

## Roof Inspection Report

Prepared for:

Mr. Greg Boettger  
Bellevue Schools  
&  
Mr. Ralph Gladbach  
GP Architecture, LLC.

Prepared by:

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6728 W. 153<sup>rd</sup> Street  
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### Project Location

Peter Sarpy Elementary  
2908 Vandenberg Avenue  
Bellevue, NE 68123

**Facility:** Peter Sarpy Elementary  
2908 Vandenberg Avenue  
Bellevue  
Nebraska  
68123  
U.S.A.



**Contact Name:** Greg Boettger

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**Contact Fax:** ( ) -

**Date of Last Inspection:** Mar 16, 2017



**Type of building:** School

**Type of Neighborhood:** Residential

## Roof Section List

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof A A 2000	39,463 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Fair 55 3(Yrs)	\$315,704.00
	Roof B B 2000	2,457 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Fair 55 3(Yrs)	\$24,570.00
	Roof C C 2000	7,977 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Fair 55 3(Yrs)	\$63,816.00

## Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof D D 1997	9,088 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Poor 33 0(Yrs)	\$72,704.00
	Roof E E 1997	3,934 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Poor 33 0(Yrs)	\$39,340.00
		<b>62,919</b>			<b>\$516,134.00</b>
*RCI Rating 0 -100 where 100 is excellent					

### Recommendation Summary

Section ID	Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Budget Amount
Roof A	2017	Repair	Yes	Expense	High	\$2,500
Roof A	2020	Retrofit	Yes	Capital	High	\$315,704
Roof A	2020	Infrared Scan	Yes	Expense	High	\$2,500
Roof B	2017	Repair	Yes	Expense	High	\$1,000
Roof B	2020	Retrofit	Yes	Capital	High	\$24,570
Roof B	2020	Infrared Scan	Yes	Expense	High	\$2,500
Roof C	2017	Repair	Yes	Expense	High	\$500
Roof C	2020	Replacement	Yes	Capital	High	\$63,816
Roof C	2020	Infrared Scan	Yes	Expense	High	\$2,500
Roof D	2017	Retrofit	Yes	Capital	High	\$72,704
Roof D	2017	Infrared Scan	Yes	Expense	High	\$2,500
Roof E	2017	Retrofit	Yes	Capital	High	\$39,340
Roof E	2017	Infrared Scan	Yes	Expense	High	\$2,500
						<b>\$532,634</b>

### Capital Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$0	\$0	\$0	\$315,704	\$0
Roof B	\$0	\$0	\$0	\$24,570	\$0
Roof C	\$0	\$0	\$0	\$63,816	\$0
Roof D	\$72,704	\$0	\$0	\$0	\$0
Roof E	\$39,340	\$0	\$0	\$0	\$0
	<b>\$112,044</b>	<b>\$0</b>	<b>\$0</b>	<b>\$404,090</b>	<b>\$0</b>

### Expense Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$2,500	\$0	\$0	\$2,500	\$0
Roof B	\$1,000	\$0	\$0	\$2,500	\$0
Roof C	\$500	\$0	\$0	\$2,500	\$0
Roof D	\$2,500	\$0	\$0	\$0	\$0

### Expense Budgets - 5 Years Continued...

Section ID	2017	2018	2019	2020	2021
Roof E	\$2,500	\$0	\$0	\$0	\$0
	<b>\$9,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,500</b>	<b>\$0</b>

### Total Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$2,500	\$0	\$0	\$318,204	\$0
Roof B	\$1,000	\$0	\$0	\$27,070	\$0
Roof C	\$500	\$0	\$0	\$66,316	\$0
Roof D	\$75,204	\$0	\$0	\$0	\$0
Roof E	\$41,840	\$0	\$0	\$0	\$0
	<b>\$121,044</b>	<b>\$0</b>	<b>\$0</b>	<b>\$411,590</b>	<b>\$0</b>

**Roof Name:** A**Roof Size:** 39,463 sq. ft.**Est. replacement Cost:** \$ 315,704.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 2000**Assessed Service Life Remaining (Years) :** 3**Height:** 12 Ft.**Slope:** 02:12**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Yes**History of Leaking?** Yes

**Drainage and Leak Details:** The A roof areas slope from a central ridge line towards the north and south and drain to an external guttering.

Facility personnel reported one (1) recent leak on the A-1 roof area.






## Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Metal	Spot Attached
Insulation	Polyisocyanurate	Mechanically Fastened
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

## Overall Core Condition

Core samples were taken on the A-1, A-2 & A-3 roof areas to verify the roofing layers in place. The deck is a steel decking and the same roofing layers are in place at all locations. There is one (1) layer of 2" polyisocyanurate board and one (1) layer of .25" Dens-Deck cover board. The membrane is a multiply BUR with a gravel surface.

**Core Photos**

Photos	Date	Description
	Mar 16, 2017	Core cut #1
	Mar 16, 2017	Core cut #2
	Mar 16, 2017	Core cut #3



## Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 16, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section A refers to the low slope roof system over the North Wing (A-1), Gymnasium (A-2) and a large portion of the West Wing (A-3) at the Peter Sarpy Elementary School facility. The roof is an approximately seventeen (17) year old BUR with a gravel surface. The exterior perimeter sides of the roof areas consist of a flat roof edge where the roof system terminates with a metal roof edging. The internal wall details are flashed with a BUR type of membrane flashing which has been coated with an aluminum paint. The membrane flashing extends under a surface mounted metal counter flashing.

Defects and conditions found during the inspection include the following:

- Surface loss of the gravel roof surfacing observed
- Random areas with roof mastic repair attempts to the BUR system
- Random areas with split BUR flashing corners and pipe/curb penetration seals
- One (1) open lap on the end of the control joint curb observed
- One (1) pipe penetration with inadequate BUR flashing
- Loose or missing anchors in the control joint metal cap
- Cracks in the brick chimney observed
- Deteriorated mortar joints and spalled brick in the chimney

Overall, the roof system is in fair condition due to its age and the above referenced defects. With the aforementioned defects addressed, in addition to routine maintenance and regular inspection, the roof system should remain effective for the duration of its assessed service life, approximately three (3) years. There was no warranty information available for this roof section at the time of inspection.

## Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$2,500
<p>RSI recommends repairs be completed in accordance with the attached deficiency list.</p> <p><i>*Please Note: Costs associated with repairs and/or replacement of the brick chimney and/or associated details are not included in this budget estimate.</i></p>					
2020	Infrared Scan	Yes	Expense	High	\$2,500
<p>RSI recommends an infrared scan be performed to locate any wet insulation present in the current roof system.</p>					
2020	Retrofit	Yes	Capital	High	\$315,704
<p>RSI recommends the installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per the SMACNA Architectural Sheet Metal Manual.</p>					
					<b>\$320,704</b>

**Roof Name:** B**Roof Size:** 2,457 sq. ft.**Est. replacement Cost:** \$ 24,570.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 2000**Assessed Service Life Remaining (Years) :** 3**Height:** 12 Ft.**Slope:** 1/8" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section B slopes from west to east and drains to an external guttering.

No recent leaks were reported on this roof section at the time of inspection.




### Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Metal	Spot Attached
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Polyisocyanurate	Mechanically Fastened
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

## Overall Core Condition

One (1) core cut revealed a steel decking. There is one (1) layer of 2" and one (1) layer of .75" polyisocyanurate board and one (1) layer of .25" Dens-Deck cover board. The membrane is a multiply BUR with a gravel surface. The insulation layers may be a part of a tapered insulation system.

## Core Photos

Photos	Date	Description
	Mar 16, 2017	Roof System Core

## Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 16, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section B refers to the low slope roof system over the kitchen area at the Peter Sarpy Elementary School facility. The roof section includes the main B roof area and a lower elevated roof area over the rear delivery area. The roof is an approximately seventeen (17) year old BUR with a gravel surface. The exterior perimeter sides of the roof areas consist of a flat roof edge where the roof system terminates with a metal roof edging. The internal wall details are flashed with a BUR type of membrane flashing which has been coated with an aluminum paint. The membrane flashing extends under a surface mounted metal counter flashing.

Defects and conditions found during the inspection include the following:

- Deteriorated caulking observed in a brick wall expansion joint
- Caulking repair attempts observed around the windows and adjoining siding joints
- Random areas with split BUR flashing corners and pipe penetration seals
- Cracks observed in the brick chimney
- Deteriorated glazing observed on the window units

Overall, the roof system is in fair condition due to its age and the above referenced defects. With the aforementioned defects addressed, in addition to routine maintenance and regular inspection, the roof system should remain effective for the duration of its assessed service life, approximately three (3) years. There was no warranty information available for this roof section at the time of inspection.

## Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$1,000
<p>RSI recommends repairs be completed in accordance with the attached deficiency list.</p> <p><i>*Please Note: Costs associated with repairs and/or replacement of the brick chimney and/or windows are not included in this budget estimate.</i></p>					
2020	Infrared Scan	Yes	Expense	High	\$2,500
<p>RSI recommends an infrared scan be performed to locate any wet insulation present in the current roof system.</p>					
2020	Retrofit	Yes	Capital	High	\$24,570
<p>RSI recommends the installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per the SMACNA Architectural Sheet Metal Manual.</p>					
					<b>\$28,070</b>

**Roof Name:** C**Roof Size:** 7,977 sq. ft.**Est. replacement Cost:** \$ 63,816.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 2000**Assessed Service Life Remaining (Years) :** 3**Height:** 12 Ft.**Slope:** 02:12**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section C slopes from a central ridge line towards the north and south and drains to an external guttering.

No recent leaks were reported on this roof section at the time of inspection.




## Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Plywood	Nailed
Insulation	Polyisocyanurate	Mechanically Fastened
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

## Overall Core Condition

One (1) core cut revealed a plywood decking. There is one (1) layer of 2" polyisocyanurate board and one (1) layer of .25" Dens-Deck cover board. The membrane is a multiply BUR with a gravel surface.

## Core Photos

Photos	Date	Description
	Mar 16, 2017	Roof System Core

## Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 16, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section C refers to the low slope roof system over the 2nd grade area at the Peter Sarpy Elementary School facility. The roof is an approximately seventeen (17) year old BUR with a gravel surface. The exterior perimeter sides of the roof areas consist a flat roof edge where the roof system terminates with a metal roof edging. The internal wall details are flashed with a BUR type of membrane flashing which has been coated with an aluminum paint. The membrane flashing extends under a surface mounted metal counter flashing or under a metal cap flashing.

Defects and conditions found during the inspection include the following:

- Surface loss observed of the gravel roof surfacing
- Random areas with split BUR flashing corners
- Deteriorated glazing observed on the window units and cracks observed in the adjoining siding

Overall, the roof system is in fair condition due to its age and the above referenced defects. With the aforementioned defects addressed, in addition to routine maintenance and regular inspection, the roof system should remain effective for the duration of its assessed service life, approximately three (3) years. There was no warranty information available for this roof section at the time of inspection.

## Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$500
<p>RSI recommends repairs be completed in accordance with the attached deficiency list.</p> <p><i>*Please Note: Costs associated with repairs and/or replacement of the brick chimney or windows are not included in this budget estimate.</i></p>					
2020	Infrared Scan	Yes	Expense	High	\$2,500
<p>RSI recommends an infrared scan be performed to locate any wet insulation present in the current roof system.</p>					
2020	Replacement	Yes	Capital	High	\$63,816
<p>RSI recommends the installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per the SMACNA Architectural Sheet Metal Manual.</p>					
					<b>\$66,816</b>



**Roof Name:** D**Roof Size:** 9,088 sq. ft.**Est. replacement Cost:** \$ 72,704.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1997**Assessed Service Life Remaining (Years) :** 0**Height:** 12 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Yes**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section D slopes from north to south and drains to two (2) primary roof drains with two (2) overflow scuppers adjacent.

Facility personnel reported active leak issues along the common wall with the A-2 roof area.




## Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Metal	Spot Attached
Insulation	Polyisocyanurate	Laid - In -Place
Cover board	Fiberboard - .5" (1/2")	Mechanically Fastened
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

## Overall Core Condition

One (1) core cut revealed a steel decking. There is one (1) layer of 2.5" polyisocyanurate board and one (1) layer of .50" wood fiber cover board. The membrane is a multiply BUR with a gravel surface.

## Core Photos

Photos	Date	Description
	Mar 16, 2017	Roof System Core

## Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 16, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section D refers to the low slope roof system over the office and commons area at the Peter Sarpy Elementary School facility. The roof is an approximately twenty (20) year old BUR with a gravel surface. The exterior perimeter sides of the roof areas consist of a wall detail which is flashed with a BUR type of membrane flashing which has been coated with an aluminum paint. The membrane flashing extends under a metal counter flashing that extends under a metal cap flashing.

Defects and conditions found during the inspection include the following:

- Surface loss of the gravel roof surfacing observed
- Hail dents observed on the metal roof area
- Roof mastic repair attempts made to the roof system
- Random areas with split BUR flashings along the common wall with the A-2 roof area
- One (1) damaged leap pipe flashing observed

Overall, the roof system is in poor condition due to its age and the above referenced defects. Given the observed conditions, it is our opinion comprehensive repairs in an effort to extend the life of the system would be neither feasible nor cost effective. We recommend the roof be replaced, pending the outcome of an infrared scan. There was no warranty information available for this roof section at the time of inspection.

## Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Infrared Scan	Yes	Expense	High	\$2,500
RSI recommends an infrared scan be performed to locate any wet insulation present in the current roof system.					
2017	Retrofit	Yes	Capital	High	\$72,704
RSI recommends the installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per the SMACNA Architectural Sheet Metal Manual.					
					<b>\$75,204</b>

**Roof Name:** E**Roof Size:** 3,934 sq. ft.**Est. replacement Cost:** \$ 39,340.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1997**Assessed Service Life Remaining (Years) :** 0**Height:** 12 Ft.**Slope:** 02:12**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section E slopes from a central ridge line towards the north and south and drains to an external guttering.

No recent leaks were reported on this roof section at the time of inspection.




### Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Metal	Spot Attached
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Polyisocyanurate	Mechanically Fastened
Cover board	Fiberboard - .5" (1/2")	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

## Overall Core Condition

One (1) core cut revealed a steel decking. There is one (1) layer of 1" and one (1) layer of 2" polyisocyanurate board and one (1) layer of .50" wood fiber cover board. The membrane is a multiply BUR with a gravel surface.

## Core Photos

Photos	Date	Description
	Mar 16, 2017	Roof System Core

## Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 16, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section E refers to the low slope roof system over the eastern end of the West Wing at the Peter Sarpy Elementary School facility. The roof section includes the main E roof area and a lower elevated roof area over the western entrance to the space. The roof is an approximately twenty (20) year old BUR with a gravel surface. The exterior perimeter sides of the roof area consist of a flat roof edge where the roof system terminates with a metal roof edging. The common side with the A-3 roof area is a control joint curb which is flashed with a BUR type of membrane flashing which was originally coated with an aluminum paint. The membrane flashing extends under a metal cap flashing.

Defects and conditions found during the inspection include the following:

- Surface loss of the gravel roof surfacing
- BUR flashing along the control joint curb is weathered and cracking

Overall, the roof system is in poor condition due to its age and the above referenced defects. Given the observed conditions, it is our opinion comprehensive repairs in an effort to extend the life of the system would be neither feasible nor cost effective. We recommend the roof be replaced, pending the results of an infrared scan. There was no warranty information available for this roof section at the time of inspection.

## Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Infrared Scan	Yes	Expense	High	\$2,500
RSI recommends an infrared scan be performed to locate any wet insulation present in the current roof system.					
2017	Retrofit	Yes	Capital	High	\$39,340
RSI recommends the installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per the SMACNA Architectural Sheet Metal Manual.					
					<b>\$41,840</b>

Photos and Deficiencies



<b>Defect Code:</b>	<b>8</b>	<b>Quantity:</b>	<b>Widespread</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Surface erosion.					
Repair: Prepare membrane surface by thoroughly cleaning and priming. Apply new surfacing of like materials to eroded areas. On gravel surfaced systems apply gravel in hot asphalt or recommended cold adhesive. Apply granulated fiberglass cap sheet or modified bitumen membrane on like systems. Apply coating system on smooth asphalt surfaces. Transition surfacing to provide for a smooth and neat finished appearance to match the existing surfacing.					



<b>Defect Code:</b>	<b>24</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Evidence of past problem and previous repair.					
Repair: Investigate for chronic leak problems and repair any areas that are suspect.					



<b>Defect Code:</b>	<b>46</b>	<b>Quantity:</b>	<b>25 LF</b>	<b>Priority:</b>	<b>First Year</b>
Description: Split in flashing					
Repair: Cut away loose flashing and clean and prime repair area. Apply strip in of like material centered over split extending a minimum of 4" in all directions past prepared area.					



<b>Defect Code:</b>	<b>57</b>	<b>Quantity:</b>	<b>Under 10 LF</b>	<b>Priority:</b>	<b>First Year</b>
Description: Expansion joint deficiencies.					
Repair: Repair defects in rubber expansion joint or joint covers with two layers of flashing with the second layer being 3" larger in all directions than the first. Install flashing with manufacturer's recommended cleaners and primers.					

Photos and Deficiencies



<b>Defect Code:</b>	<b>58</b>	<b>Quantity:</b>	<b>1</b>	<b>Priority:</b>	<b>First Year</b>
Description: Inadequate, incomplete, nonconforming membrane flashings or flashing details.					
Repair: Complete membrane flashing repairs in accordance with NRCA recommendations and good roofing practices. Follow manufacturer requirements on warranted systems.					



<b>Defect Code:</b>	<b>75</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>First Year</b>
Description: Inadequate attachment of metal flashings.					
Repair: Reattach metal flashings a maximum of two EPDM washered fasteners per side of curb or attach a maximum of 12" O.C for flashings more than 24 " in length.					



<b>Defect Code:</b>	<b>79</b>	<b>Quantity:</b>	<b>Widespread</b>	<b>Priority:</b>	<b>First Year</b>
Description: Cracks in walls.					
Repair: Investigate and repair cracks in walls. Apply elastomeric coating or membrane waterproofing to seal wall surface.					



<b>Defect Code:</b>	<b>82</b>	<b>Quantity:</b>	<b>Widespread</b>	<b>Priority:</b>	<b>First Year</b>
Description: Open or deteriorated wall joint.					
Repair: Clean out joints of old sealants and mortar, and repoint to match existing joint type and reseal. On joints between panels, clean out old sealants and backer rod and install new backer rod and high grade sealant for horizontal and vertical applications as noted.					



Photos and Deficiencies



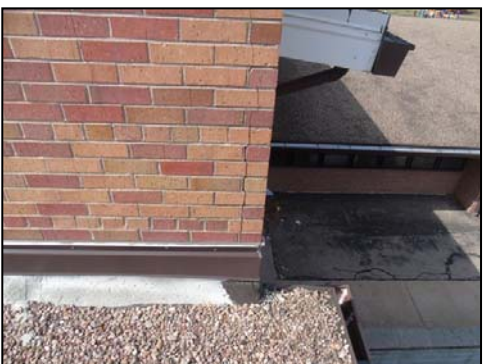
<b>Defect Code:</b>	<b>1</b>	<b>Quantity:</b>	<b>Under 10 LF</b>	<b>Priority:</b>	<b>First Year</b>
Description: Deteriorated or missing sealant at counterflashing, termination bar, sealant lip, metal flashing, expansion joint, etc.					
Repair: Clean loose sealant and dirt from all surfaces. Apply new polyurethane sealant and tool to shed water.					



<b>Defect Code:</b>	<b>24</b>	<b>Quantity:</b>	<b>Widespread</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Evidence of past problem and previous repair.					
Repair: Investigate for chronic leak problems and repair any areas that are suspect.					



<b>Defect Code:</b>	<b>46</b>	<b>Quantity:</b>	<b>Under 10 LF</b>	<b>Priority:</b>	<b>First Year</b>
Description: Split in flashing					
Repair: Cut away loose flashing and clean and prime repair area. Apply strip in of like material centered over split extending a minimum of 4" in all directions past prepared area.					



<b>Defect Code:</b>	<b>79</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>First Year</b>
Description: Cracks in walls.					
Repair: Investigate and repair cracks in walls. Apply elastomeric coating or membrane waterproofing to seal wall surface.					

Photos and Deficiencies



Defect Code:	89	Quantity:	Widespread	Priority:	Monitor
Description: Missing wall covering/cladding.					
Repair: Replace cladding/wall covering with matching materials and methods. Reattach and reseal all joints, seams, laps, etc.					

Photos and Deficiencies



<b>Defect Code:</b>	<b>8</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Surface erosion.					
Repair: Prepare membrane surface by thoroughly cleaning and priming. Apply new surfacing of like materials to eroded areas. On gravel surfaced systems apply gravel in hot asphalt or recommended cold adhesive. Apply granulated fiberglass cap sheet or modified bitumen membrane on like systems. Apply coating system on smooth asphalt surfaces. Transition surfacing to provide for a smooth and neat finished appearance to match the existing surfacing.					



<b>Defect Code:</b>	<b>46</b>	<b>Quantity:</b>	<b>Under 10 LF</b>	<b>Priority:</b>	<b>First Year</b>
Description: Split in flashing					
Repair: Cut away loose flashing and clean and prime repair area. Apply strip in of like material centered over split extending a minimum of 4" in all directions past prepared area.					

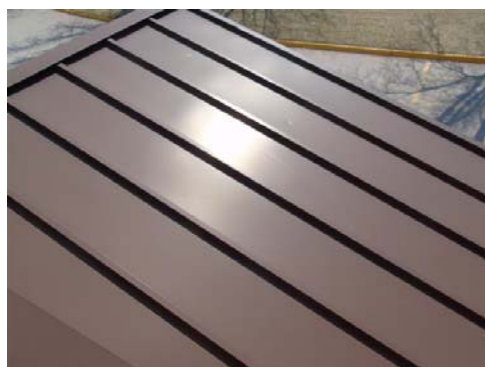


<b>Defect Code:</b>	<b>89</b>	<b>Quantity:</b>	<b>Widespread</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Missing wall covering/cladding.					
Repair: Replace cladding/wall covering with matching materials and methods. Reattach and reseal all joints, seams, laps, etc.					

Photos and Deficiencies



<b>Defect Code:</b>	<b>8</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Surface erosion.					
Repair: Prepare membrane surface by thoroughly cleaning and priming. Apply new surfacing of like materials to eroded areas. On gravel surfaced systems apply gravel in hot asphalt or recommended cold adhesive. Apply granulated fiberglass cap sheet or modified bitumen membrane on like systems. Apply coating system on smooth asphalt surfaces. Transition surfacing to provide for a smooth and neat finished appearance to match the existing surfacing.					



<b>Defect Code:</b>	<b>23</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Physical damage to membrane including cuts, holes, tears, scrapes, scuffs, or abrasions.					
Repair: Apply repair membrane over damaged area, extending repair material a minimum 6" past damage.					



<b>Defect Code:</b>	<b>24</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>Monitor</b>
Description: Evidence of past problem and previous repair.					
Repair: Investigate for chronic leak problems and repair any areas that are suspect.					



<b>Defect Code:</b>	<b>46</b>	<b>Quantity:</b>	<b>Random</b>	<b>Priority:</b>	<b>First Year</b>
Description: Split in flashing					
Repair: Cut away loose flashing and clean and prime repair area. Apply strip in of like material centered over split extending a minimum of 4" in all directions past prepared area.					

Photos and Deficiencies



<b>Defect Code:</b>	<b>53</b>	<b>Quantity:</b>	<b>1</b>	<b>Priority:</b>	<b>First Year</b>
Description: Open lead flashing.					
Repair: Provide extension lead and turn into pipe. Counterflash top of short lead with extension a minimum of 3".					

Photos and Deficiencies



Defect Code:	8	Quantity:	Widespread	Priority:	Monitor
Description: Surface erosion.					
Repair: Prepare membrane surface by thoroughly cleaning and priming. Apply new surfacing of like materials to eroded areas. On gravel surfaced systems apply gravel in hot asphalt or recommended cold adhesive. Apply granulated fiberglass cap sheet or modified bitumen membrane on like systems. Apply coating system on smooth asphalt surfaces. Transition surfacing to provide for a smooth and neat finished					



Defect Code:	43	Quantity:	100SF	Priority:	Monitor
Description: Weathered and deteriorated flashing					
Repair: Clean and prepare surfaces by removing loose granules, dirt, and other debris. Apply two coats of elastomeric coating compatible with the flashing materials.					



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 Deficiency Legend
 

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Defect #	<b>FIELD MEMBRANE AND ROOF SURFACE</b>
1	Description: Deteriorated or missing sealant at counterflashing, termination bar, sealant lip, metal flashing, expansion joint, etc.
2	Description: Fishmouth in field or flashing seam.
3	Description: Open lap in field membrane.
4	Description: Dry lap edge.
5	Description: Buckling or ridging of membrane.
6	Description: Split in membrane.
7	Description: Wrinkle in membrane.
8	Description: Surface erosion.
9	Description: Membrane deterioration.
10	Description: Tented membrane at fastener.
11	Description: Blister in field membrane or flashing.
12	Description: Alligating of asphalt surfacing.
13	Description: Tar boils/blueberries.
14	Description: Displaced ballast.
15	Description: Ponding of water.
16	Description: Blocked drain, scupper, or downspout.
17	Description: Missing or damaged drain/scupper strainer
18	Description: Unadhered membrane or inadequate membrane attachment.
19	Description: Unadhered insulation or inadequate insulation attachment.
20	Description: Displaced insulation
21	Description: Loose walkway pad or deteriorated paver.
22	Description: Debris, trash, construction materials, HVAC equipment, filters, motors, etc. on roof surface.
23	Description: Physical damage to membrane including cuts, holes, tears, scrapes, scuffs, or abrasions.
24	Description: Evidence of past problem and previous repair.
25	Description: Membrane slippage
26	Description: Membrane shrinkage
27	Description: Missing or damaged membrane protection layer at sleeper, antenna, satellite sled, blocking, pipe stand, paver, etc.
28	Description: Reported leak location
29	Description: Missing, loose, or broken shingles
30	Description: Open or missing tile eave stop.
31	Description: Missing or open mortar joints at the ridge or hip.
32	Description: Broken or missing tile.
33	Description: Loose, displace, or unsecured tiles.



## Deficiency Legend

Defect #	FLASHINGS AND PENETRATIONS
40	Description: Low flashing height.
41	Description: Missing or inadequate flashing attachment.
42	Description: Loose or unadhered flashings.
43	Description: Weathered and deteriorated flashing
44	Description: Bridged flashing
45	Description: Open flashing lap
46	Description: Split in flashing
47	Description: Racked flashings
48	Description: Missing termination
49	Description: Missing counterflashing
50	Description: Missing pipe flashing.
51	Description: Leaking or damaged gutters/downspouts.
52	Description: Missing rain cap, rain collar, or hood.
53	Description: Open lead flashing.
54	Description: Fallen or loose backer rod.
55	Description: Deteriorated or shrunken pitch pan filler.
56	Description: Abandoned and obsolete equipment.
57	Description: Expansion joint deficiencies.
58	Description: Inadequate or nonconforming membrane flashing detail.
	<b>METALWORK AND MISCELLANEOUS</b>
70	Description: Open joint in metal flashing.
71	Description: Open or missing joint cover.
72	Description: Signage penetration not sealed properly.
73	Description: Improper sheet metal detail.
74	Description: Inadequate coverage of metal flange.
75	Description: Inadequate attachment of metal flashings.
76	Description: Inadequate transition flashings.
77	Description: Grease or other contaminants exhausted or vented onto roof surface.
78	Description: Leaking or damaged gutters/downspouts.
79	Description: Cracks in walls.
80	Description: Broken, plugged, or disconnected condensate line.
81	Description: Displaced antenna, sign, bracing, support, strap, etc.
82	Description: Open or deteriorated wall joint.
83	Description: Efflorescence.
84	Description: Deck deflection
85	Description: Vegetation growth.
86	Description: Corrosion or rust
87	Description: Mechanical defect
88	Description: Skylight defect/cracked/deteriorated
89	Description: Missing wall covering or cladding materials.

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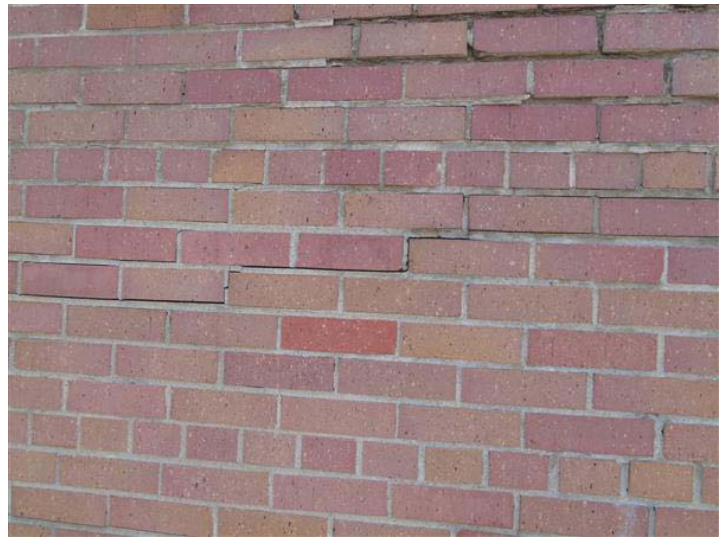
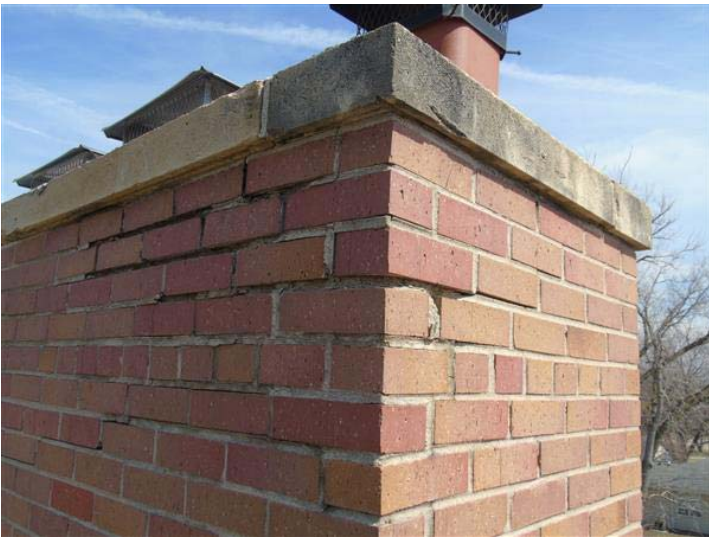
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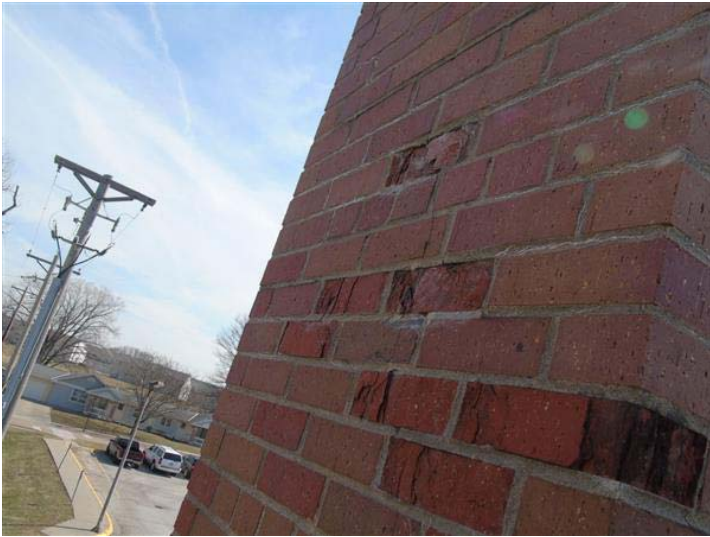


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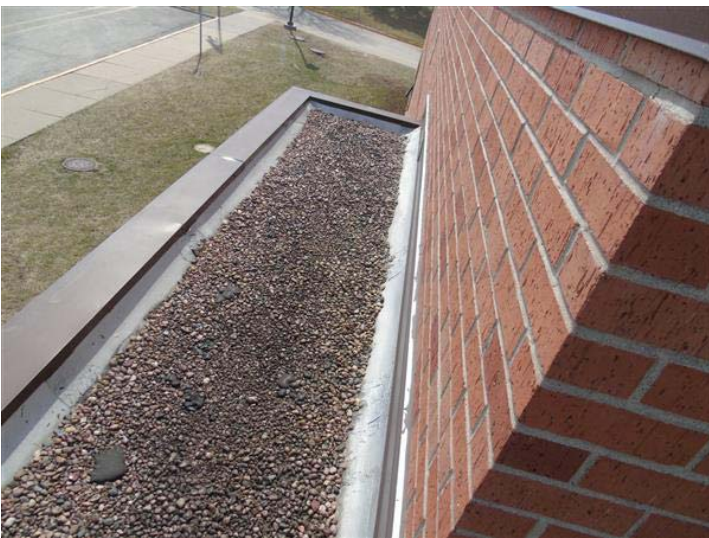
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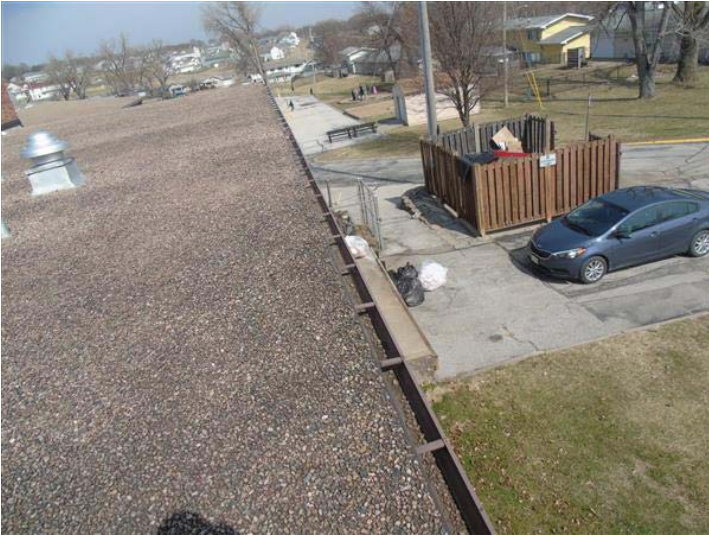
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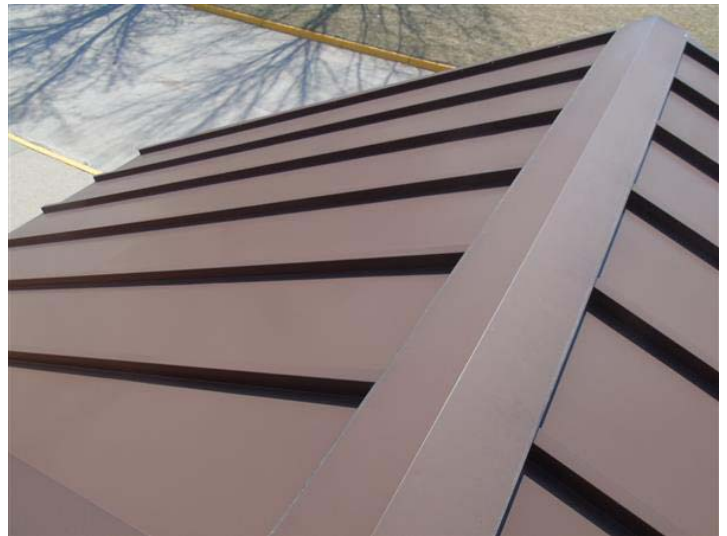
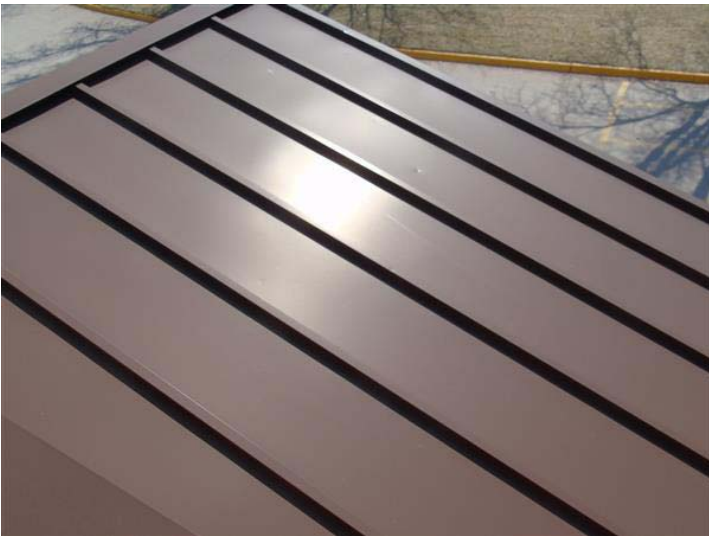
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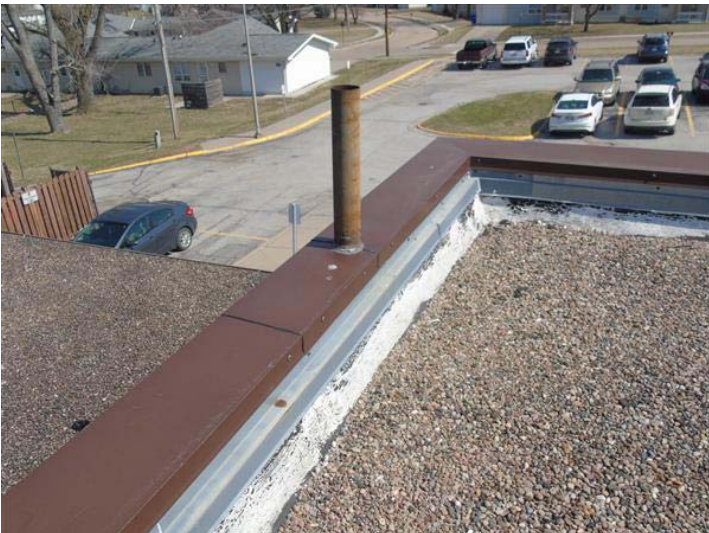
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