

# **ROOF ASSESSMENT REPORT**

**WHITMAN MIDDLE SCHOOL**

**NOVEMBER 08, 2010**

**PREPARED FOR:**

**FACILITIES DEPARTMENT**

**WHITMAN HANSON REGIONAL SCHOOL DISTRICT**

# 1. Purpose

This Roofing Assessment Report provides a summary of the inspections performed at the Whitman Middle School located in the Town of Whitman, MA.

Roofing inspections were conducted with the intent of assessing general roofing systems, their condition, and identifying any significant related concerns that may warrant immediate corrective action. This report includes a summary of these inspections, including specific concerns, recommendations for repairs or maintenance, and associated budgetary costs. A description of the inspections is given below.

## **Roof Inspection**

Roof inspections at the Middle School were performed by Evan Warner on October 1<sup>th</sup>, 2010. Inspections involved an assessment of the current roof conditions, specific observations, photographs, short term recommendations, and long term recommendations for the current problematic conditions.

# 2. Description

The Middle School Building consists of a combination of sloped and flat roof areas. The surface area is predominantly multi-level, flat 60 mil single ply PVC membrane, fully adhered and sloped to internal roof drains with minor areas of sloped asphalt shingle roofing to pre-formed metal gutters and down-spouts. Roof hatches, skylights, mechanical equipment and photovoltaic panels are located throughout the flat roof areas. The roofs are approximately ten years old and mostly in good condition.

# 3. Observations

The Whitman Middle School Building has a number of items that require attention and/or ongoing monitoring. The majority of recommendations in this report involve repairs to improve long term serviceability.

## **Observation No. 1**

Ice and water sheild wrap at roof vents, multiple locations, main PVC flat roof, coordinate E11, upper flat roof, coordinate B11,B10, lower flat roof, coordinate I6. Unknown reason for this

temporary measure.



### **Short Term Recommendations**

Verify water infiltration issue, investigate further.

### **Long Term Recommendations**

Replace vent units.

### **Observation No. 2**

Deteriorated, dry and missing mortar @ brick wall, main PVC flat roof, coordinates J10-N10. Leaks reported below. Alum. sill flashing at windows are lifting and sloped inward.



### **Short Term Recommendations**

Re-point brick wall approx. 10'x 150'. Replace alum. window sill flashing.

### **Long Term Recommendations-NA**

### **Observation No. 3**

Debris at roof drain strainer/basket, poor basket detail, main PVC roof, coordinate M10 (photo), typical 16 locations.



#### **Short Term Recommendation**

Remove debris and organic matter. Install upper basket.

#### **Long Term Recommendations-NA**

#### **Observation No. 4**

Evidence of minor ponding main PVC flat roof coordinates J10- N10.

#### **Short Term Recommendations**

Inspect yearly for evidence of leaks below.

#### **Long Term Recommendations**

Coordinate modification of tapered insulation/protection board to drain water to internal roof drains at the time of future roof replacement.

#### **Observation No. 5**

Tree branches at roof edge, organic growth on membrane, main PVC flat roof, coordinates N12, N13



#### **Short Term Recommendations**

Prune trees/bushes, two feet min. off roof edge, remove and clean organic growth.

### **Long Term Recommendations**

Review every two years.

### **Observation No. 6**

Holes at PVC wall flashing, detached downspout bracket, main PVC flat roof, coordinate G14.



### **Short Term Recommendations**

Clean and apply compatible roofing cement/sealant and re-fasten bracket.

### **Long Term Recommendations-NA**

### **Observation No. 7**

Gap at EIFS transition/LCC roof-to-wall flashing, sloped asphalt shingle roof area, coordinate H15.





### **Short Term Recommendations**

Clean debris; install backer-rod and compatible sealant.

### **Long Term Recommendations**

Inspect all sealant conditions as part of ongoing maintenance at regular intervals.

### **Observation No. 8**

Protruding fasteners, sloped asphalt roof area, coordinate H14.



### **Short Term Recommendations**

Remove fasteners, install new fasteners, apply compatible roofing cement/sealant.

### **Long Term Recommendations-NA.**

### **Observation No. 9**

Ponding water at roof drains due to strainer/basket detail, upper PVC flat roof, coordinates G6, B10, B8, B2.



### **Short Term Recommendations**

Remove and replace basket, clean debris/organic matter- included in Observation #3.

### **Long Term Recommendations-NA**

### **Observation No. 10**

Lifting/delaminating lap seam, upper PVC flat roof, coordinates D8.



**Short Term Recommendations**

Clean and apply compatible lap sealant.

**Long Term Recommendations**

Install appropriate PVC patch.

**Observation No. 11**

Tear in PVC membrane, upper PVC flat roof, coordinates C8, B13.



**Short Term Recommendations**

Replace protruding fastener, clean and apply compatible roofing cement/sealant.

**Long Term Recommendations**

Install appropriate PVC patch.

**Observation No. 12**

Protruding fastener, upper PVC flat roof, coordinate A13.



### **Short Term Recommendations**

Inspect problematic areas yearly; watch for future leaks at ceilings below (currently not reported as leaking) limit foot traffic.

### **Long Term Recommendations**

Remove protruding fasteners, replace with new fasteners/washers and assure proper bight/holding into deck/substrate below.

### **Observation No. 13**

Ponding water, lower PVC flat, coordinate H5.



### **Short Term Recommendations**

Inspect area yearly; verify no leaks are evident below.

### **Long Term Recommendations**

Inspect problematic areas yearly; implement short term recommendations as necessary. Coordinate installation of crickets/tapered insulation (to drain water to roof drains) at time of future roof replacement.

### **Observation No. 14**

HWH intake/vent penetration, lower PVC flat roof, coordinate L6.





**Short Term Recommendations**

Inspect yearly for evidence of leaks below and/or material deterioration.

**Long Term Recommendations**

Replace with standard penetration detail.

**Observation No. 15**

Deteriorated sealant at penetration boot ring clamp, main PVC roof, coordinate I7.



**Short Term Recommendation**

Remove ring clamp, remove sealant, clean and apply compatible sealant.

**Long Term Recommendations**

Inspect details with sealant yearly and replace as part of ongoing maintenance plan.