

**ROOF ASSESSMENT REPORT**  
**WATER POLLUTION CONTROL FACILITY**  
**ADMINISTRATION BUILDING**  
**34 GREENFIELD ROAD**  
**MONTAGUE, MA 01351**

Prepared For:

Mr. Steven Ellis  
Town Administrator  
Town of Montague, Massachusetts



Prepared By:

**Northeast Roof Consultants, LLC**  
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**(508) 277-0284**

Date: March 24, 2022  
NRC Project No. 22-001

March 24 2022

Mr. Steven Ellis  
Town Administrator  
Town of Montague  
One Avenue A  
Turners Falls, MA 01376  
(Email: townadmin@montague-ma.gov)

RE: Roofing Consulting Services  
Roof Assessment and Report  
Water Pollution Control Facility (Administration Building)  
Montague, MA

## **I. INTRODUCTION**

On Thursday, February 17, 2022, Northeast Roof Consultants was on site to perform a visual assessment of the existing single-ply roofing systems over the Administration Building at the Town's Water Pollution Control Facility. Access to the roof was made using an aluminum extension ladder. The weather on the day of the inspection was overcast with temperatures in the 30-40's. Following are the results of our assessment. As exploratory test cuts were not taken as part of this assessment, the thickness and type of underlying components in the roofing system could not be verified. The report includes a general overview of the facility, verified roof dimensions and areas, general roof observations, existing issues, conclusions and recommendations with cost estimates for the recommended scope of work. Photo documentation of the assessment and a roof sketch showing the locations of the problem areas is also included.

## **II. GENERAL DESCRIPTION**

The Administration Building is an L-shaped, single-story steel framed facility with exterior CMU block walls. The roof is single level with a 13" wide by 20" (+-) high parapet around the roof perimeter. The roof is covered by a white thermoplastic adhered single-ply membrane over mechanically attached rigid insulation. The roof slopes to three internal roof drains located throughout the roof. RAC inserts have been installed in all existing drains. The drains have small sumps and tapered saddles to promote better drainage on the roof. The overall roof slope is fair to good. No emergency/secondary drainage is present on the roof. Typically, emergency overflow scuppers would be present through the low parapet or a separate secondary drain would be present on the roof. The parapet walls have been completely covered with thermoplastic membrane and a bronze aluminum full with coping cap. The coping is secured with a continuous aluminum cleat on the outside face and fasteners with neoprene washers (6" on center) on the inside face.

Roof top equipment and penetrations include five exhaust fan curbs, two skylights, a large antenna with three securement locations, multiple plumbing vents, flues and penetration pockets, a solar array frame with panels and a chimney.

The Sewer Plant was reportedly built in the 1960's and expanded in the 1980's. The existing thermoplastic roof appears to be 10+- years old.

### **Roof Measurements**

- Roof Height - 14'-16' estimated.
- Main L-shaped Roof: 18' x 37'-6" and 80' x 46'
- Total all area: **4,355 sq. ft.**

### **III. ROOFING/FLASHING ISSUES**

Our inspection of the Administration Building roof revealed the following issues and concerns:

- The existing roof slope is fair to good. Drain sumps are present, but could have enlarged to prevent standing water. Areas of standing water were evident along the sides of the tapered saddles.
- The roof is cluttered with leaves and pine needles, which are clogging the existing rain baskets and slowing down roof drainage.
- The sealant at the penetration pockets is satisfactory, but showing signs of aging and drying out. One penetration pocket requires additional sealant as it is below the rim of the metal pocket.
- The sealant at the flue stack rain collar is badly deteriorated and needs removal and replacement.
- The sealant around the frame of the skylights is aged and shrinking and requires resealing.
- The thermoplastic membrane at the inside face of the perimeter parapet is poorly adhered and wrinkled in areas. These areas should be monitored on a yearly basis.
- The surface of the roof membrane is generally discolored with algae, moss and debris and no longer providing maximum reflectivity associated with white membranes.

### **IV. CONCLUSIONS/RECOMMENDATIONS**

The thermoplastic roof membrane and flashings are in generally good condition and with the exception of a few locations on the inside face of the perimeter parapet, appear to be well adhered to the substrate. Items listed above under roofing issues are typically maintenance items (sealants, penetration pocket sealer, roof maintenance and cleaning) and should be periodically inspected and upgraded as necessary. Clogged drain baskets often result in standing water on the roof and around the drains which may eventually lead

to water infiltration through field and flashing seams. This can damage the existing insulation and result in a loss of R-value for the roof. Deterioration of the structural metal deck can also occur with long term exposure to moisture, although this does not appear to be an issue at this time. Periodic roof maintenance and cleaning will extend the useful service life of the roof and delay the need for major repairs and future replacement.

**(Short Term Recommendations – Roof Repairs)- 2022)**

(Proposed Scope of Work)

- Top off one penetration pocket with acceptable pourable sealant and taper new sealant to the outside edges.
- Cut out the existing sealant around the flue stack rain collar and reseal with appropriate sealant.
- Cut out existing deteriorated sealant and apply new approved sealant around the perimeter of the two skylight domes.
- Periodically remove all leaves, pine needles and debris from the roof and drain baskets. Recommend twice a year and after major storm events. This could be done by Town personnel.
- **Cost Estimate - \$600 - \$800 (Based on 2022 Costs). Does not include roof cleaning.**

We hope this provides you with the information you require. After your review of this report, feel free to call with any questions, comments or concerns. Please see the following photo pages to view the existing conditions and areas of concern at each location.

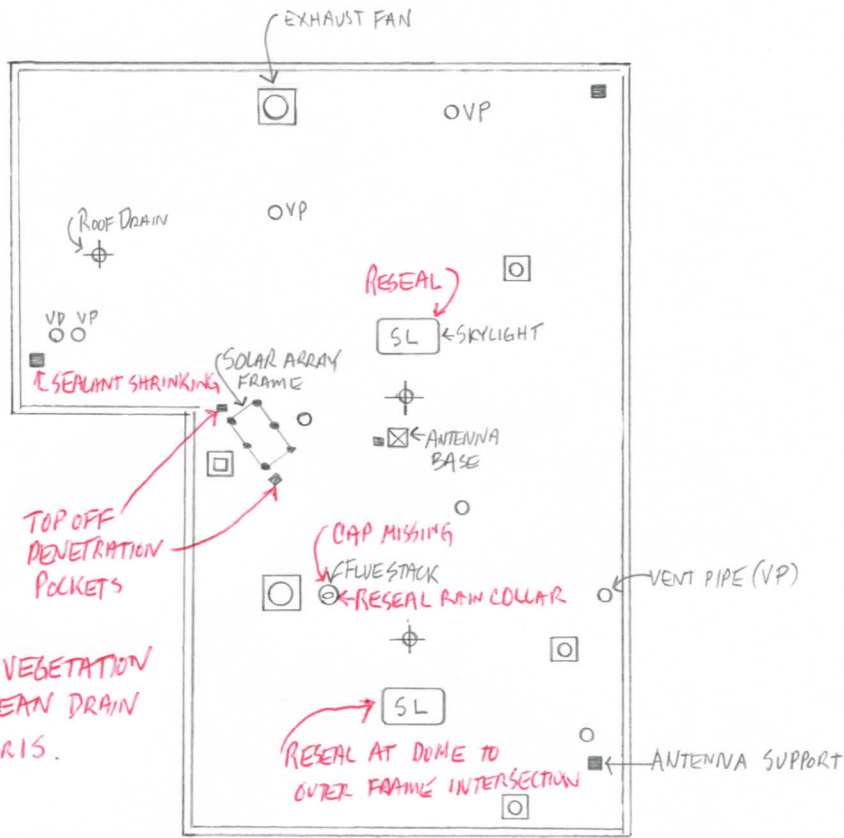
Sincerely,



John R. Skypeck, RRC  
President  
Northeast Roof Consultants, LLC

Reliance:

This report is for exclusive use and may be relied upon by the Town of Montague officials. No parties or persons other than those identified as authorized users may use or rely on the information or opinions in this report without the express written consent of Town of Montague officials and Northeast Roof Consultants, LLC.



NOTE: REMOVE DEBRIS, VEGETATION FROM ROOF. CLEAN DRAIN BASKETS OF DEBRIS.

SCALE 1" = 20'

### ROOF PLAN

<b>NORTHEAST ROOF CONSULTANTS, LLC</b> 2 PEGGY DRIVE SOUTHBOROUGH, MA 01772  508-277-0284	<b>2022 ROOF ASSESSMENT</b> SEWER PLANT 34 GREENFIELD ROAD MONTAGUE, MA 01376 ADMINISTRATION BLDG. ROOF	DRAWN BY:	SCALE:	DRAWING NUMBER:  <b>SK-1</b>
		JRS	NTS	
		DATE:	REV. DATE:	
		1/6/2022		
		DESCRIPTION:		
		ROOF AREA PLAN		

ROOF ASSESSMENT REPORT  
SEWER PLANT "ADMIN. BUILDING", 34 GREENFIELD ROAD, MONTAGUE, MA  
(Photo Documentation)



**Photo R1**  
02/17/22

Photo Location:  
Overview of  
Administration  
Roof.

Description:  
View of  
thermoplastic white  
membrane roofing  
system. Note areas  
of previous  
standing water has  
discolored  
membrane.



**Photo R2**  
02/17/22

Photo Location:  
Overview of  
Administration  
Roof.

Description:  
View of  
thermoplastic roof  
membrane and  
accumulated  
debris. Note:  
tapered insulation  
saddle blocked by  
skylight curb  
interrupts water  
flow to the roof  
drain.

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**Photo R3**  
02/17/22

Photo Location:  
Base of Solar Array

Description:  
View of penetration pocket. Sealant does not come to top of pocket and will trap water within the penetration pocket.



**Photo R4**  
02/17/22

Photo Location:  
Base of Flue Pipe.

Description:  
Deteriorated sealant around top of rain collar will allow moisture behind cone flashing below.

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(Photo Documentation)



**Photo R5**  
02/17/22

Photo Location:  
Corner of Skylight  
Dome

Description:  
Sealant between  
metal frame and  
skylight dome is  
aged and shrinking  
and pulling away  
from outside frame.



**Photo R6**  
02/17/22

Photo Location:  
RAC Insert Drain.

Description:  
Basket around roof  
drain is clogged  
with pine needles  
and debris.



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(Photo Documentation)



**Photo R7**  
02/17/22

Photo Location:  
Corner of Roof

Description:  
Accumulation of pine needles and leaves has built up against the outside parapet.



**Photo R8**  
02/17/22

Photo Location:  
Outside Corner of Roof.

Description:  
Thermoplastic membrane at inside face of parapet is wrinkled and unadhered from parapet substrate.