

# Board of Education Capital Plan FY17-FY21

**PROJECT TITLE:** Tolland Middle School Roof Sections A-S

**DATE SUBMITTED:** 10/5/2015

## DEPARTMENT PROJECT INFORMATION

Department:	<b>Facilities</b>				
Department Contact:	<b>Peter Sztaba</b>				
Fiscal Year(s) Requested:	<b>FY12017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
Department Priority:	<b>Critical</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	
Type of Project:	<b>Vehicle</b>	<b>Equipment</b>	<b>Technology</b>	<b>Facility</b>	<b>Other</b>

## PROJECT DESCRIPTION

The roof for Tolland Middle School for Section A-S will be out of warranty. This roof was installed in 1998 by Silktown Roofing. Roof currently has leaks (that have been repaired) on the open flashings climbing the walls and has eroded felt in many sections, especially adjacent to the roof edges. Roof is nearing the end of its useful life. Roofing report conducted by SR products that took into consideration the following:

1. Current warranties
2. Current roof condition based upon physical inspection
3. Severity of deferred maintenance
4. Size and roof plan
5. Replacement with Modified roofing system (better than EPDM as it is more durable when removing snow from roof). Includes all applicable flashing installations, old roof removal, drains and insulation

Estimate-\$2,265,150(includes prevailing wage)

## PROJECT NEED

Impact on Department if Recommended or Not Recommended: Water infiltration, safety issues, degradation of physical asset, massive depreciation of building, health risks, increased liability

Cost to Maintain: Preventative maintenance

Describe all Benefits and/or Savings: decrease in roof repairs, decrease in interior repairs(drywall, ceiling tiles, painting, etc), mitigation of liability, improved energy with insulation, reduction in manpower needed to clean up water infiltration, reduced downtime for classes, etc.

**PROJECT BUDGET AND FUNDING SOURCES**

**Project Cost Summary, Recommended Financing Sources, & Operating Budget Impact**

<b>Project Cost Elements</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY2020</b>	<b>FY2021</b>	<b>TOTAL</b>
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Feasibility Study						
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Design - Engineering						
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Site Acquisition						
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Site Improvements			\$2,265,150			
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Construction:						
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Inspection Services						
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Equipment & Furnishings						
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Vehicle Purchase						
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Other						
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Contingency						
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<b>TOTALS-\$2,265,150</b>						
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**Financing Sources**

Lease-Purchase						
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Water Enterprise Funds						
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Sewer Enterprise Funds						
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Solid Waste Enterprise Funds						
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Storm Water Enterprise Funds						
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State / Federal Grants						
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Sale of Surplus Property						
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CPA						
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Other (specify)						
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City Appropriation				\$2,265,150		
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<b>TOTALS-\$2,265,150</b>						
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TOLLAND MIDDLE SCHOOL  
1 FALCON WAY  
TOLLAND, CT

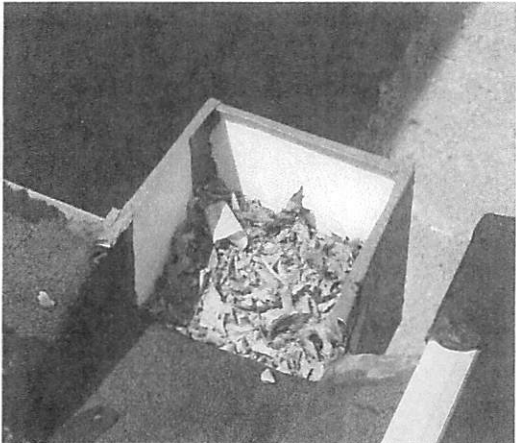


Photo #1: Clogged scupper box 2004 Sections

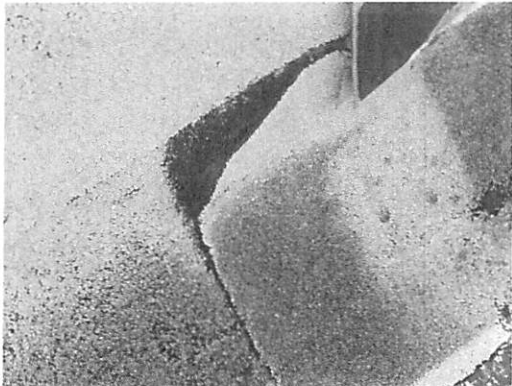


Photo #2: Open flashings along the wall



Photo #3: Debris along drain on the newer sections

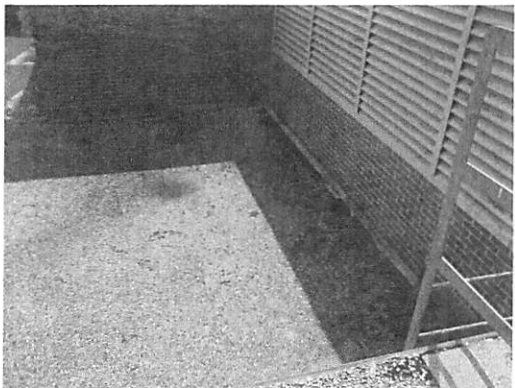


Photo #4: Vegetation along wall

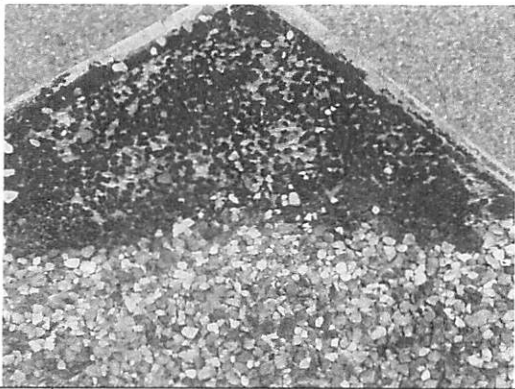


Photo #5: Eroded felts along the perimeter

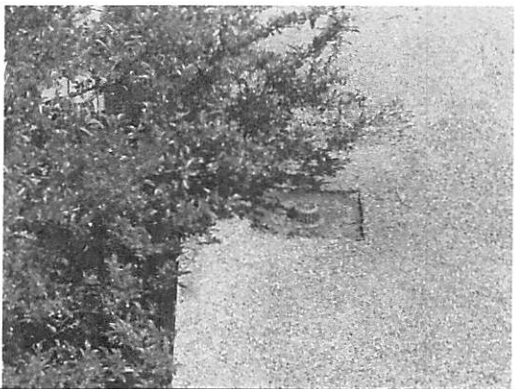


Photo #6: Branches overhanging drains

TOLLAND MIDDLE SCHOOL  
1 FALCON WAY  
TOLLAND, CT

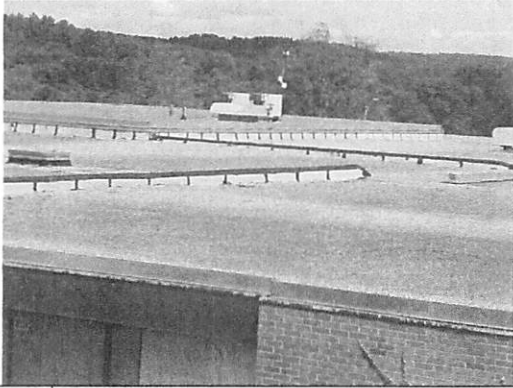


Photo #7: Overview of the 1998 Section



Photo #8: Overview



Photo #9: Another overview

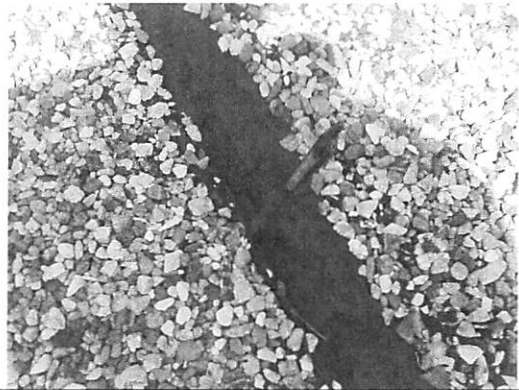


Photo #10: Openings along the Expansion joints.



Photo #11: Another overview

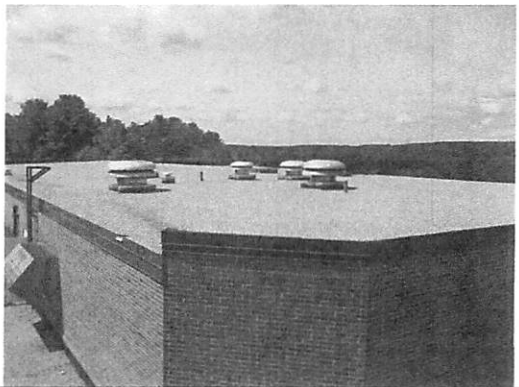


Photo #12: Overview

**TOLLAND MIDDLE SCHOOL  
1 FALCON WAY  
TOLLAND, CT**



Photo #13:	Overview of the 1998 sections
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Photo #14:	Garage area with modified roofing
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**Tolland Middle School  
1 Falcon Way  
Tolland, CT**

**Roof Inspection Date**

8/11/2015

**Roof Identification / Square footage**

All roof areas consists of Built-up roofing with modified flashings, 2004 sections with black modified flashings

Total sq. footage of Built-up Roofs - 115,419 All sections A through U

**Estimated Installation Date**

Built-up Sections A through S - 1998 Total square footage - 90,606 (Silktown Roofing)

Built-up Sections T and U - 2004 Total square footage - 24,813 (Silktown Roofing)

**Leak History**

No leaks reported

**Drainage/Slope**

The existing pitch ranges from 1/4" per 12 inch slope on the low slope areas

**Roof Defects/Deficiencies**

- Expansion joints in the older sections need repairs in designated locations
- Eroded felts throughout, mostly along sections A through S
- Deteriorated flashings throughout sections A through S
- Sections T and U flashings need to be coated an aluminum coating

## **Overall Roof Condition/Rating Built-up Section and EPDM section**

We use a rating system based on the following:

- Roofs rated “Green”. These roofs are in good to excellent condition and have 7+ years of additional service life if properly maintained. The roofs need little or no work at this time.
- Roofs rated “Amber”. These roofs are in fair condition and have approximately 4 to 6 years of service life remaining if routine preventive maintenance and repairs are performed.
- Roofs rated “Red”. These roofs are in poor condition and are at the end of their service life. A maximum of 1 to 3 years of service life may be remaining. Significant repairs are necessary to keep the roofs watertight.

<b>Roof Area</b>	<b>Rating</b>
1998 Sections A through S	Red
2004 Sections T and U	Amber

## **Recommendations and Budgets**

### Maintenance and Repairs Recommendation

- 1) Repair perimeter flashings as required
- 2) Repair all eroded felts as required
- 3) Clear debris
- 4) Fill pitch boxes that are low with bitumen

Budget \$5000 (PO issued for work)

Replacement of all the low slope roofs include the following:

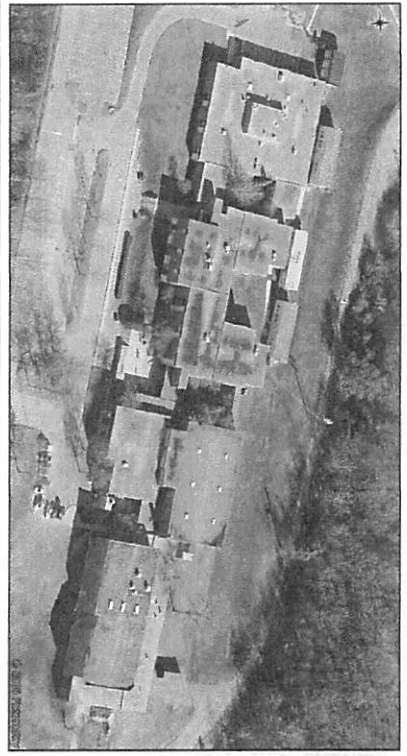
- 1) Complete tear off of the existing roof down to the structural decking.
- 2) Install new scupper and overflow drainage as required
- 3) Installation of new tapered insulation with a minimum 1/4" pitch
- 4) Installation of a new modified roof system with a 20 year warranty
- 5) New metal flashings as required

Budget for 1998 Sections A through S \$2,265,150 (Due for replacement in the year 2018)  
Budget for 2004 Sections T and U \$ 620,500 (Due for replacement in the year 2024)



# TOLLAND MIDDLE SCHOOL

1 FALCON WAY  
TOLLAND, CT



## TABLE OF CONTENTS

PAGE #	DRAWING NUMBER	AREA
PAGE 1	1 - TITLE PAGE	
PAGE 2	2-ALL ROOFS	115,419 sq. ft.

## LEGEND

WALL TYPE	SYMBOL TYPE
<input type="checkbox"/> FLAT ROOF	<input checked="" type="checkbox"/> CURB (HVAC)
	<input checked="" type="checkbox"/> CURB
	<input type="checkbox"/> STACK

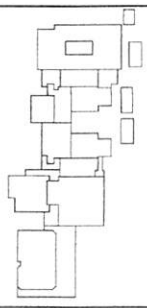
The dimensions and square footage on these drawings are calculated to be within 3-7% of the actual field dimensions. These dimensions are for estimation purposes only and should not be used for bidding purposes. Actual dimensions and penetrations can only be determined by measuring the physical structure in the field using proper measuring tools.

TOLLAND MIDDLE SCHOOL  
1 FALCON WAY  
TOLLAND, CT

SCALE : NTS

DWG # 1 OF 2

KEY DRAWING



DRAWING # : 1-TITLE PAGE

DATE : 03-18-15

DRAWN BY : DMR

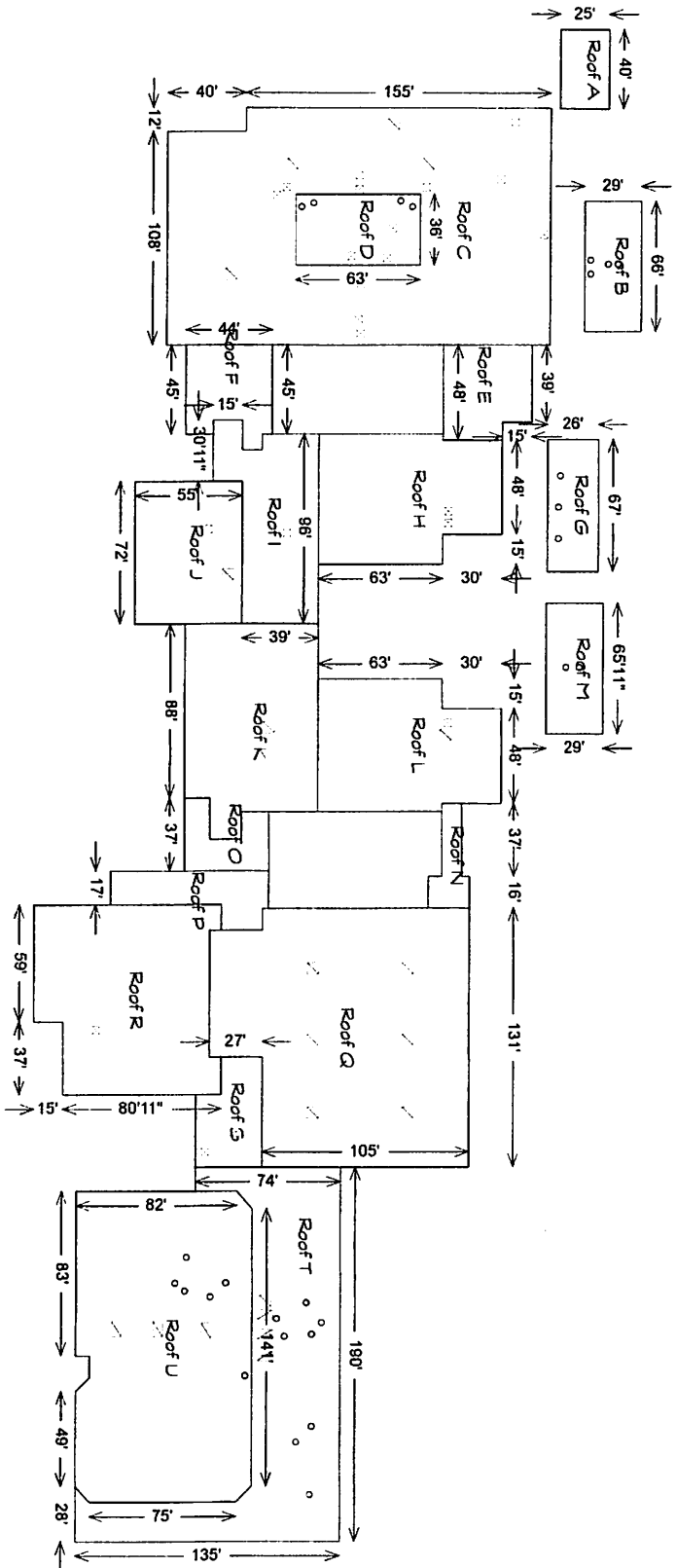
REVISION #1 -

REVISION #2 -


REVISION #3 -

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 1300 E. HIGHLAND ROAD  
 MACEDONIA, OH 44056  
 440.248.0220





The dimensions and square footage on these drawings are calculated to be within 3-7% of the actual field dimensions. These dimensions are for estimation purposes only and should not be used bidding purposes. Actual dimensions can only be determined by measuring the physical structure in the field using proper measuring tools.

TOLLAND MIDDLE SCHOOL 1 FALCON WAY TOLLAND, CT	
SCALE: NTS	
DWG # 2 OF 2	
KEY DRAWING	
DRAWING #:	2-ALL ROOFS
DATE:	08-18-15
DRAWN BY:	DYR
REVISION #1	-
REVISION #2	-
REVISION #3	-
 <b>SR PRODUCTS</b> <small>CUSTOMER SATISFACTION SINCE 1900</small> 1380 E. HIGHLAND ROAD MACEDONIA, OH 44058 440.248.0220	

Takeoff Record

Name	Area	Length	Count
<b>Group 1</b>			
☐ Roof A			
Flat Roof (Dig)	1,000.00	130'0"	4
☐ Roof B			
Flat Roof (Dig)	1,914.00	190'0"	4
⊕ ○ Stack	57.00	38'0"	4
☐ Roof C			
Flat Roof (Dig)	22,920.00	630'0"	6
⊕ = Base Wall - Roof D	2,268.00	198'0"	4
⊕ ⊗ Curb	288.00	192'0"	12
⊕ ⊗ Curb (HVAC)	144.00	96'0"	4
☐ Roof D			
Flat Roof (Dig)	2,268.00	198'0"	4
⊕ ⊗ Curb	72.00	48'0"	3
⊕ ○ Stack	57.00	38'0"	4
☐ Roof E			
Flat Roof (Dig)	2,025.00	186'0"	6
☐ Roof F			
Flat Roof (Dig)	1,955.00	208'0"	10
☐ Roof G			
Flat Roof (Dig)	1,742.00	186'0"	4
⊕ ○ Stack	43.00	29'0"	3
☐ Roof H			
Flat Roof (Dig)	5,603.00	319'0"	8
⊕ ⊗ Curb	48.00	32'0"	2
☐ Roof I			
Flat Roof (Dig)	4,124.00	330'0"	10
⊕ ⊗ Curb	24.00	16'0"	1
☐ Roof J			
Flat Roof (Dig)	3,960.00	254'0"	4
⊕ ⊗ Curb	24.00	16'0"	1
⊕ ⊗ Curb (HVAC)	36.00	24'0"	1
☐ Roof K			
Flat Roof (Dig)	6,593.00	354'0"	8
⊕ ⊗ Curb (HVAC)	36.00	24'0"	1
☐ Roof L			
Flat Roof (Dig)	5,661.00	320'0"	8
⊕ ⊗ Curb	24.00	16'0"	1
⊕ ⊗ Curb (HVAC)	36.00	24'0"	1
☐ Roof M			
Flat Roof (Dig)	1,914.00	190'0"	4
⊕ ○ Stack	29.00	19'0"	2
☐ Roof N			
Flat Roof (Dig)	706.00	148'0"	8
☐ Roof O			
Flat Roof (Dig)	1,157.00	188'0"	8
☐ Roof P			
Flat Roof (Dig)	1,656.00	222'0"	8
☐ Roof Q			
Flat Roof (Dig)	15,483.00	526'0"	8
⊕ ⊗ Curb (HVAC)	216.00	144'0"	6

Takeoff Record

Name	Area	Length	Count
☐ Roof R			
Flat Roof (Dig)	8,273.00	396'0"	10
☒ Curb	24.00	16'0"	1
☐ Roof S			
Flat Roof (Dig)	1,655.00	180'0"	6
☒ Curb	48.00	32'0"	2
☐ Roof T			
Flat Roof (Dig)	10,789.00	710'0"	11
☒ Curb (HVAC)	153.00	102'0"	4
☒ Stack	114.00	76'0"	8
☐ Roof U			
Flat Roof (Dig)	14,024.00	492'0"	11
☒ Curb (HVAC)	117.00	78'0"	3
☒ Stack	85.00	57'0"	6