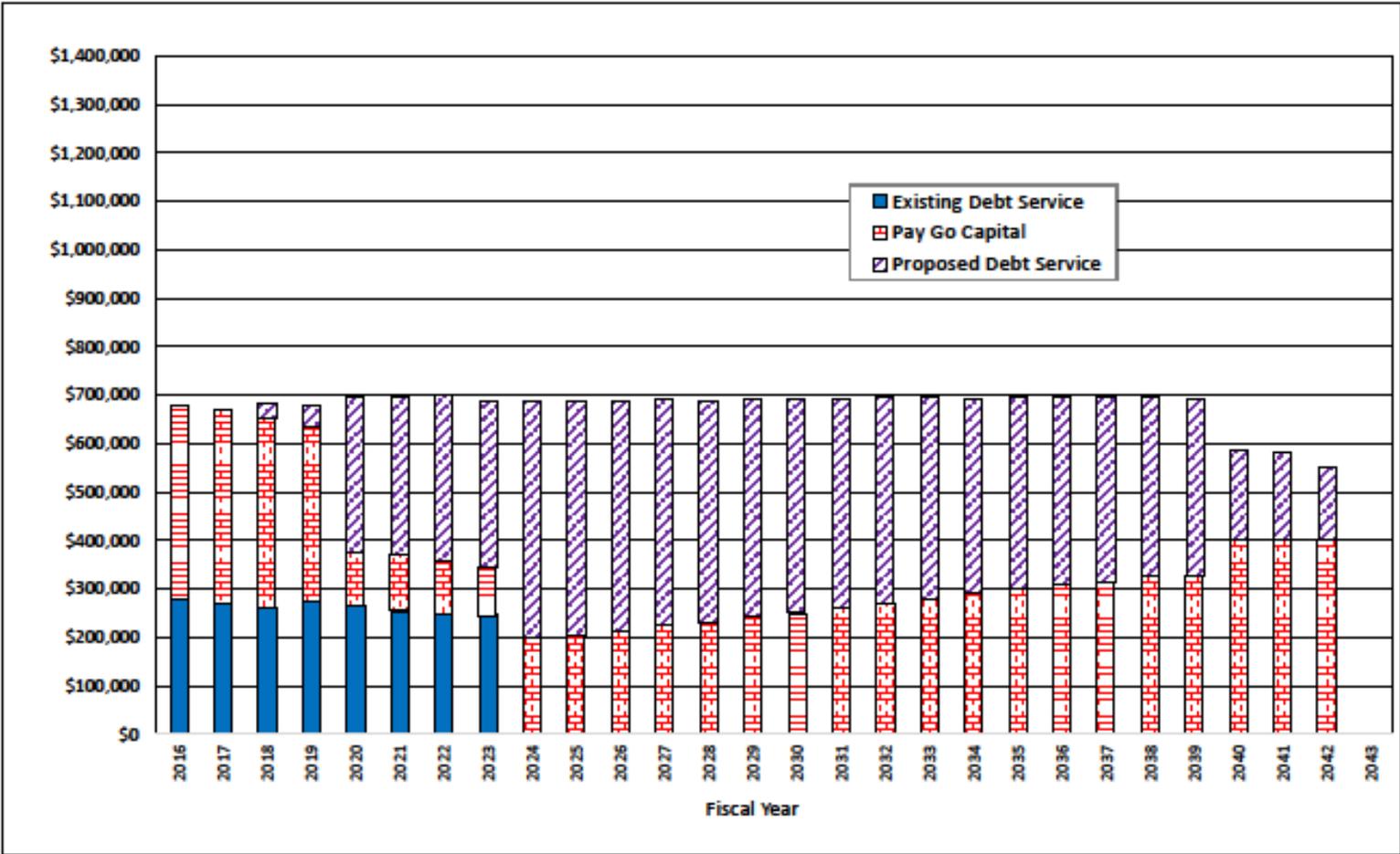


Highest	<u>AAA</u>	Aaa
	<u>AA+</u>	Aa1
	<u>AA</u>	Aa2
	<u>AA-</u>	Aa3
	<u>A+</u>	A1
	<u>A</u>	A2
	<u>A-</u>	A3
	<u>BBB+</u>	Baa1
	<u>BBB</u>	Baa2
Lowest	<u>BBB-</u>	Baa3

Existing & Proposed (\$6,950,000) Debt Service – Bonds @ 2.25%

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
			Projected Debt Service ==>						
				\$6,950,000					
				Future bonds & BANs					
			Pay-Go	Interest rate @ 2.25%			Total Existing & Projected Debt Service		
Fiscal Year	Existing Debt Service	Annual Change	For Capital Projects	Principal	Interest	Total	Principal	Interest	Total
2016	277,936	-	400,000	-	-	-	646,000	31,936	677,936
2017	271,576	(6,360)	400,000	-	-	-	643,000	28,576	671,576
2018	261,940	(9,636)	390,000	-	30,000	30,000	627,000	54,940	681,940
2019	273,376	11,436	360,000	-	44,438	44,438	612,000	65,814	677,814
2020	264,632	(8,744)	110,000	200,000	123,500	323,500	557,000	141,132	698,132
2021	254,556	(10,077)	115,000	200,000	126,375	326,375	556,000	139,931	695,931
2022	246,340	(8,216)	110,000	200,000	142,625	342,625	547,000	151,965	698,965
2023	245,820	(520)	100,000	200,000	139,500	339,500	541,000	144,320	685,320
2024	-	(245,820)	200,000	355,000	133,200	488,200	555,000	133,200	688,200
2025	-	-	205,000	355,000	125,156	480,156	560,000	125,156	685,156
2026	-	-	215,000	355,000	117,169	472,169	570,000	117,169	687,169
2027	-	-	225,000	355,000	109,181	464,181	580,000	109,181	689,181
2028	-	-	230,000	355,000	101,194	456,194	585,000	101,194	686,194
2029	-	-	245,000	355,000	93,206	448,206	600,000	93,206	693,206
2030	-	-	250,000	355,000	85,275	440,275	605,000	85,275	690,275
2031	-	-	260,000	355,000	77,400	432,400	615,000	77,400	692,400
2032	-	-	270,000	355,000	69,525	424,525	625,000	69,525	694,525
2033	-	-	280,000	355,000	61,650	416,650	635,000	61,650	696,650
2034	-	-	290,000	350,000	53,775	403,775	640,000	53,775	693,775
2035	-	-	300,000	350,000	45,900	395,900	650,000	45,900	695,900
2036	-	-	310,000	350,000	38,025	388,025	660,000	38,025	698,025
2037	-	-	315,000	350,000	30,150	380,150	665,000	30,150	695,150
2038	-	-	325,000	350,000	22,275	372,275	675,000	22,275	697,275
2039	-	-	325,000	350,000	14,400	364,400	675,000	14,400	689,400
2040	-	-	400,000	175,000	8,719	183,719	575,000	8,719	583,719
2041	-	-	400,000	175,000	5,231	180,231	575,000	5,231	580,231
2042	-	-	400,000	150,000	1,744	151,744	550,000	1,744	551,744
2043	-	-	-	-	-	-	-	-	-
2044	-	-	-	-	-	-	-	-	-
2045	-	-	-	-	-	-	-	-	-
2046	-	-	-	-	-	-	-	-	-
	2,096,175			6,950,000	1,799,613	8,749,613	16,324,000	1,951,788	18,275,788

Graph of Existing & Proposed Debt Service

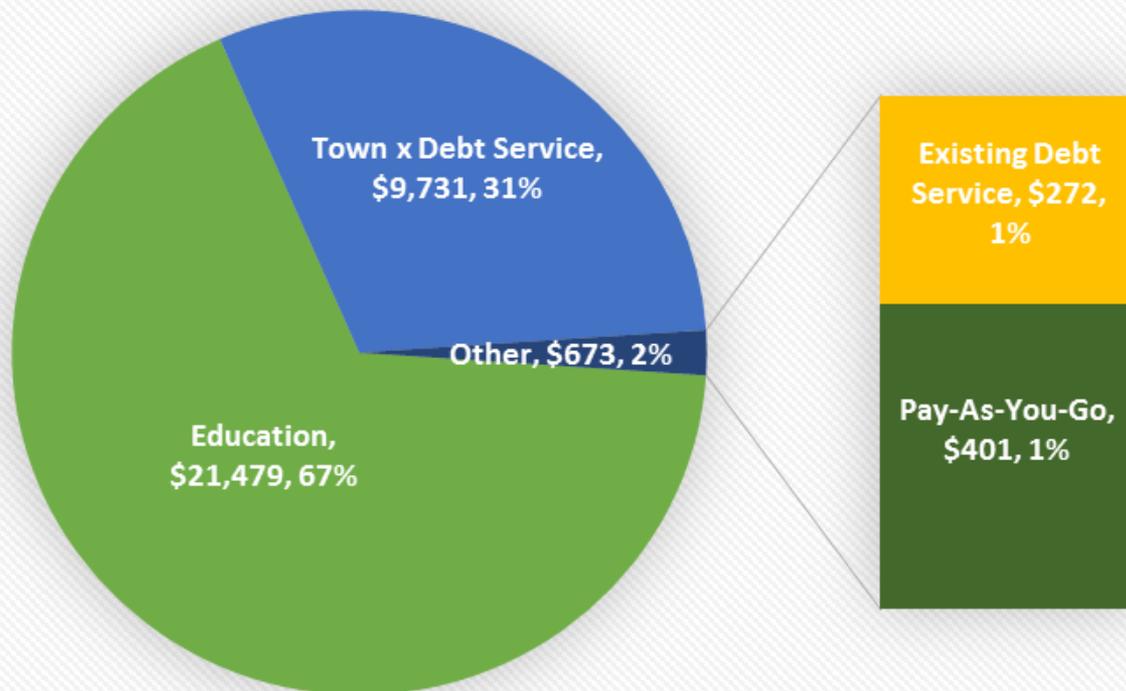


Summary Points

- **Long-term Interest rates are close to all-time lows with the yield on the 10-year US Treasury bond at about 1.50%**
- **The Town's bond rating is Aa2 which is only two notches from the highest rating of Aaa**
- **The Town can issue 20 year bonds at a rate of about 2.00% (this debt analysis assumes a rate of 2.25%)**
- **The Town has a relatively low amount of existing debt that is amortizing very aggressively and will be completely paid-off in 2024 (seven years)**
- **The Town can put together a debt strategy to take advantage of: low interest rates, high bond rating and an existing debt profile that is paid-off in seven years.**
- **This plan can stagger the proposed new debt issuance over a period of time utilizing short-term notes (BANs) and long-term Bonds to layer in the proposed new debt without impacting the town's current debt load**
- **The Town can issue \$6,950,000 of new debt for various capital projects and the aggregate impact (existing & proposed) will stay under \$700,000 per year.**
- **This strategy will allow the Town to invest and maintain the town's quality of life while managing the impact of debt service on the budget.**

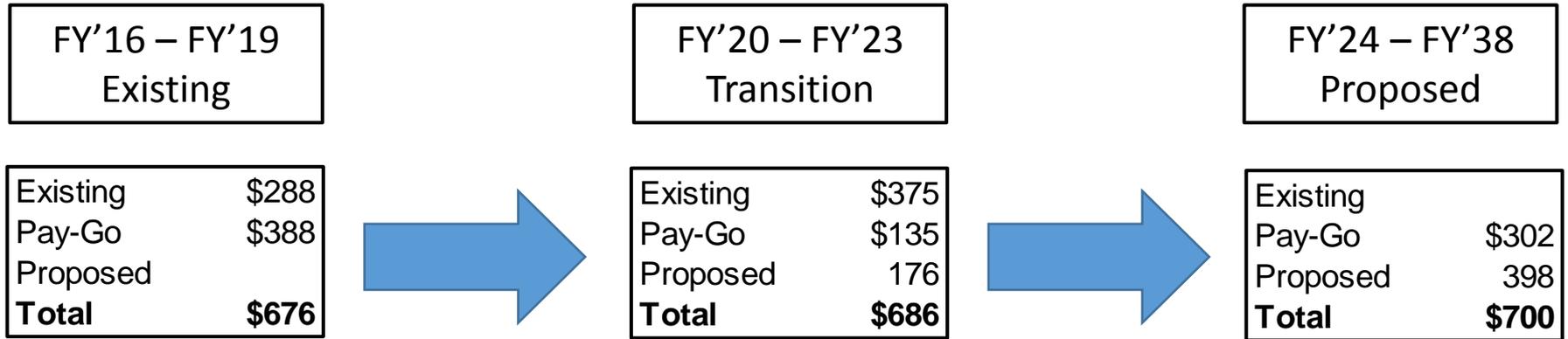
Middlebury's Town & Education Budget for F'16-F'17 is \$31,884K.
Existing Debt Service & Pay-As-You-Go Account for 2% of the Budget.

Middlebury Education & Town Budgets - F'16-'17



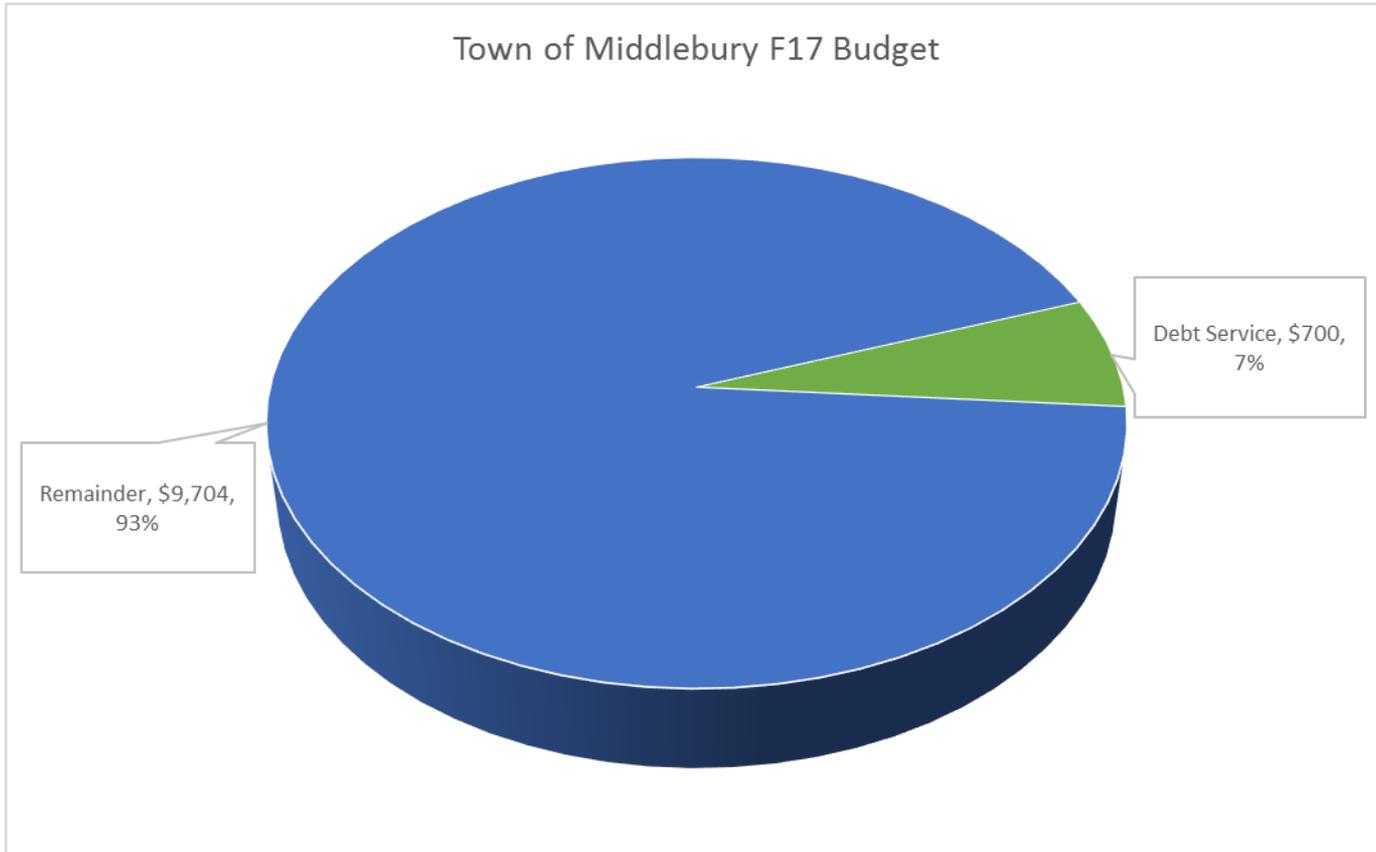
■ Education ■ Town x Debt Service ■ Existing Debt Service ■ Pay-As-You-Go

Totals for Existing and Proposed Debt Service Will Remain Essentially Flat Over the Proposed Timeline.
Existing Debt Service & Pay-As-You-Go Will Be Replaced By the Proposed Debt Service & Pay-As-You-Go.



Numbers represent an average year in each group.

Middlebury's Town Budget for F'17 is \$10,404K. Existing Debt Service & Pay-Go Account for 7% of the Budget.

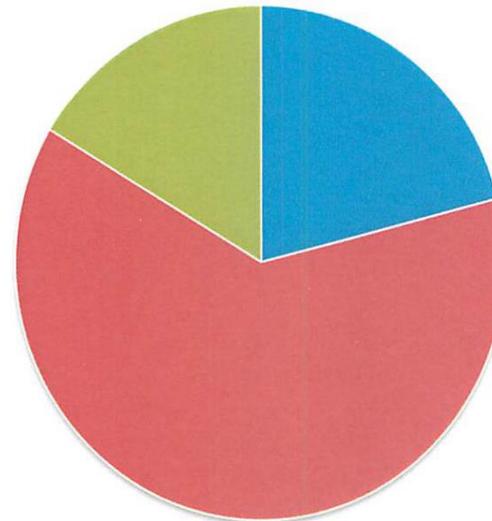


Totally rebuilding roads and drainage systems is just that. These roads have deteriorated past the point of just resurfacing milling and paving or some pavement preservation method and have bigger issues that need to be addressed before DPW can resurface them.

Resurfacing by milling and paving is performed when the top layer of the pavement has deteriorated past the point of pavement preservation or minor patching and now just needs to be removed and replaced. The roads in this category probably do not have any major base failures and their drainage systems are still in good condition.

Pavement preservation methods such as chip seal or cape seal are meant to slightly improve and extend the functional life of the pavement. The application of a surface treatment such as chip sealing, micro-paving or cape sealing is meant to slow down the progressive failures of pavement and reduce the need for any additional maintenance or service routines for a given period of time.

We would need \$8,399,386 just to catch up



- \$1,772,937 needed to totally rebuild roads & drainage systems
- \$5,241,021 needed for resurfacing by milling & paving
- \$1,385,428 needed for resurfacing by pavement preservation methods such as chip seal or cape seal

Looking Beyond 2017

Moving forward from the year 2018 to 2035 (the 17 years following the bonded roadwork), and based on today's prices of road construction materials, we project the need for an approximate average of \$536,050 per year to continue to maintain the Town's road network.

Street	From	To	Mileage (state listed)	Crack Sealing & Other Maint	Most Recent Surface Treatment	Date of Last Surface Treatment	Next Re-Surfacing Due	Next Treatment Recommendation (As of Nov 2015)	2015 Cost Estimate of Recommended Surface Treatment
Abbott Farm Rd	Rte 64	End	0.34	Crack Sealed 2009	NEW in 1997	1997	2017	Mill & Pave	\$125,600.00
Acme Dr.	Colonial Dr	Upland Dr	0.44	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	2006	2021	Pavement Preservation	\$74,342.40
Algin Dr.	Rte 188	End	0.32		Dbl Chip Sealed	1996	2016	Drainage Improvements, Mill & Pave	\$231,850.67
Allerton Farms Rd.	Rte 63	Naugatuck Town Line	0.38		Milled & Paved / Replaced CB Tops	2015	2035	Crack Seal 2025	\$22,293.33
Anawan Ave.	Rte 63	Waterbury Town Line	0.08		Pavement Overlay, Drainage Improvements	1988	2008	Drainage Improvements, Mill & Pave	\$50,922.67
Artillery Rd. #1	Breakneck Hill	Charcoal Ave	0.64	Replaced culvert 2011	Weged and Chip Sealed	1999	2014	Wedge & Pave	\$206,506.67
Artillery Rd. #2	Rt.64	Charcoal Ave	0.10	Crack Sealed 1997	Pavement Overlay	2005	2025	Mill & Pave	\$29,333.33
Atwood Rd.	Rte 188	End	0.15	Crack Sealed in 2009	Drainage Improvements, Waterline Installed, Reclaimed and Paved	1994	2009	Pavement Preservation	\$22,176.00
Aveline Ave.	Three Mile Hill	End	0.09	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	1997	2012	Pavement Preservation	\$14,572.80
Bayberry Rd.	Three Mile Hill	Bayberry Terrace	0.18	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	1997	2012	Pavement Preservation	\$27,878.40
Bayberry Terrace	Bayberry Rd	Merideth Rd	0.14	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	1997	2012	Pavement Preservation	\$21,683.20
Beacon Hill	Watertown Rd	End	0.05		Pavement Overlay	1992	2012	Mill & Pave	\$20,533.33
Benson Rd #1	Rte 188	Kissawaug Rd	0.61		Weged and Chip Sealed	1999	2014	Wedge & Pave	\$268,666.67
Benson Rd #2	Kissawaug Rd	Oxford Town Line	0.57		Pavement Overlay	2001	2021	Wedge & Pave	\$200,000.00
Bioski Rd.	Shaddock Rd	Leonard Rd	0.90		Pavement Overlay	1992	2012	Drainage Improvements, Reclaim, Grade & Pave	\$625,680.00
Bioski Rd. (Old Bioski Farm Rd)	Bioski Rd	End	0.01		Pavement Overlay	1992	2012	Wedge & Pave	\$2,200.00
Birchwood Terr.	Dorothy Dr	Janet Dr	0.11	Crack Sealed 2015	Drainage improvements, Water & Sewer installation, Reclaimed & Paved, New Curbing	2007	2022	Pavement Preservation	\$17,036.80
Blueberry Knoll	Three Mile Hill	End	0.16	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	1997	2012	Pavement Preservation	\$24,780.80
Bona Rd	Rte 188	End	0.21	Crack Sealed 2009	Drainage Improvements, Waterline Installed, Reclaimed and Paved	1994	2009	Pavement Preservation	\$26,611.20
Breakneck Hill #1	Glenwood Ave	Artillery Rd	0.25		Drainage Improvements, Sewer Installed, Reclaimed and Paved	2005	2020	Pavement Preservation	\$112,640.00
Breakneck Hill #2	Artillery Rd	Charcoal Ave	1.40		Pavement Overlay	2006	2026	Mill & Pave	\$335,666.67
Briarwood Terr.	Park Rd	End	0.16	Crack Sealed 2015	Drainage Improvements, Waterline Installed, Milled and Paved	2008	2023	Pavement Preservation	\$24,780.80
Bristol Dr	Upper Whittemore Rd	End	0.12		Pavement Overlay	1991	2011	Mill & Pave	\$33,440.00

Bronson Dr.	Rte 188	Dwyer Rd	0.40	Crack Sealing Planned 2016	Drainage Improvements, Water Installation, Milled & Paved, New Curbing	2003	2018	Pavement Preservation	\$67,584.00
Brook Ln.	Steinmann Ave	Porter Ave	0.08		Drainage Improvements, Water Installation, Milled & Paved, New Curbing	2006	2026	Crack Seal 2016	\$4,130.13
Burr Hill Road	Charcoal Ave	End	1.03		Pavement Overlay	1995	2015	Wedge & Pave	\$332,346.67
Camp Rd	Woodland Rd	End	0.15	Crack Sealing Planned 2016	Waterline installation & Paved	2003	2018	Pavement Preservation	\$21,120.00
Carrage Drive	Breakneck Hill Rd	Tyler Crossing	0.49	Crack Sealing Planned 2016	Sewer Installation, Pavement Overlay, New Curbing	2001	2016	Pavement Preservation	\$82,790.40
Cemetery Rd.	Rte 64	End	0.11		Wedged and Chip Sealed	1999	2014	Wedge & Pave	\$33,880.00
Central Rd.	North St	End	0.64	Crack Sealing Planned 2016	Drainage Improvements and Pavement Overlay	2005	2020	Pavement Preservation	\$103,628.80
Charcoal Ave.	Rte 64	Tranquility Rd	1.55		Wedged & Shaped	2004	2019	Mill & Pave	\$545,600.00
Chase Rd.	Rte 64	Tucker Hill	0.17		Pavement Overlay	1990	2010	Mill & Pave	\$59,840.00
Chesham Dr.	Charcoal Ave	End	0.37		Chip Sealed	2004	2024	Mill & Pave	\$130,240.00
Christian Rd. #1	Rte 64	Rte 188	1.14		Cape Sealed	2011	2026	Pavement Preservation	\$192,390.72
Christian Rd. #2	Rte 188	I-84 Overpass	0.21	Crack Sealed in 2009	Drainage Improvements, Sewer Installation and Pavement Overlay	2006	2021	Pavement Preservation	\$35,296.00
Christian Rd. #3	I-84 Overpass	Kissawaug Rd	0.62	Crack Sealed in 2009	Drainage Improvements and Pavement Overlay	2001	2016	Pavement Preservation	\$105,280.00
Christian Rd. #4	Kissawaug Rd	Oxford Town Line	0.77	Crack Sealed in 2009	Drainage Improvements and Pavement Overlay	2001	2016	Mill & Pave	\$270,066.67
Clearview Knoll	Rte 64	End	0.12		Drainage Improvements, Water Installation and Pavement Overlay	2006	2026	Crack Seal 2016	\$6,758.40
Colonial Ave. #1	Breakneck Hill	Acme Dr	0.10	Crack Sealed 2015	Drainage Improvements, Water Installation and Pavement Overlay	2005	2020	Pavement Preservation	\$16,192.00
Colonial Ave. #2	Three Mile Hill	Acme Dr	0.25	Crack Sealed 2015	Milled and Paved, replaced curbing	1997	2012	Mill & Pave	\$88,000.00
Country Club East	Rte 63	Waterbury Town Line	0.09		Milled, Re-Paved & Replaced Curb with Concrete / Replaced CB Tops	2012	2032	Crack Seal 2022	\$5,222.22
Country Club West	Rte 63	Rte 188	0.39	Crack Sealed in 2010	Chip Sealed	1999	2019	Mill & Pave	\$148,720.00
Crest Rd.	Rte 188	Central Rd	0.47	Crack Sealing Planned 2016	Drainage Improvements and Pavement Overlay	2005	2020	Pavement Preservation	\$72,793.60
Cross Rd.	Curtis Farms Rd	End	0.17	Crack Sealed in 2013	Pavement removal, Drainage Improvements, Re-paved	1994	2014	Mill & Pave	\$59,840.00
Curtis Farms Rd.	Rte 188	End	0.37	Cracksealed in 2013	Paved in 1994 / Milled & Re-Paved Cul-de-sac to Green Hill in 2013	1994	2014	Mill & Pave	\$130,240.00
Donovan Rd	Benson Rd	Oxford Town Line	0.05		Pavement Overlay	2001	2016	Pavement Preservation	\$6,336.00
Dorothy Dr.	Birchwood Terr	Janet Dr	0.08	Crack Sealed 2015	Drainage improvements, Sewer & Water installation, Reclaimed & Paved, New Curbing	2007	2022	Pavement Preservation	\$12,390.40

Dwyer Rd.	South St	Woodland Rd	0.35	Crack Sealing Planned 2016	Drainage Improvements, Water Installation, Milled & Paved, New Curbing	2003	2018	Pavement Preservation	\$49,280.00
East Farms Rd.	Mirey Dam	Winthrop Dr	0.40		Wedged, Crack Sealed and Cape Sealed	2009	2029	Mill, Pave and Re-curb	\$166,144.00
East Ridge Dr.	Three Mile Hill	Acme Dr	0.20	Crack Sealed 2015	Drainage improvements, Water installation, Reclaimed & Paved, New Curbing	2007	2022	Pavement Preservation	\$33,792.00
Edgar Rd	Stevens Rd	End	0.06		Drainage improvements, Water installation, Milled & Paved, New Curbing	2006	2026	Crack Seal 2016	\$2,534.40
Edward Rd.	Rte 188	Jenson Dr	0.06	Crack Sealed in 2013	Sewer Installation, Pavement Overlay, New Curbing	1996	2011	Pavement Preservation	\$10,137.60
Elfin Place	Washington Dr	End	0.09		Drainage improvements, Sewer installation, Reclaimed & Paved, New Curbing	2007	2027	Crack Seal 2017	\$3,801.60
Fairhaven Dr.	Park Rd	End	0.32	Crack Sealed 2015	Pavement Overlay	2006	2021	Mill & Pave	\$112,640.00
Falcon Crest Rd.	Strathmore Dr	End	0.52		Chip Sealed	1999	2019	Mill & Pave	\$183,040.00
Fenn Rd.	Tucker Hill	Regan Rd	0.33		Pavement Overlay	1993	2008	Pavement Preservation	\$55,756.80
Ferndale Avenue	Rte 63	End	0.11	Crack Sealing Planned 2016	Drainage improvements, Water installation, Milled & Paved, New Curbing	2003	2023	Mill & Pave	\$35,493.33
Foster St.	Rte 63	Yale Ave	0.18	Crack Sealing Planned 2016	Drainage improvements, Water installation, Milled & Paved, New Curbing	2003	2018	Pavement Preservation	\$27,878.40
Freedom Rd.	Leonard Rd	End	0.12		Pavement Overlay	1993	2013	Mill & Pave	\$42,240.00
George St.	Yale Ave	White Ave	0.10	Crack Sealing Planned 2016	Drainage improvements, Water installation, Milled & Paved, New Curbing	2003	2018	Pavement Preservation	\$15,488.00
Gleneagle Rd.	Three Mile Hill	End	0.33	Crack Sealed 2015	NEW in 2004	2004	2019	Pavement Preservation	\$55,756.80
Glenwood Ave.	Rte 64	Breakneck Hill / Colonial	0.33		Drainage improvements, Water installation, Milled & Paved, New Curbing	2005	2025	Crack Seal 2016	\$18,585.60
Goff St.	Yale Ave	White Ave	0.06	Crack Sealing Planned 2016	Drainage improvements, Water installation, Milled & Paved, New Curbing	2003	2018	Pavement Preservation	\$9,715.20
Green Hill Rd.	Curtis Farms Rd	End	0.38	Cracksealed in 2013	Drainage upgrades and Pavement Overlay	1994	2014	Mill & Pave	\$133,760.00
Guntown Rd.	South St	Naugatuck Town Line	0.06		Pavement Overlay by Naugatuck	2000	2020	Wedge & Pave	\$21,120.00
Hannah Dr.	Three Mile Hill	Dorothy Dr	0.08	Crack Sealed 2015	Drainage improvements, Water & Sewer Installation, Reclaimed & Paved, New Curbing	1997	2017	Mill & Pave	\$30,506.67
Highland Dr	Christian Rd	End	0.12		Milled, Paved & Re-Curbed with concrete / Replaced CB Tops	2013	2033	Crack Seal 2023	\$7,321.60
Highview Rd.	Middlebury Terr	End	0.05		Drainage improvements, Water Installation, Reclaimed & Paved, New Curbing	2006	2026	Crack Seal 2016	\$2,112.00
Highwood Ave.	Richardson Dr	Waterbury Town Line	0.02		Pavement Overlay	1991	2006	Pavement Preservation	\$3,942.40
Hill Parkway	Christian Rd	Triangle Blvd	0.24		Drainage improvements and Pavement overlay	2001		None	\$0.00
Hill Rd.	South St	Naugatuck Town Line @ Krodel Rd	0.42	Replaced culvert 2011	Drainage improvements and Pavement overlay	2000	2020	Wedge & Pave	\$123,200.00



**Middlebury Department of Public Works
Roof Design and Consulting Services
Town Hall and Shepardson Community Center
976190
Life Cycle Cost Analysis**

Gale Associates, Inc. (Gale) performed a Life Cycle Cost (LCC) cost analysis for different roof systems at both the Middlebury Town Hall (1212 Whittemore Road) and the Shepardson Community Center (1172 Whittemore Road). The tables below indicates assumptions used in the economic calculations in order to determine present day costs for different types of roof systems, their annual maintenance and estimated service lives. Please note that the bold Present Value cost represents the most economical present day values of all expenditures including initial costs of roof replacement, future replacements and continued maintenance for the anticipated service life. Estimated service lives are predicated on a pro-active continuing maintenance program.

Middlebury Town Hall	Roof A Asphalt Shingle	Roof B Synthetic Slate	Roof C Natural Slate
First Cost	5,190 sf x \$20= \$103,800	5,190 sf x \$26= \$134,940	5,190 sf x \$32= \$166,080
Annual Maintenance	\$500	\$1000	\$1000
Salvage Value	0	0	5500
Service Life (Using LCM Method of 80 years)	40	40	80
Interest Rate (inflation)	3%	3%	3%
Present Value	\$222,700	\$300,081	\$195,764

Shepardson Community Center	Roof A Asphalt Shingle	Roof B Synthetic Slate	Roof C Natural Slate
First Cost	12,430 sf x \$20= \$248,600	12,430 sf x \$26= \$323,180	12,430 sf x \$32= \$397,760
Annual Maintenance	\$500	\$1000	\$1000
Salvage Value	0	0	\$5500
Service Life (Using LCM Method of 80 years)	40	40	80
Interest Rate (inflation)	3%	3%	3%
Present Value	\$512,300	\$676,561	\$427,444

At both the Town Hall and Shepardson Community Center, it appears that the natural slate roof replacement solution is the more economical choice with the service life of the natural slate system being the defining variable. In Gale's experience, natural slate roofing typically outlasts synthetic slate by approximately double and therefore would be the most economical choice using the least common multiple (LCM) method of 80 years. In a period of 80 years the asphalt shingle roof would need to be replaced two (2) times, the synthetic slate roof would need to be replaced two (2) times, while the natural slate system would be replaced one (1) time.

Please note that the variables used in the economic calculations will be estimates and will vary from the actual first costs, which will be based on competitive contractor bids, maintenance required and fluctuations in the estimated inflation rate. The estimated life cycles will be affected by quality of initial installation and amount and type of continued maintenance. Changes in weather exposure, lack of maintenance and/or lower initial installation quality will affect the service life of a roof system.

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Shepardson Community Center	Roof A Asphalt Shingle	Roof B Synthetic Slate	Roof C Natural Slate
First Cost	12,430 sf x \$20= \$248,600	12,430 sf x \$26= \$323,180	12,430 sf x \$32= \$397,760
Annual Maintenance	\$500	\$1000	\$1000
Salvage Value	0	0	\$5500
Service Life (Using LCM Method of 80 years)	40	40	80
Interest Rate (inflation)	3%	3%	3%
Present Value	\$512,300	\$676,561	\$427,444

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Calculations
Life Cycle Cost Analysis
Middlebury Town Hall and Shepardson Community Center

Formulas

PW =	$C_i R + O(P/A) - S(P/F)$
P/A =	$((1+i)^n - 1) / (i(1+i)^n) \quad i \neq 0$
P/F =	$1 / (1+i)^n$
C_i =	AC_{sf}

Variables

Asphalt Shingle		Synthetic Slate		Natural Slate	
C_{sf}	\$20	C_{sf}	\$26	C_{sf}	\$32
R	2	R	2	R	1
O	\$500	O	\$1,000	O	\$1,000
S	\$0	S	\$0	S	\$5,500

i	3%	n	80
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Middlebury Town Hall	5,190 sf
Shepardson Community Center	12,430 sf

Calculations

P/A	30.20076345
P/F	0.09398

Middlebury Town Hall					
Asphalt Shingle		Synthetic Slate		Natural Slate	
C_i	\$103,800	C_i	\$134,940	C_i	\$166,080
PW	\$222,700	PW	\$300,081	PW	\$195,764

Shepardson Community Center					
Asphalt Shingle		Synthetic Slate		Natural Slate	
C_i	\$248,600	C_i	\$323,180	C_i	\$397,760
PW	\$512,300	PW	\$676,561	PW	\$427,444

Calculations
Life Cycle Cost Analysis
Middlebury Town Hall and Shepardson Community Center

<u>Key</u>			
PW	Present Worth, \$	<u>*P/A</u>	This equation allows the calculation of an equivalent uniform annual series which begins at the end of year 1 and extends for n years at an interest rate i.
C ₁	Initial Cost, \$		
C _{af}	Cost per square foot, \$		
O	Annual Operating Cost, \$		
P/A	Uniform-series Present-worth Factor*		
S	Salvage Value, \$		
P/F	Single-payment Present-worth Factor*	<u>*P/F</u>	This equation allows the calculation of a given future amount after n years at interest rate i
A	Area of roof, sf		
R	Replacement Rate- based on LCM of 100 years		
i	Interest Rate (Inflation), %		
n	Time, years		

References
 Life Cycle Cost Analysis
 Middlebury Town Hall and Shepardson Community Center

PAYMENTS

n	i = 3%		i = 4%	
	Single	Uniform-Series	Single	Uniform-Series
	Present Worth: P/F	Present Worth: P/A	Present Worth: P/F	Present Worth: P/A
1	0.9709	0.9709	0.9615	0.9615
2	0.9426	1.9135	0.9246	1.8861
3	0.9151	2.8286	0.8890	2.7751
4	0.8885	3.7171	0.8548	3.6299
5	0.8626	4.5797	0.8219	4.4518
6	0.8375	5.4172	0.7903	5.2421
7	0.8131	6.2303	0.7599	6.0021
8	0.7894	7.0197	0.7307	6.7327
9	0.7664	7.7861	0.7026	7.4353
10	0.7441	8.5302	0.6756	8.1109
11	0.7224	9.2526	0.6496	8.7605
12	0.7014	9.9540	0.6246	9.3851
13	0.6810	10.6350	0.6006	9.9856
14	0.6611	11.2961	0.5775	10.5631
15	0.6419	11.9379	0.5553	11.1184
16	0.6232	12.5611	0.5339	11.6523
17	0.6050	13.1661	0.5134	12.1657
18	0.5874	13.7535	0.4936	12.6593
19	0.5703	14.3238	0.4746	13.1339
20	0.5537	14.8775	0.4564	13.5903
21	0.5375	15.4150	0.4388	14.0292
22	0.5219	15.9369	0.4220	14.4511
23	0.5067	16.4436	0.4057	14.8568
24	0.4919	16.9355	0.3901	15.2470
25	0.4776	17.4131	0.3751	15.6221
26	0.4637	17.8768	0.3607	15.9828
27	0.4502	18.3270	0.3468	16.3296
28	0.4371	18.7641	0.3335	16.6631
29	0.4243	19.1885	0.3207	16.9837
30	0.4120	19.6004	0.3083	17.2920
31	0.4000	20.0004	0.2965	17.5885
32	0.3883	20.3888	0.2851	17.8736
33	0.3770	20.7658	0.2741	18.1476
34	0.3660	21.1318	0.2636	18.4112
35	0.3554	21.4872	0.2534	18.6646
36	0.3450	21.8323	0.2437	18.9083
37	0.3350	22.1672	0.2343	19.1426
38	0.3252	22.4925	0.2253	19.3679
39	0.3158	22.8082	0.2166	19.5845

References
Life Cycle Cost Analysis
Middlebury Town Hall and Shepardson Community Center

40	0.3066	23.1148	0.2083	19.7928
45	0.2644	24.5187	0.1712	20.7200
50	0.2281	25.7298	0.1407	21.4822
55	0.1968	26.7744	0.1157	22.1086
60	0.1697	27.6756	0.0951	22.6235
65	0.1464	28.4529	0.0781	23.0467
70	0.1263	29.1234	0.0642	23.3945
75	0.1089	29.7018	0.0528	23.6804
80	0.0940	30.2008	0.0434	23.9154
84	0.0835	30.5501	0.0371	24.0729
85	0.0811	30.6312	0.0357	24.1085
90	0.0699	31.0024	0.0293	24.2673
96	0.0586	31.3812	0.0232	24.4209
100	0.0520	31.5989	0.0198	24.5050
108	0.0411	31.9642	0.0145	24.6383
120	0.0288	32.3730	0.0090	24.7741

ENGINEERING COST ESTIMATE				
Facility Name	Middlebury Town Hall and Community Center	Gale Project No.	976190	
Project Title	Roof Replacement and Associated Work	Date Prepared:	20-Apr-15	
Design Phase:	Construction Documents	Prepared by:	ETH	
Building	TOWN HALL	Checked by:	MAL	
		Date Updated:	13-Jun-16	
		Total Sq Ft	5,925	
Section #	Title	Material Cost	Labor Cost	Total
024119	Selective Structure Demolition	0.00	0.00	0.00
028216	Engineering Control of ACM	0.10	3.40	3.50
028313	Lead In Construction	0.00	0.00	0.00
030100	Maintenance of Concrete	0.00	0.00	0.00
035100	Gypsum Deck Restoration	0.00	0.00	0.00
035113	Cementitious Wood Fiber Decks	0.00	0.00	0.00
035116	Lightweight Deck Restoration	0.00	0.00	0.00
040120	Unit Masonry	53,919.00	0.00	53,919.00
053100	Steel Decking	0.00	0.00	0.00
055000	Metal Fabrications	0.00	0.00	0.00
061000	Rough Carpentry	18,447.50	0.00	18,447.50
070150	Maintenance of Membrane Roofing	0.00	0.00	0.00
071800	Traffic Coatings	0.00	0.00	0.00
072200	Roof and Deck Insulation	0.00	0.00	0.00
072419	Water-Drainage Exterior Insulation and Finish System	0.00	0.00	0.00
073113	Asphalt Shingles	0.00	0.00	0.00
073126	Tile Shingles	261,167.00	0.00	261,167.00
074113	Metal Roof Panels	0.00	0.00	0.00
074213	Metal Wall Panels	0.00	0.00	0.00
074243	Composite Wall Panels	0.00	0.00	0.00
074600	Siding	0.00	0.00	0.00
075113	Built-up Asphalt Roofing	0.00	0.00	0.00
075216	Modified Bituminous Membrane Roofing	0.00	0.00	0.00
075323	EPDM Roofing	25,725.00	0.00	25,725.00
075420	Thermoplastic Roofing	0.00	0.00	0.00
075556	Fluid-Applied Protected Membrane Roofing	0.00	0.00	0.00
076000	Flashing and Sheet Metal	40,503.00	0.00	40,503.00
077200	Roof Accessories	0.00	0.00	0.00
079200	Joint Sealants	2,880.00	0.00	2,880.00
081100	Metal Doors and Frames	0.00	0.00	0.00
084413	Gazed Aluminum Curbside	0.00	0.00	0.00
085101	Aluminum Windows and Glazing	0.00	0.00	0.00
086200	Unit Skylights	0.00	0.00	0.00
086201	Structural Skylights	0.00	0.00	0.00
088000	Glazing	0.00	0.00	0.00
089000	Louvers and Vents	0.00	0.00	0.00
092900	Gypsum Board	0.00	0.00	0.00
095113	Acoustic Panel Ceilings	0.00	0.00	0.00
099100	Painting	0.00	0.00	0.00
099553	Elastomeric Coatings	0.00	0.00	0.00
221426.13	Roof Drains	0.00	0.00	0.00
230510	Mechanical/Electrical General	0.00	0.00	0.00
260001	Basic Electrical Requirements	0.00	0.00	0.00
264100	Facility Lightning Protection	0.00	0.00	0.00
	Subtotal			402,645.00
	Division 1 General Requirements			31,204.99
	Subtotal			433,849.99
	10% Overhead and Profit			43,385.00
	Subtotal			477,234.99
	General Contractor Markup (not used)			0.00
	ESTIMATED CONSTRUCTION COST			477,234.99
	PRICE PER SQUARE FOOT			80.54598924
<p>Note: This cost estimate is based on the bidding climate anticipated at the time of document preparation and does not include escalation. The estimate is also prepared based on the assumption that the work will be competitively bid. Should bidding be limited to select contractors, actual costs may increase significantly with extreme fluctuations occurring in some instances.</p>				



ENGINEERING COST ESTIMATE				Gale Project No. 976190				
Facility Name: Middlebury Town Hall and Community Center				Date Prepared: 20-Apr-15				
Project Title: Roof Replacement and Associated Work				Prepared by: ETH				
Design Phase: Construction Documents				Checked by: MAL				
Building: TOWN HALL				Date Updated: 13-Jun-16				
Section #	Item Description	Quantity		Unit Cost		Combined		
		No.	Unit	Unit Cost	Total	Unit Cost	Total	
	R&R continuous continuous TWF with stepped above B	35	#	300.00	10,500.00	0.00	300.00	10,500.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	040120			53,919.00	0.00		53,919.00
053100	Steel Decking							
	Replace deteriorated steel deck		sf		0.00	0.00	0.00	0.00
	Scrape and prime steel deck		sf		0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	053100			0.00	0.00		0.00
055000	Metal Fabrications							
	Install exterior steel ladders		ea		0.00	0.00	0.00	0.00
	Install exterior aluminum ladders (-/+ 15')		ea		0.00	0.00	0.00	0.00
	Install exterior aluminum ladder with cage (+/- 1 30')		ea		0.00	0.00	0.00	0.00
	Install aluminum safety railings		#		0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	055000			0.00	0.00		0.00
061000	Rough Carpentry							
	Eave edge blocking at C	735	bf	4.50	3,307.50	0.00	4.50	3,307.50
	Replace deteriorated wood deck planks (A, B, D, and E)	200	sf	11.00	2,200.00	0.00	11.00	2,200.00
	Replace deteriorated wood blocking	100	bf	4.50	450.00	0.00	4.50	450.00
	Replace deteriorated plywood sheathing	100	sf	2.60	260.00	0.00	2.60	260.00
	Replace deteriorated 1x6 fascia board, painted	20	#	55.00	1,100.00	0.00	55.00	1,100.00
	Install multi-layer PT plywood at chimney	140	sf	4.50	630.00	0.00	4.50	630.00
	R&R wood railings at D and E	2	ea	4,000.00	8,000.00	0.00	4,000.00	8,000.00
	Demo and rebuild PT wood HVAC platform at E	1	ea	2,500.00	2,500.00	0.00	2,500.00	2,500.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	061000			18,447.50	0.00		18,447.50
070150	Maintenance of Membrane Roofing							
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	070150			0.00	0.00		0.00
071800	Traffic Coatings							
	Acrylic elastomeric coating (fasteners)		sf		0.00	0.00	0.00	0.00
	Acrylic elastomeric coating		sf		0.00	0.00	0.00	0.00
	Boom lift		wk		0.00	0.00	0.00	0.00
	Clean and prepare area		sf		0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	071800			0.00	0.00		0.00
072200	Roof and Deck Insulation							
	Flat stock isocyanurate (3")		sf		0.00	0.00	0.00	0.00
	Flat stock isocyanurate (2")		sf		0.00	0.00	0.00	0.00
	Flat stock isocyanurate (1-1/2")		sf		0.00	0.00	0.00	0.00
	Tapered isocyanurate (1/8"R)		sf		0.00	0.00	0.00	0.00
	Tapered isocyanurate (1/4"R)		sf		0.00	0.00	0.00	0.00
	Wood fiberboard (1")		sf		0.00	0.00	0.00	0.00
	Wood fiberboard (1/2")		sf		0.00	0.00	0.00	0.00
	Tapered edge, cert		#		0.00	0.00	0.00	0.00
	Crickets		sf		0.00	0.00	0.00	0.00
	DensDeck board		sf		0.00	0.00	0.00	0.00
	DensDeck prime		sf		0.00	0.00	0.00	0.00
	Urethane adhesive - per layer		sf		0.00	0.00	0.00	0.00
	Fiberglass batt insulation		sf		0.00	0.00	0.00	0.00
	Mechanically attached base sheet		sf		0.00	0.00	0.00	0.00
	Ductwork 1-1/2" isocyanurate		sf		0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	072200			0.00	0.00		0.00
072419	Water-Drainage Exterior Insulation and Finish System							

ENGINEERING COST ESTIMATE				Gale Project No. 976190				
Facility Name: Middlebury Town Hall and Community Center				Date Prepared: 20-Apr-15				
Project Title: Roof Replacement and Associated Work				Prepared by: ETH				
Design Phase: Construction Documents				Checked by: MAL				
Building: TOWN HALL				Date Updated: 13-Jun-16				
Section #	Item Description	Quantity		Unit Cost		Combined		
		No.	Unit	Unit Cost	Total	Unit Cost	Total	
	Copper conductor boxes	4	ea	1,000.00	4,000.00	0.00	1,000.00	4,000.00
	Copper water diverter Area "D"	1	ea	250.00	250.00	0.00	250.00	250.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	076000			40,503.00	0.00		40,503.00
077200	Roof Accessories							
	Prefabricated insulated metal curbs		ea	0.00	0.00	0.00	0.00	0.00
	Prefabricated HVAC curbs		ea	0.00	0.00	0.00	0.00	0.00
	Roof access hatches		ea	0.00	0.00	0.00	0.00	0.00
	Pre-engineered snow guards (Aluminum w/stainless)		lf	0.00	0.00	0.00	0.00	0.00
	Piping for snow guards		lf	0.00	0.00	0.00	0.00	0.00
	Fasteners for snow guards		ea	0.00	0.00	0.00	0.00	0.00
	Walkway pads (1/2" rubber)		lf	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	077200			0.00	0.00		0.00
079200	Joint Sealants							
	Remove and replace interior and exterior PS below C	240	lf	12.00	2,880.00	0.00	12.00	2,880.00
	Remove and replace sealant joint (Elev-15 to 50 ft)		lf	0.00	0.00	0.00	0.00	0.00
	New sealant joint		lf	0.00	0.00	0.00	0.00	0.00
	Boom lift		day	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	079200			2,880.00	0.00		2,880.00
081100	Metal Doors and Frames							
	Mechanical access door		ea	0.00	0.00	0.00	0.00	0.00
	Door hardware		ea	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	081100			0.00	0.00		0.00
084413	Glazed Aluminum Curtainwall							
	New Kelwell system		sf	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	084413			0.00	0.00		0.00
085101	Aluminum Windows and Glazing							
	Operable units (not greater than 6'x4')		ea	0.00	0.00	0.00	0.00	0.00
	Fixed windows (not greater than 3'x4')		ea	0.00	0.00	0.00	0.00	0.00
	Fixed windows (up to 4'x6')		ea	0.00	0.00	0.00	0.00	0.00
	Manual operators (arch type operatives 4 windows max)		ea	0.00	0.00	0.00	0.00	0.00
	Insulated panels		sf	0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	085101			0.00	0.00		0.00
086200	Unit Skylights							
	Small rectangular DD acrylic skylights		ea	0.00	0.00	0.00	0.00	0.00
	Barrel vaulted skylights DD acrylic (6'-6" wide)		lf	0.00	0.00	0.00	0.00	0.00
	Remove and reinstall existing skylight			0.00	0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	086200			0.00	0.00		0.00
086201	Structural Skylights							
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
	SUBTOTAL	086201			0.00	0.00		0.00
088000	Glazing							
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00
					0.00	0.00	0.00	0.00



ENGINEERING COST ESTIMATE						
Facility Name: Middlebury Town Hall and Community Center				Gale Project No. 976190		
Project Title: Roof Replacement and Associated Work				Date Prepared: 20-Apr-15		
Design Phase: Construction Documents				Prepared by: ETH		
Building: TOWN HALL				Checked by: MAL		
				Date Updated: 13-Jun-16		
Section #	Item Description	Quantity		Unit Cost		Combined
		No.	Unit	Unit Cost	Total	Unit Cost
	Mobilize and demobilize	0.027				10,871.42
	Submittal process	0.007				2,818.52
	Material storage and protection	0.007				2,818.52
	Supernitendent, Project Manager		hrs @	rate	85.00 eight weeks full time	0.00
TOTAL DIVISION 1						31,204.99

ENGINEERING COST ESTIMATE				Gale Project No.	976190
Facility Name				Date Prepared:	20-Apr-16
Project Title:				Prepared by:	ETH
Design Phase:				Checked by:	MLL
Building				Date Updated:	13-Jun-16
				Total Sq Ft	12,430
Section #	Title	Material Cost	Labor Cost	Total	
024119	Selective Structure Demolition	0.00	0.00	0.00	
028216	Engineering Control of ACM	0.00	0.00	0.00	
028313	Lead in Construction	0.00	0.00	0.00	
030100	Maintenance of Concrete	0.00	3.20	3.20	
035100	Gypsum Deck Restoration	0.00	0.00	0.00	
035113	Cementitious Wood Fiber Decks	0.00	0.00	0.00	
035116	Lightweight Deck Restoration	0.00	0.00	0.00	
040120	Unit Masonry	63,100.00	3.20	63,103.20	
053100	Steel Decking	0.00	0.00	0.00	
055000	Metal Fabrications	0.00	0.00	0.00	
061000	Rough Carpentry	5,010.00	0.00	5,010.00	
070150	Maintenance of Membrane Roofing	0.00	0.00	0.00	
071800	Traffic Coatings	0.00	0.00	0.00	
072200	Roof and Deck Insulation	0.00	0.00	0.00	
072419	Water-Drainage Exterior Insulation and Finish System	0.00	0.00	0.00	
073113	Asphalt Shingles	0.00	0.00	0.00	
073126	Tile Shingles	511,021.80	0.00	511,021.80	
074113	Metal Roof Panels	0.00	0.00	0.00	
074213	Metal Wall Panels	0.00	0.00	0.00	
074243	Composite Wall Panels	0.00	0.00	0.00	
074600	Siding	0.00	0.00	0.00	
075113	Built-up Asphalt Roofing	0.00	0.00	0.00	
075216	Modified Bituminous Membrane Roofing	0.00	0.00	0.00	
075323	EPDM Roofing	0.00	0.00	0.00	
075420	Thermoplastic Roofing	0.00	0.00	0.00	
075556	Fluid-Applied Protected Membrane Roofing	0.00	0.00	0.00	
076000	Fishing and Sheet Metal	33,158.00	0.00	33,158.00	
077200	Roof Accessories	0.00	0.00	0.00	
079200	Joint Sealants	0.00	0.00	0.00	
081100	Metal Doors and Frames	0.00	0.00	0.00	
084413	Glazed Aluminum Curtainwall	0.00	0.00	0.00	
085101	Aluminum Windows and Glazing	0.00	0.00	0.00	
086200	Unit Skylights	0.00	0.00	0.00	
086201	Structural Skylights	0.00	0.00	0.00	
088000	Glazing	0.00	0.00	0.00	
088000	Louvers and Vents	0.00	0.00	0.00	
092900	Gypsum Board	0.00	0.00	0.00	
095113	Acoustic Panel Ceilings	0.00	0.00	0.00	
099100	Painting	0.00	0.00	0.00	
099553	Elastomeric Coatings	0.00	0.00	0.00	
221428.13	Roof Drains	0.00	0.00	0.00	
230510	Mechanical/Electrical General	0.00	0.00	0.00	
260001	Basic Electrical Requirements	0.00	0.00	0.00	
264100	Facility Lightning Protection	0.00	0.00	0.00	
Subtotal				612,296.60	
Division 1 General Requirements				31,204.99	
Subtotal				643,501.59	
10% Overhead and Profit				64,350.16	
Subtotal				707,851.75	
General Contractor Markup (not used)				0.00	
ESTIMATED CONSTRUCTION COST				707,851.75	
PRICE PER SQUARE FOOT				56.94704314	

Note: This cost estimate is based on the bidding climate anticipated at the time of document preparation and does not include escalation. The estimate is also prepared based on the assumption that the work will be competitively bid. Should bidding be limited to select contractors, actual costs may increase significantly with extreme fluctuations occurring in some instances.

ISSUER COMMENT

9 May 2016

RATING
General Obligation (or GO Related)¹

Aa2 No Outlook

Contacts

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Town of Middlebury, CT
Annual Comment on Middlebury
Issuer Profile

The town of Middlebury is located in New Haven County in western Connecticut, approximately 15 miles northwest of New Haven. New Haven County has a population of 861,277 and a population density of 1,425 people per square mile. The county's per capita personal income is \$50,261 (1st quartile) and the November 2015 unemployment rate was 5.2% (3rd quartile).² Health services, retail and manufacturing are key drivers of the local economy.

Credit Overview

Middlebury's credit position is very strong, and its Aa2 rating is slightly higher than the US city median of Aa3. The rating reflects exceptionally light debt and pension burdens, a wealthy socioeconomic profile with a sound tax base, and an adequate financial position.

Debt and Pensions: The town has extremely small debt and pension liabilities, which are favorable relative to the assigned rating of Aa2. The net direct debt to full value (0.5%) is lower than the US median. Middlebury's Moody's-adjusted net pension liability to operating revenues (0.31x) increased slightly between 2012 and 2015 but favorably is materially below the US median.

Economy and Tax Base: The town has a very strong economy and tax base overall, which are comparable to the assigned rating of Aa2. The full value per capita (\$180,915) is materially above the US median and rose modestly from 2012 to 2015. In addition, the median family income equates to a robust 166.0% of the US level. On the other hand, Middlebury's total full value (\$1.4 billion) is consistent with other Moody's-rated cities nationwide.

Finances: The financial position of the town is adequate, though it is weak when compared to its Aa2 rating. The fund balance as a percent of operating revenues (9.5%) falls far short of the US median and declined modestly from 2012 to 2015. In addition, the cash balance as a percent of revenues (5.6%) is significantly beneath the US median. Connecticut financial ratio medians tend to be lower than US medians. Though larger fund balances provide more flexibility, it is slightly less critical in Connecticut as city revenues and expenditures tend to be highly predictable.

Management and Governance: The ability to generate balanced financial operations is a component of good financial management. Over the past few years, Middlebury's operations were approximately break-even while the tax base generally improved.

Connecticut cities have an institutional framework score ² of "Aa," or strong. Revenues are highly predictable and stable, due to a large reliance on property taxes. Cities additionally benefit from high revenue-raising ability due to the absence of a state-wide property tax cap. Expenditures primarily consist of personnel costs as well as education costs for those cities that manage school operations, and are highly predictable due to state-mandated school spending guidelines and employee contracts that dictate costs. Expenditure reduction ability is moderate as it is somewhat constrained by union presence.

Sector Trends - Connecticut Cities

Connecticut cities will generally benefit from an improving state economy that is experiencing a continued, albeit lagging, recovery from the recession. Cities will also continue to benefit from high resident wealth levels and generally strong housing values. Property tax revenues will continue to rise due to stabilizing residential and commercial real estate markets. However, Connecticut cities will remain somewhat challenged by a high cost of living and doing business, which encourages out-migration and could curb new housing demand.

Exhibit 1

Key Indicators^{4,5}

Middlebury, CT

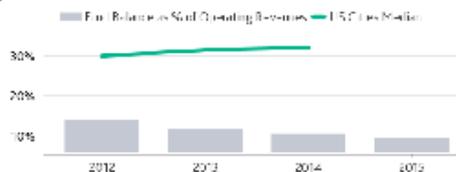
	2012	2013	2014	2015	U.S. Median	Credit Trend
Economy / Tax Base						
Total Full Value	\$1,816M	\$1,815M	\$1,838M	\$1,874M	\$1,772M	Improved
Full Value Per Capita	\$172,605	\$173,557	\$176,299	\$180,515	\$85,195	Stable
Median Family Income (% of U.S. Median)	166.0%	166.0%	165.0%	165.0%	15.2%	Stable
Finances						
Fund Balance as % of Operating Revenues	11.9%	11.6%	10.6%	5.5%	12.1%	Stable
Cash Balance as % of Operating Revenues	5.6%	7.9%	7.8%	5.0%	14.4%	Stable
Debt / Pensions						
Net Direct Debt / Full Value	0.26%	0.62%	0.57%	0.51%	1.2%	Stable
Net Direct Debt / Operating Revenues	0.13x	0.29x	0.26x	0.24x	0.94x	Stable
Moody's-adjusted Net Pension Liability (3-yr average) to Full Value	0.58%	0.60%	0.53%	0.50%	1.7%	Stable
Moody's-adjusted Net Pension Liability (3-yr average) to Operating Revenues	0.26x	0.27x	0.26x	0.31x	1.35x	Stable

Source: Moody's

Exhibit 2

Fund balance as a percent of operating revenues decreased slightly from 2012 to 2015

Fund Balance as a Percent of Operating Revenues



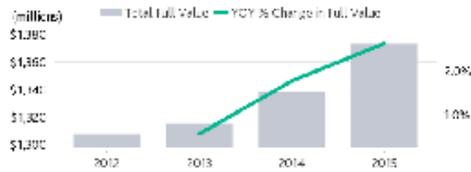
Source: Issuer financial statements; Moody's

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Exhibit 3

Full value of the property tax base increased between 2012 and 2015

Total Full Value



Source: Issuer financial statements; Government data sources; Offering statements; Moody's

Exhibit 4

Moody's-adjusted net pension liability to operating revenues grew from 2012 to 2015

Net Direct Debt and Adjusted Net Pension Liability / Operating Revenues



*Debt is represented as Net Direct Debt / Operating Revenues. Net Direct Debt is defined as gross debt minus self supporting debt. Pensions are represented as ANPL / Operating Revenues. ANPL is defined as the average of Moody's-adjusted Net Pension Liability in each of the past three years.
Source: Issuer financial statements; Government data sources; Offering statements; Moody's

Endnotes

- ¹ The rating referenced in this report is the government's General Obligation (GO) rating or its highest public rating that is GO-related. A GO bond is generally a security backed by the full faith and credit pledge and total taxing power of the local government. See [Local Government GO Pledges Vary Across States](#), for more details. GO-related ratings include issuer ratings, which are GO-equivalent ratings for governments that do not issue GO debt. GO-related ratings also include ratings on other securities that are notched or otherwise related to what the government's GO rating would be, such as annual appropriation, lease revenue, non-ad valorem, and moral obligation debt. The referenced ratings reflect the government's underlying credit quality without regard to state guarantee or enhancement programs or bond insurance.
- ² The per capita personal income data and unemployment data for all counties in the US census are allocated to quartiles. The quartiles are ordered from strongest-to-weakest from a credit perspective: the highest per capita personal income quartile is first quartile, and the lowest unemployment rate is first quartile. The first quartile consists of the top 25% of observations in the dataset, the second quartile consists of the next 25%, and so on. The median per capita personal income for US counties is \$46,049 for 2014. The median unemployment rate for US counties is 4.8% for November 2015.
- ³ The Institutional framework score measures a municipality's legal ability to match revenues with expenditures based on its constitutionally and legislatively conferred powers and responsibilities. See [US Local Government General Obligation Debt \(January 2014\)](#) for more details.
- ⁴ For definitions of the metrics in the Key Indicators Table, [US Local Government General Obligation Methodology and Scorecard User Guide \(July 2014\)](#). The population figure used in the Full Value Per Capita ratio is the most recently available, most often sourced from either the US Census or the American Community Survey. Similarly, the Median Family Income data reported as of 2012 and later is always the most recently available data and is sourced from the American Community Survey. The Median Family Income data prior to 2012 is sourced from the 2010 US Census. The Full Value figure used in the Net Direct Debt and Moody's-adjusted Net Pension Liability (3-year average ANPL) ratios is matched to the same year as audited financial data, or if not available, lags by one or two years. Certain state-specific rules also apply to Full Value. For example, in California and Washington, assessed value is the best available proxy for Full Value. Certain state-specific rules also apply to individual data points and ratios. Moody's makes adjustments to New Jersey local governments' reported financial statements to make it more comparable to GAAP. Additionally, Moody's ANPLs reflect analyst adjustments, if any, for pension contribution support from non-operating funds and self-supporting enterprises. Many local government pension liabilities are associated with its participation in the statewide multiple-employer cost-sharing plans. Metrics represented as N/A indicate the data were not available at the time of publication.
- ⁵ The medians come from our most recently published local government medians report, [Medians – Growing Tax Bases and Stable Fund Balances Support Sector's Stability \(March 2016\)](#). The medians conform to our US Local Government General Obligation Debt rating methodology published in January 2014. As such, the medians presented here are based on the key metrics outlined in the methodology and the associated scorecard. The appendix of this report provides additional metrics broken out by sector, rating category, and population. We use data from a variety of sources to calculate the medians, many of which have differing reporting schedules. Whenever possible, we calculated these medians using available data for fiscal year 2014. However, there are some exceptions. Population data is based on the 2010 Census and Median Family Income is derived from the 2012 American Community Survey. Medians for some rating levels are based on relatively small sample sizes. These medians, therefore, may be subject to potentially substantial year-over-year variation. Our ratings reflect our forward looking opinion derived from forecasts of financial performance and qualitative factors, as opposed to strictly historical quantitative data used for the medians. Our expectation of future performance combined with the relative importance of certain metrics on individual local government ratings account for the range of values that can be found within each rating category. Median data for prior years published in this report may not match last year's publication due to data refinement and changes in the sample sets used, as well as rating changes, initial ratings, and rating withdrawals.

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REPORT NUMBER 1024280



NO MORE BANDAGES! NO MORE DELAYS! NO MORE DUCT TAPE!



Please Vote “YES” on all three Capital Improvement Plan ballot questions!

1. “Shall the \$2,950,000 appropriation and bond issuance authorization to Repair Town Buildings/Facilities be approved?”

YES

NO



2. “Shall the \$1.2 million appropriation for the “Pay As You Go” portion be approved?”

YES

NO



3. “Shall the \$4,000,000 appropriation and bond issuance to Repair Town Roads be approved?”

YES

NO

