

Roof Condition Analysis

Prepared for:

J.W. Nelson

John Evans Middle School - Gym Dome

2900 15th Avenue

Greeley, Colorado

Prepared by:

Gregory Ham

Coastal Specified Products

5252 Sherman Street

Denver, CO 80216



John Evans Middle School - Gym Dome

Inspection Date: February 24, 2012

Facility Summary

Client Name: Weld County School District 6

Facility Name: John Evans Middle School - Gym Dome

Facility Address: 2900 15th Avenue
Greeley, Colorado

Roof Inspection Date: February 24, 2012

Recommendations - Summary				
Section	Name	Replacement Value	Activity	Amount \$
	Gym Dome Roof Area	\$282,240	Replacement	
		\$282,240		\$0

Roof Name: Gym Dome Roof Area

Roof Designation:

Existing System Type: Conventional Mod Bit - Hot applied

Roof Size: 17,640 sq. ft.

Estimated Replacement Cost: \$282,240

Year Installed: 1985 (Estimated)

Height: 35 feet

Slope: Varies upon location

Drainage: Inadequate

Leak Sensitivity Under Roof: Extremely sensitive

Currently Leaking? Unknown

History of Leaking? Yes

Drainage and Leak Details: Roof Drainage at Built-In Gutters:
This roof system is properly drained due to the dome configuration. However, excessive ponding water was observed in the built-in gutter system located at approximately 1/2 of the circumference of the dome.

Ponding water on asphalt based roof systems is known to accelerate the aging process through emulsification which can cause premature failure of the roof system. Ponding water on any roof can threaten the structural integrity due to the increased weight load. Most roofs are not designed to accomodate ponding water conditions.

Roof leaks that occur on roofs with good drainage often result in minimal damage to the building's interior and contents. Roof leaks that occur under ponded water conditions can cause catastrophic damage to both the roof system and the buildings interior and contents. Ponding water conditions should be corrected.



Roof Condition Rating: Poor

Existing Roof System Construction		
Layer Type	Description	Method of Attachment
Surfacing	Aluminum paint	Brush applied
Membrane	Mod Bit - 4 ply	Hot asphalt
Insulation	3/4" Fiberglass	Hot asphalt
Insulation	3" Urethane Rigid Foam (2 layers 1.5" thickness)	Hot Asphalt
Roof Deck	Poured Gypsum or Gypsum Plank	

Overall Core Assessment
No core-cuts were taken during this investigation. Please refer the to the Roof Condition Analysis Report dated 11/10/2009 for core-cut photographs.

Existing Conditions	
PHOTO	DETAILS



Photo #: 9

Type: Low Flashing Height

Severity: Minor

Details: **Low Flashing Height at Curb:**
Good roofing practice dictates that all curb flashings shall be a minimum height of 8" above the roof membrane surface to prevent moisture infiltration from snow, ice and blowing rain.

Existing Conditions continued...	
Photo	Details



Photo #: 8

Type: Ponding Water at Gutter System

Severity: Major

Details: **Ponding Water at Gutter System:**
The NRCA has classified "undesirable" ponding water as standing for more than 48 hours though ponding can pose a threat in even shorter time spans. A matter of "deep" concern in the roofing industry is the fact that a 1" deep pond weighs 5.2 lbs / square foot and many structures can not handle this extra load.

Ponding water can be traced to any of several factors. First, a roof may pond water as a result of poor housekeeping on the roof which contributes to clogged drains, gutters and downspouts. The build up of roof top debris or displaced gravel ballast frequently blocks water flow and creates ponds. Secondly, the building's roof top drainage system may not have been designed properly. Finally, ponds form as a result of such common conditions as building settlement and deck deflection.

Since ponds occur in low areas of a roof, a pond becomes a repository for debris, sediment, and chemical emissions. Ponding encourages microorganism and bacterial degradation, roof deflection, magnified ultraviolet exposure and ultimate premature failure of the roof system. If the roof membrane in a ponded area sustains damage, all of this water may drain into the roof system and into the building.

The additional weight load may pose a threat to the structural integrity of the building, with a very real possibility of collapse of the roof in extreme cases.

Recommendations		
Type of Activity	Urgency	\$
Replacement	High	
<p>Summary & Recommendations:</p> <p>As is very evident in this Roof Condition Analysis Report and by inspection by other roofing experts, the existing modified bitumen built-up (BUR) roofing system can be described as "poor condition" and is rapidly failing due to numerous and serious deficiencies that exist throughout the entire roofing system.</p> <p>Moreover, the overall loss of aluminum coating will greatly compromise the ability of this roofing system to resist further U.V. degradation.</p> <p>Essentially, the roof system has reached and surpassed the life expectancy.</p> <p>If the noted leaking conditions are adequately addressed in the near future (open seams, splits in flashings, open expansion joints & bare felts) it is anticipated that the existing roofing system may be able to last for another 2 - 3 years.</p> <p>Gregory Ham Coastal Specified Products 5252 Sherman Street Denver, CO 80216 Cell#: 303.717.1754</p>		



Gym Roof Overview



Ponding Water at Gutter System



Low Curb Flashing Height