

Roof Inspection Report

Prepared for:

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

Prepared by:

Roofing Solutions, Inc.
6728 W. 153rd Street
Overland Park, KS 66223



Project Location

Belleaire Elementary
1200 W. Mission Avenue
Bellevue, NE 68005

Facility: Belleaire Elementary
1200 W. Mission Avenue
Bellevue
Nebraska
68005
U.S.A.



Contact Name: Greg Boettger

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Date of Last Inspection: Mar 07, 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 1987	27,680 sq. ft. 16 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Urgent 25 0(Yrs)	\$415,200.00
	Roof B B 1992	12,636 sq. ft. 16 ft.	Built-Up Asphalt Roofing	Poor 33 0(Yrs)	\$151,632.00
	Roof C C 1999	714 sq. ft. 16 ft.	Built-Up Asphalt Roofing	Poor 40 2(Yrs)	\$10,710.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof D D 1999	5,959 sq. ft. 22 ft.	Built-Up Asphalt Roofing	Poor 40 2(Yrs)	\$89,385.00
46,989					\$666,927.00
*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	Replacement	Yes	Capital	Urgent	\$415,200
Roof B	2017	Replacement	Yes	Capital	High	\$151,632
Roof C	2017	Repair	Yes	Expense	High	\$1,000
Roof C	2019	Retrofit	Yes	Capital	High	\$10,710
Roof D	2017	Repair	Yes	Expense	High	\$1,500
Roof D	2019	Replacement	Yes	Capital	High	\$89,385
						\$669,427

Capital Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$415,200	\$0	\$0	\$0	\$0
Roof B	\$151,632	\$0	\$0	\$0	\$0
Roof C	\$0	\$0	\$10,710	\$0	\$0
Roof D	\$0	\$0	\$89,385	\$0	\$0

	\$566,832	\$0	\$100,095	\$0	\$0
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Expense Budgets - 5 Years

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

Total Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$415,200	\$0	\$0	\$0	\$0
Roof B	\$151,632	\$0	\$0	\$0	\$0
Roof C	\$1,000	\$0	\$10,710	\$0	\$0
Roof D	\$1,500	\$0	\$89,385	\$0	\$0
	\$569,332	\$0	\$100,095	\$0	\$0

Roof Name: A**Roof Size:** 27,680 sq. ft.**Est. replacement Cost:** \$ 415,200.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1987**Assessed Service Life Remaining (Years) :** 0**Height:** 16 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Yes**History of Leaking?** Yes

Drainage and Leak Details: The A-1 roof area slopes from a central ridge line towards the north and south. The A-2 roof area slopes from north to south. The A-3 roof area slopes from a central ridge line towards the east and west. All three (3) roof areas drain to primary drains located along the edges of the roof areas.

Facility personnel reported active leak issues on the A-3 roof area.



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Gypsum	Poured - In - Place
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Expanded Polystyrene (EPS)	Laid - In -Place
Cover board	Fiberboard - 1/2"	Mechanically Fastened
Membrane	EPDM	Cold Adhesive


Overall Core Condition

Two (2) core samples were taken on the A-1 roof area to verify the roofing layers in place and both core samples revealed the same roofing layers in place. The deck is poured in place gypsum decking. There is one (1) layer of 2" polyisocyanurate board, one (1) layer of air-expanded polystyrene (which is a tapered insulation system) and a 1/2" layer of wood fiber cover board. The membrane is a fully-adhered, .060 mil Firestone EPDM. Core samples were also taken on the A-2 and A-3 roof areas which revealed the same roofing layers in place as A-1. The wood fiber cover board was deteriorated at all four (4) core cut locations.

Core Photos

Photos	Date	Description
	Mar 07, 2017	Core cut #1
	Mar 07, 2017	Core cut #2
	Mar 07, 2017	Core cut #3
	Mar 07, 2017	Core cut #4

Core Photos Continued...

Photos	Date	Description
	Mar 07, 2017	Deck Underside

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 07, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section A refers to the low slope roof system over the southern roof areas at the Belleaire Elementary School facility. The roof section includes the A-1, A-2 & A-3 roof areas. The roof is an approximately thirty (30) year old, fully-adhered, .060 mil Firestone EPDM. The exterior edges of the roof areas consist of a raised roof edge where the roof membrane terminates with a water stop type of metal roof edging. The common sides with the B-1 & B-2 roof areas consist of a short wall detail. The walls are flashed with same type of EPDM membrane flashing and are topped with a metal coping cap. The internal edges which divide the A roof areas are a raised roof edge where the EPDM membrane runs continuously through the areas.

Defects and conditions found during the inspection include the following:

- Open and loose EPDM lap edges observed
- One (1) area with standing water observed on the A-3 area
- One (1) blocked and sunken overflow drain on the A-3 area
- One (1) missing drain strainer
- Loose areas of EPDM membrane observed along the edges of the roof areas
- Accumulation of debris around the drain strainers and along the sides of the roof areas
- EPDM stripping repair attempts observed to the roof system laps
- Evidence of roof membrane shrinkage with pulled roof edging and pipe boots pulled
- The EPDM flashings are bridged
- Numerous open EPDM flashing laps observed
- Abandoned roof curbs with metal covers
- There are cracked, leaking or condensation forming on the skylight lenses

Overall, the roof system is in poor condition due to its age and extremely deteriorated nature of the roof system, including membrane shrinkage. 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. There was no warranty information available for this roof section at the time of inspection.

Please Note: The loose EPDM roof membrane and pulled-away roof edging pose a potential for roof areas to blow off and should be addressed as soon as possible.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Replacement	Yes	Capital	Urgent	\$415,200

RSI recommends a complete tear-off of existing roof system and the installation of a new twenty (20) year design life roof system. We further recommend the replacement of all perimeter coping cap and projection details per SMACNA Architectural Sheet Metal Manual.

\$415,200

Roof Name: B**Roof Size:** 12,636 sq. ft.**Est. replacement Cost:** \$ 151,632.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 0**Height:** 16 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes

Drainage and Leak Details: The B-1 roof area slopes from a central ridge line towards the east and west and the B-2 roof area slopes from south to north. Both roof areas drain to primary roof drains located along the edges of the roof areas.

No recent leaks were reported on these roof areas at the time of inspection.





Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Gypsum	Poured - In - Place
Base sheet	Fiberglass Base	Nailed
Insulation	Polyisocyanurate	Hot Asphalt
Cover board	Fiberboard - 1/2"	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

Overall Core Condition

Core samples were taken on both the B-1 & B-2 roof areas and both revealed the same roofing layers in place. The deck is poured in place gypsum decking. There is one (1) layer of polyisocyanurate board and one (1) .5" layer of wood fiber cover board. The membrane is a multiply BUR with a gravel surfacing. The polyisocyanurate board measured 2" on B-1 and 3" on B-2, neither of which appeared to be part of a tapered insulation system.

Core Photos

Photos	Date	Description
	Mar 07, 2017	Deck Underside
	Mar 07, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 07, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section B refers to the low slope roof system over the northwestern roof areas at the Belleaire Elementary School facility. The roof section includes the B-1 and B-2 roof areas. The roof is an approximately twenty-five (25) year old BUR system with a gravel surfacing. The east, west and north perimeters of the B-1 roof area and north edge of the B-2 roof area is a raised roof edge which is flashed with a BUR type of membrane flashing with an aluminum painted surfacing. The edges have a small metal cover. The remaining sides of the roof areas are a short wall detail. The walls are flashed with same type of BUR membrane flashing and are topped with a metal coping cap. The common walls with the A-1 roof area are flashed up 12" with the same type of BUR flashing which extends under a surface mounted metal counter flashing.

Defects and conditions found during the inspection include the following:

- Accumulation of debris around the drain strainers
- The BUR flashings are weathered with numerous areas of deterioration observed
- Random areas with split BUR flashings
- Abandoned roof curbs have metal covers
- Rusted flue stacks and rusted vent covers observed
- Small cracks, leaking or condensation observed on the skylight lenses

Overall, the roof system is in poor condition due to its age and deteriorated nature of the roof system. 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. 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	Replacement	Yes	Capital	High	\$151,632

RSI recommends a complete tear-off of existing roof system and the installation of a new twenty (20) year design life roof system. We further recommend the replacement of all perimeter coping cap and projection details per SMACNA Architectural Sheet Metal Manual.

\$151,632

Roof Name: C**Roof Size:** 714 sq. ft.**Est. replacement Cost:** \$ 10,710.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1999**Assessed Service Life Remaining (Years) :** 2**Height:** 16 Ft.**Slope:****Interior Sensitivity:****Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section C slopes from a central ridge line towards the east and west with an external gutter at the west end and a roof drain at the east end.

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	Wood plank	Nailed
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Polyisocyanurate	Laid - In -Place
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 wood plank decking. The insulation consists of two (2) layers of 1.5" polyisocyanurate board and a .25" layer of Dens-Deck cover board. The membrane is a multiply BUR with a gravel surfacing. The polyisocyanurate insulation does not appear to be part of a tapered insulation system.

Core Photos

Photos	Date	Description
	Mar 07, 2017	Deck Underside
	Mar 07, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 07, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section C refers to the low slope roof system over a connector roof area at the Belleaire Elementary School facility. The roof is an approximately eighteen (18) year old BUR system with a gravel surfacing. The exterior sides of the roof area are a flat or raised roof edge which is flashed with a BUR type of membrane flashing which has an aluminum painted surfacing. The raised edge has a small metal cover. The remaining sides of the roof areas are a wall detail and are flashed up 12" with the same type of BUR flashing which extends under a surface mounted metal counter flashing.

Defects and conditions found during the inspection include the following:

- Deteriorated and missing caulking observed on top of the perimeter wall counter flashing
- Accumulation of debris observed in the guttering and along the perimeter of the roof area
- Service pipes that penetrate through the side walls are close to the top of the roof elevation
- One (1) loose roof edging cover plate observed

Overall, the roof system is in poor condition due to its age. 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 two (2) 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
RSI recommends repairs be completed in accordance with the attached deficiency list.					
2019	Retrofit	Yes	Capital	High	\$10,710
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.					
					\$11,710

Roof Name: D**Roof Size:** 5,959 sq. ft.**Est. replacement Cost:** \$ 89,385.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1999**Assessed Service Life Remaining (Years) :** 2**Height:** 22 Ft.**Slope:****Interior Sensitivity:****Drainage:** Adequate**Currently Leaking?** Yes**History of Leaking?** Yes**Drainage and Leak Details:** The D roof areas slope to the interior and drain to primary roof drains.

Facility personnel reported one (1) recent leak on the D-2 roof area.



Existing Roof System Construction


Layer Type	Description	Method Of Attachment
Deck	Tectum	Laid - In -Place
Deck	Lightweight Concrete on Metal Pan	Poured - In - Place
Base sheet	Fiberglass Base	Nailed
Insulation	Polyisocyanurate	Hot Asphalt
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 both the D-1 and D-2 roof areas. An under view of the D-1 area revealed a tectum panel decking. The D-1 core sample revealed what appears to be light weight concrete poured over the tectum panel. There is a nailed base ply, one (1) layer of 2.5" polyisocyanurate board and a 1/4" Dens-Deck cover board and the membrane is a multiply BUR with a gravel surfacing.

The D-2 core revealed what appears to be a poured in place gypsum decking, nailed base ply, two (2) layers of 1.5" polyisocyanurate board and a 1/4" layer of Dens-Deck cover board. The membrane is a multiply BUR with a gravel surfacing. The polyisocyanurate insulation does not appear to be part of a tapered insulation system.

Core Photos

Photos	Date	Description
	Mar 07, 2017	Deck Underside
	Mar 07, 2017	Core cut #1
	Mar 07, 2017	Core cut #2

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 07, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section D refers to the low slope roof system over the gymnasium and adjoining roof area at the Belleaire Elementary School facility. The roof is an approximately eighteen (18) year old BUR with a gravel surfacing. The exterior sides of the roof area are a raised roof edge which is flashed with a BUR type of membrane flashing which has an aluminum painted surfacing. The raised edge has a small metal cover. The internal side which divides the D roof areas is a wall detail. The wall is flashed up 12" with the same type of BUR flashing which extends under a surface mounted metal counter flashing.

Defects and conditions found during the inspection include the following:

- Deteriorated/missing caulking on top of perimeter wall counter flashing and in brick expansion joints
- One (1) split BUR flashing corner observed near the reported leak area

Overall, the roof system is in poor condition due to its age. 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 two (2) 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	\$1,500
RSI recommends repairs be completed in accordance with the attached deficiency list.					
2019	Replacement	Yes	Capital	High	\$89,385
RSI recommends a complete tear-off of existing roof system and the installation of a new twenty (20) year design life roof system. We further recommend the replacement of all perimeter coping cap and projection details per SMACNA Architectural Sheet Metal Manual.					
					\$90,885

Photos and Deficiencies



Defect Code:	3	Quantity:	Widespread	Priority:	Monitor
Description: Open lap in field membrane.					
Repair: Clean lap of all dirt and close seam. Overlay edge of affected seam with strip-in of new membrane of like material. Extend a minimum of 4" in all directions past seam edges and repair areas.					



Defect Code:	15	Quantity:	Random	Priority:	Monitor
Description: Ponding of water.					
Repair: Monitor areas for severe or chronic ponding. Provide sacrificial membrane ply in ponded areas where existing membrane is deteriorated. Install additional drain or scupper including collectors and drain piping where ponding conditions are severe and chronic.					



Defect Code:	16	Quantity:	1	Priority:	First Year
Description: Blocked drain, scupper, or downspout.					
Repair: Remove all debris from drainage system and ensure drain or scupper is free flowing without restrictions at strainer or piping.					



Defect Code:	17	Quantity:	1	Priority:	Monitor
Description: Missing or damaged drain/scupper strainer					
Repair: Replace damaged or missing strainer with a new cast iron strainer sized to fit the drain assembly or scupper opening. Lock in place to prevent loss.					

Photos and Deficiencies



Defect Code:	18	Quantity:	Widespread	Priority:	Urgent
Description: Unadhered membrane or inadequate membrane attachment.					
Repair: At unadhered areas, cut open membrane and readhere to substrate with manufacturer's approved adhesive. At areas with missing securement, provide securement in the form of screws and plates installed a maximum of 12" O.C. Overlay repaired areas with new membrane of similar gauge, type, and plies and extend repairs a minimum of 4" past cut areas or edges of plates.					



Defect Code:	22	Quantity:	Random	Priority:	Monitor
Description: Debris, trash, construction materials, HVAC equipment, filters, motors, etc. on roof surface.					
Repair: Remove all trash and debris from roof. Clean and inspect surfaces and repair any damages to the membrane or flashings.					



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



Defect Code:	26	Quantity:	Widespread	Priority:	Urgent
Description: Membrane shrinkage					
Repair: Investigate and repair cause of shrinkage. Cut away affected areas and prepare to receive new membrane. Install new membrane and secure at base flashings. Adhere to walls and substrates and reinstall metal copings, counterflashings, and termination bars to complete the repair. On ballasted systems redistribute ballast evenly.					

Photos and Deficiencies



Defect Code:	44	Quantity:	Widespread	Priority:	Monitor
Description: Bridged flashing					
Cut out all bridged flashings. Clean area thoroughly and apply new flashings. Apply corner flashings and overlay all T-laps, flashings laps, and splice intersections.					



Defect Code:	45	Quantity:	Widespread	Priority:	Monitor
Description: Open flashing lap					
Repair: Open loose lap area and clean thoroughly. Prime and reseam or reweld lap per the manufacturer's requirements. Strip-in defective lap with minimum 6" wide membrane on single ply systems or 6" wide fabric and mastic three-course application on asphalt systems. Regranulate or coat flashing repairs.					



Defect Code:	56	Quantity:	6	Priority:	Monitor
Description: Abandoned and obsolete equipment.					
Repair: Monitor for leaks. Check systems are abandoned and disconnected and will not be used in the future. Remove abandoned equipment and repair deck at scheduled roof replacement.					



Defect Code:	88	Quantity:	Random	Priority:	First Year
Description: Skylight defect/cracked/deteriorated					
Repair: Remove and replace affected components.					

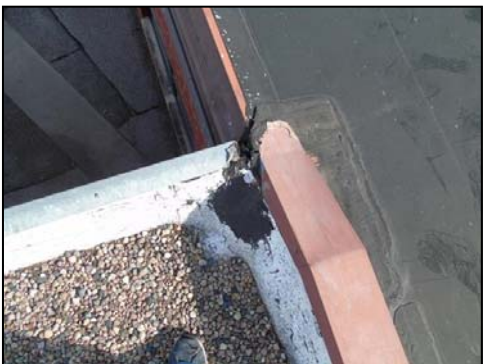
Photos and Deficiencies



Defect Code:	22	Quantity:	Random	Priority:	Monitor
Description: Debris, trash, construction materials, HVAC equipment, filters, motors, etc. on roof surface.					
Repair: Remove all trash and debris from roof. Clean and inspect surfaces and repair any damages to the membrane or flashings.					



Defect Code:	43	Quantity:	Widespread	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.					



Defect Code:	46	Quantity:	Under 10 LF	Priority:	First Year
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.					



Defect Code:	56	Quantity:	1	Priority:	Monitor
Description: Abandoned and obsolete equipment.					
Repair: Monitor for leaks. Check systems are abandoned and disconnected and will not be used in the future. Remove abandoned equipment and repair deck at scheduled roof replacement.					

Photos and Deficiencies



Defect Code:	86	Quantity:	Random	Priority:	Monitor
Description: Corrosion or rust					
Repair: Remove rusted components and replace with similar metal fabricated and installed per SMACNA requirements.					

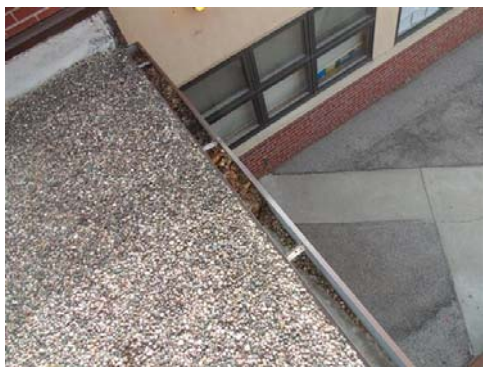


Defect Code:	88	Quantity:	2	Priority:	First Year
Description: Skylight defect/cracked/deteriorated					
Repair: Remove and replace affected components.					

Photos and Deficiencies



Defect Code:	1	Quantity:	Widespread	Priority:	First Year
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.					



Defect Code:	22	Quantity:	Random	Priority:	Monitor
Description: Debris, trash, construction materials, HVAC equipment, filters, motors, etc. on roof surface.					
Repair: Remove all trash and debris from roof. Clean and inspect surfaces and repair any damages to the membrane or flashings.					



Defect Code:	40	Quantity:	Random	Priority:	Monitor
Description: Low flashing height.					
Repair: Raise flashing height to a minimum of 8" above finished roof surface. Provide appropriate termination of flashings with metal copings or counterflashings. Provide a compression bar termination of flashings to concrete or block surface if flashings cannot be maintained at 8" minimum height.					



Defect Code:	71	Quantity:	1	Priority:	First Year
Description: Open or missing joint cover.					
Repair: Replace joint covers that are open or missing with matching joint covers and sealant.					

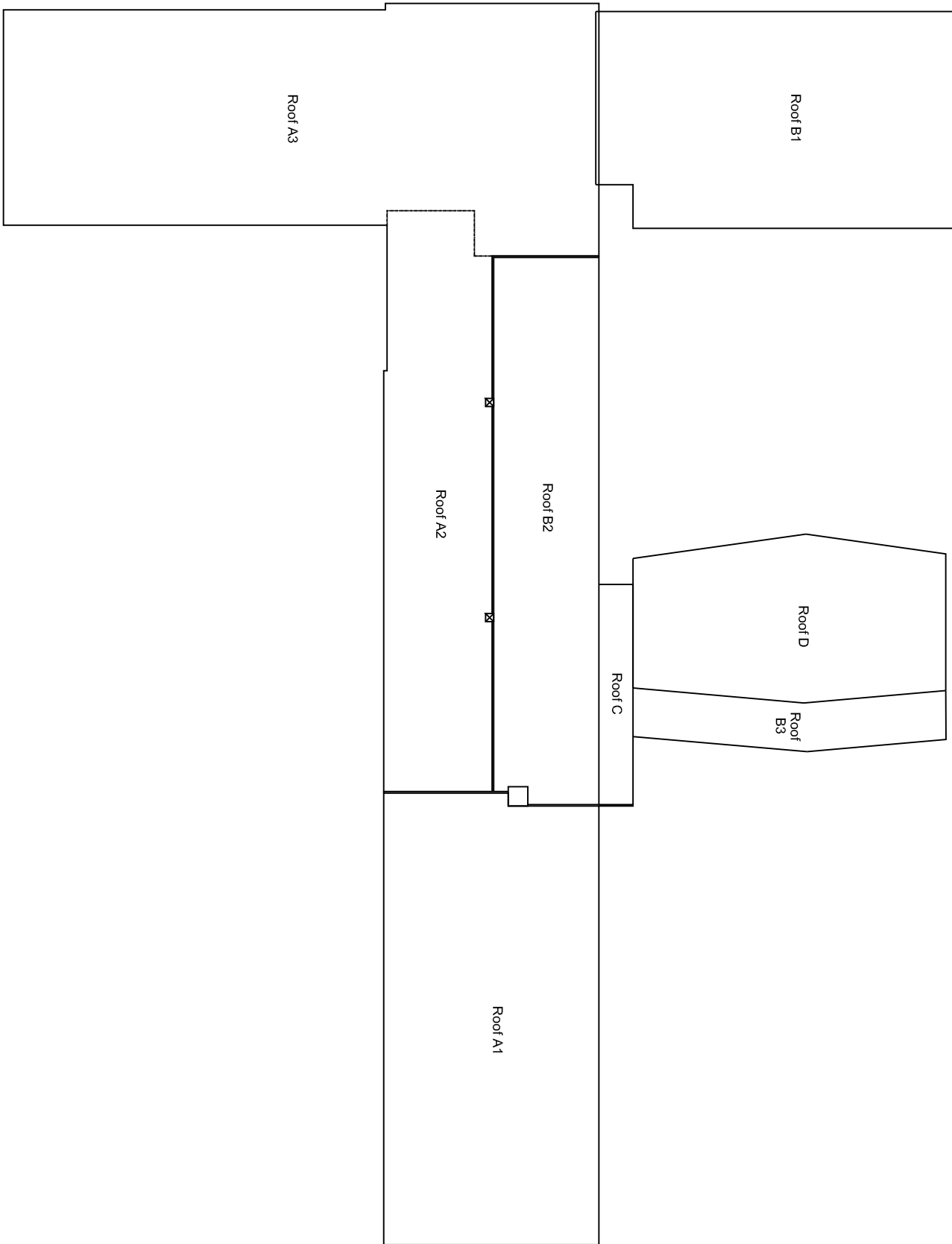
Photos and Deficiencies



Defect Code:	1	Quantity:	Widespread	Priority:	First Year
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.					



Defect Code:	46	Quantity:	Under 10 LF	Priority:	First Year
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.					



Shingles



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Project Name:

Belleaire Elementary

Project Address:

**1200 W. Mission Avenue
 Bellevue, NE 68005**

Sheet Number:
01 of 01

Date:
03/07/2017

Drawn By:
 GH

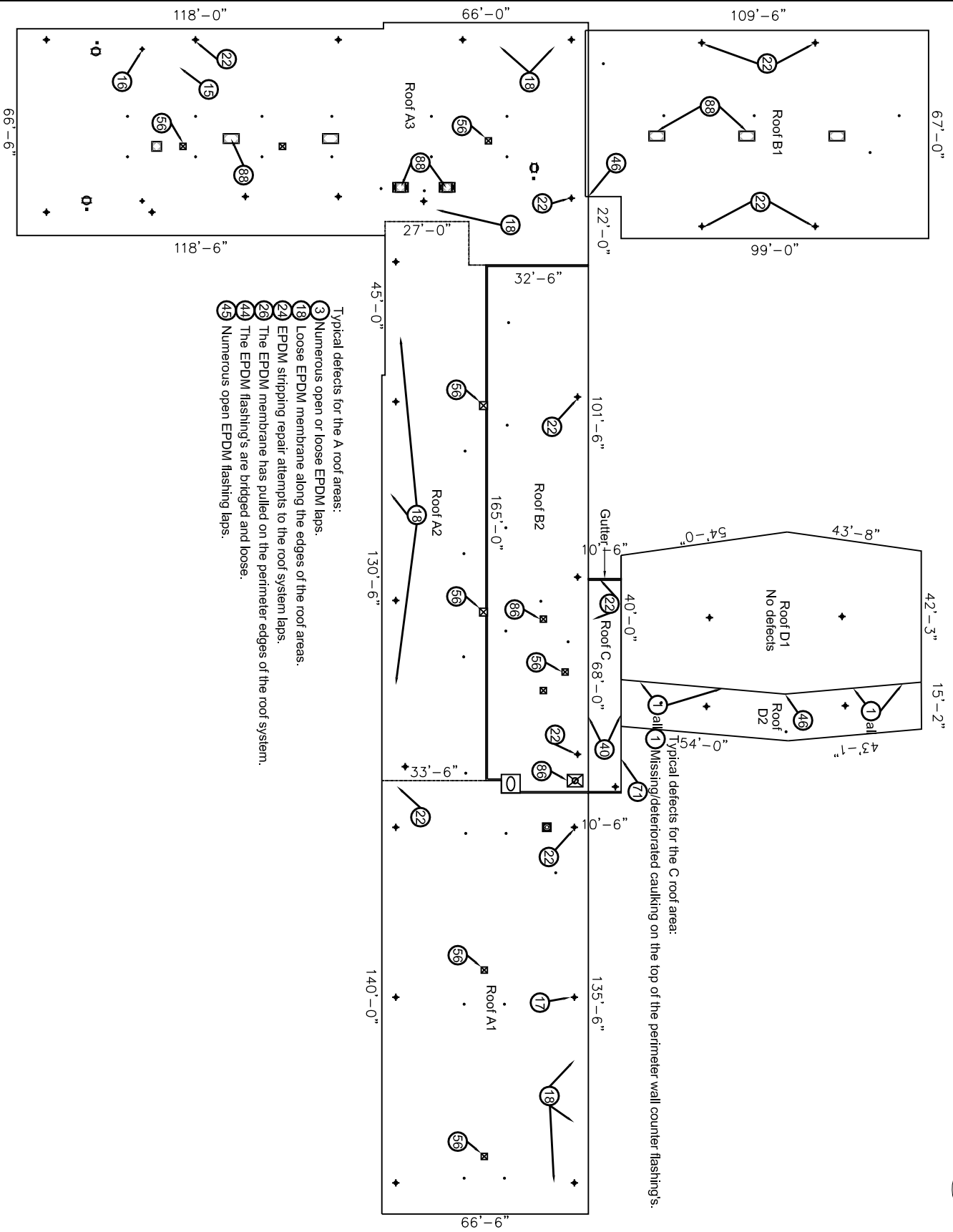
Project Number:
00-000000

Sheet Title:
Site Plan

- DRAWING LEGEND**
- ⊕ DRAIN
 - ⊖ OVERFLOW
 - ⊙ SCUPPER
 - ⊞ HVAC UNIT
 - ⊞ CURB
 - ⊞ SATELLITE
 - ⊞ PITCH PAN
 - PIPE
 - SLEEPER
 - ⊞ SKYLIGHT
 - ⊞ EXHAUST FAN
 - ⊞ CONDENSER ON SLEEPERS
 - ⊞ DEFECT NOTE
 - ⊞ CONSTRUCTION NOTE
- N.L.C. NOT IN CONTRACT
 UNL. UNLESS NOTED OTHERWISE

Typical defects for the B roof areas:
 (43) The BUR flashing's are weathered with areas of deterioration.

Shingles
 2015



Typical defects for the C roof area:
 (1) Missing/deteriorated caulking on the top of the perimeter wall counter flashings.

- Typical defects for the A roof areas:
- (3) Numerous open or loose EPDM laps.
 - (19) Loose EPDM membrane along the edges of the roof areas.
 - (29) EPDM stripping repair attempts to the roof system laps.
 - (28) The EPDM membrane has pulled on the perimeter edges of the roof system.
 - (44) The EPDM flashing's are bridged and loose.
 - (45) Numerous open EPDM flashing laps.

DRAWING LEGEND	
	DRAIN
	OVERFLOW
	SCUPPER
	HVAC UNIT
	CURB
	SATELLITE
	PITCH PAN
	PIPE
	SLEEPER
	FLUE
	SKYLIGHT
	EXHAUST FAN
	CONDENSER ON SLEEPERS
	DEFECT NOTE
	CONSTRUCTION NOTE
M.I.C. NOT IN CONTRACT	
U.N.O. UNLESS NOTED OTHERWISE	



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 6728 W. 153rd Street
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Project Name:
Belleaire Elementary

Project Address:
**1200 W. Mission Avenue
 Bellevue, NE 68005**

Project Number: 00-000000 **Sheet Title:** A,B,C&D-Roof Plan

Sheet Number: 01 of 01 **Date:** 03/07/2017 **Drawn By:** GH

 Deficiency Legend

Defect #	FIELD MEMBRANE AND ROOF SURFACE
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: Alligatoring 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.
	METALWORK AND MISCELLANEOUS
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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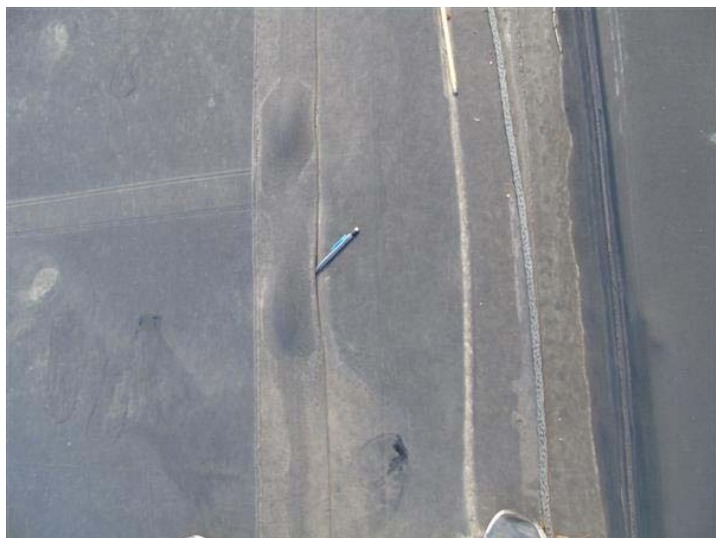
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Ph 1 Roof Inspection_Roof A-2_2017-03-07

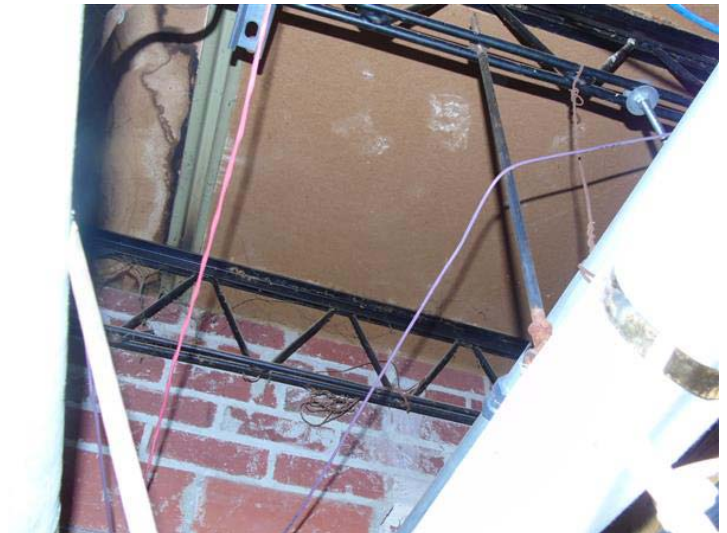


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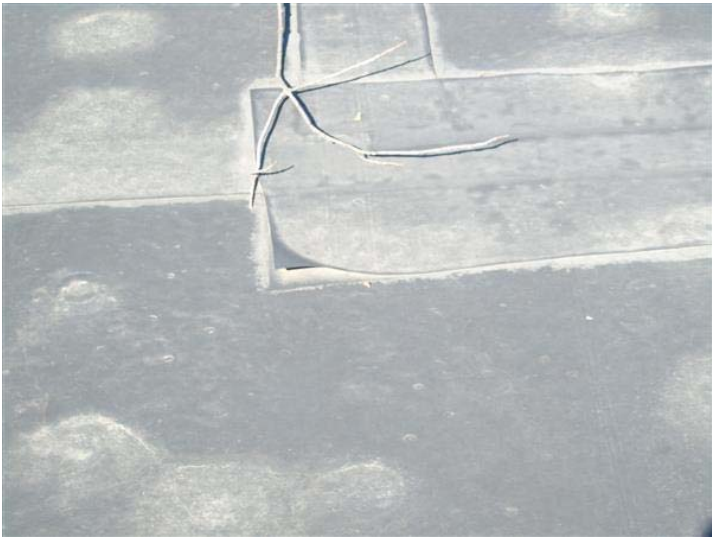
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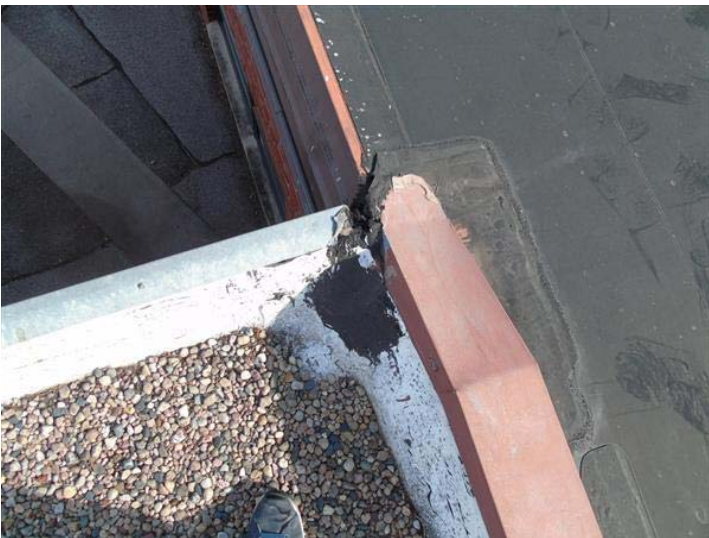


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