

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

Twin Ridge Elementary
1400 Sunbury Drive
Bellevue, NE 68005

Facility: Twin Ridge Elementary
1400 Sunbury Drive
Bellevue
Nebraska
68005
U.S.A.



Contact Name: Greg Boettger

Contact Telephone: (402) 293-5066 Ext:




Contact Fax: () -

Date of Last Inspection: Mar 17, 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 2008	12,628 sq. ft. 28 ft.	(SBS) Modified Bituminous Membrane Roofing	Good 86 11(Yrs)	\$126,280.00
	Roof B B 2008	6,674 sq. ft. 28 ft.	(SBS) Modified Bituminous Membrane Roofing	Good 75 11(Yrs)	\$56,729.00
	Roof C C 2008	5,123 sq. ft. 24 ft.	(SBS) Modified Bituminous Membrane Roofing	Good 75 9(Yrs)	\$61,476.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof D D 1992	80 sq. ft. 10 ft.	(EPDM) Ethylene-Propyl ene-Diene-Mon omer Roofing	Poor 33 0(Yrs)	\$2,000.00
24,505					\$246,485.00
*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	Repair	Yes	Expense	High	\$3,500
Roof B	2017	Repair	Yes	Expense	High	\$1,000
Roof C	2017	Repair	Yes	Expense	High	\$2,000
Roof D	2017	Replacement	Yes	Capital	High	\$2,000
\$8,500						

Capital Budgets - 5 Years

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

Expense Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
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Expense Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$3,500	\$0	\$0	\$0	\$0
Roof B	\$1,000	\$0	\$0	\$0	\$0
Roof C	\$2,000	\$0	\$0	\$0	\$0
	\$6,500	\$0	\$0	\$0	\$0

Total Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$3,500	\$0	\$0	\$0	\$0
Roof B	\$1,000	\$0	\$0	\$0	\$0
Roof C	\$2,000	\$0	\$0	\$0	\$0
Roof D	\$2,000	\$0	\$0	\$0	\$0
	\$8,500	\$0	\$0	\$0	\$0

Roof Name: A**Roof Size:** 12,628 sq. ft.**Est. replacement Cost:** \$ 126,280.00**Existing System Type:** (SBS) Modified Bituminous Membrane Roofing**Year Installed:** 2008**Assessed Service Life Remaining (Years) :** 11**Height:** 28 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** The A roof areas slope to the interior and drain to primary roof drains.

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	Gypsum	Poured - In - Place
Base sheet	Fiberglass Base	Nailed
Insulation	Polyisocyanurate	Hot Asphalt
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	Mod Bit - 2 ply	Hot Asphalt
Surfacing	Granules	Factory Installed

Overall Core Condition

One (1) core sample was taken on the A-1 roof area. The deck is poured in place gypsum deck and there is a nailed base ply. The insulation consists of one (1) layer of 2" of polyisocyanurate board and a .25" Dens-Deck cover board. The membrane is a two (2) ply SBS modified bitumen with a granulated surfacing. Under views of the A-2 & A-3 structures revealed the same type of decking and the roof systems appears to be the same type and age.

Core Photos

Photos	Date	Description
	Mar 17, 2017	Roof System Core
	Mar 17, 2017	Deck Underside
	Mar 17, 2017	Deck Underside #2

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 17, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section A refers to the low slope roof system over the northern portion of the main building (A-1 &A-2) and over the mechanical room (A-3) at the Twin Ridge Elementary School facility. The roof is a nine (9) year old, SBS modified bitumen with a granular surfacing. The exterior perimeter sides of the roof area consist of a raised roof edge detail where the roof system terminates with a metal roof edging. The internal walls and control joints are flashed with the same type of membrane flashing as are the details. The membrane flashing extends under a metal counter flashing or a metal cap.

Defects and conditions found during the inspection include the following:

- Fishmouths observed in the modified bitumen cap sheet laps
- Open modified bitumen cap sheet laps observed near drain flashings
- The drain flashing membrane is wrinkled
- The modified bitumen stripping is beginning to split along the perimeter edge metal
- Splitting modified bitumen flashings observed at the ends of the control joint curbs
- Racked modified bitumen control joint flashing
- Sunken and split pitch pocket filler
- One (1) abandoned roof curb with a metal cover
- One (1) pipe penetration with inadequate membrane flashing observed
- There are numerous rusted flue stacks and curb covers

Overall, the roof system is in good working condition. 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. There was no warranty information available for this roof section at the time of inspection. Some defects may be covered under a roofing manufacturer's warranty if one is found to be in affect and the defects in questions are *actively* causing leaks.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$3,500

RSI recommends repairs be completed in accordance with the attached deficiency list. If a warranty is in effect, the roofing manufacturer's warranty department should be contacted prior to repairs for investigation and repairs possibly covered by warranty.

**Please Note: Warranty services will only respond if the defect(s)/specific roof area in question is actively leaking.*

\$3,500

Roof Name: B**Roof Size:** 6,674 sq. ft.**Est. replacement Cost:** \$ 56,729.00**Existing System Type:** (SBS) Modified Bituminous Membrane Roofing**Year Installed:** 2008**Assessed Service Life Remaining (Years) :** 11**Height:** 28 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 to the interior and drains to two (2) primary roof drains. The B-2 & B-3 roof areas slope to the eave edges and drain 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	Hot Asphalt
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	Mod Bit - 2 ply	Hot Asphalt
Surfacing	Granules	Factory Installed

Overall Core Condition

Core cuts were performed on both the B-1 and B-3 roof areas, both of which have a steel deck. The B-1 insulation is one (1) layer of 1.5" polyisocyanurate board with a .25" layer of Dens-Deck cover board. The B-3 insulation is one (1) layer of 2" and one (1) layer of 1" polyisocyanurate board with a .25" layer of Dens-Deck cover board. The membrane is a two (2) ply SBS modified bitumen with a granulated surfacing. An under view of the B-2 structure revealed the same type of decking and roof system as B-1 B-3. Note that the insulation on the B-3 roof area may be a part of a tapered insulation system.

Core Photos

Photos	Date	Description
	Mar 17, 2017	Deck Underside
	Mar 17, 2017	Deck Underside #2
	Mar 17, 2017	Core cut #1
	Mar 17, 2017	Core cut #2

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 17, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section B refers to the low slope roof system over the southern portion of the main building (B-1), the small connector roof area (B-2) and the Office/Commons area (B-3) at the Twin Ridge Elementary School facility. The roof is a nine (9) year old, SBS modified bitumen with a granular surfacing. The exterior perimeter sides of the roof area consist of a raised roof edge detail where the roof system terminates with a metal roof edging. The internal walls and control joints are flashed with the same type of membrane flashing. The details are flashed with the same type of modified bitumen flashing. The membrane flashing extends under a metal counter flashing or a metal cap.

Defects and conditions found during the inspection include the following:

- Fishmouths observed in the modified bitumen cap sheet laps
- Evidence of standing water observed on the B-1 roof area
- One (1) missing drain strainer
- Open laps observed in the edge metal stripping laps
- One (1) area where spray foam has been used to seal the end of the counter flashing and gutter detail

Overall, the roof system is in good working condition. 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. There was no warranty information available for this roof section at the time of inspection. Some defects may be covered under a roofing manufacturer's warranty if one is found to be in affect and the defects in question are *actively* causing leaks.

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. If a warranty is in effect, the roofing manufacturer's warranty department should be contacted prior to repairs for investigation and repairs possibly covered by warranty.

**Please Note: Warranty services will only respond if the defect(s)/specific roof area in question is actively leaking.*

\$1,000

Roof Name: C**Roof Size:** 5,123 sq. ft.**Est. replacement Cost:** \$ 61,476.00**Existing System Type:** (SBS) Modified Bituminous Membrane Roofing**Year Installed:** 2008**Assessed Service Life Remaining (Years) :** 9**Height:** 24 Ft.**Slope:** 1/4" per ft.**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 east and west 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	Tectum	Laid - In -Place
Base sheet	Fiberglass Base	Nailed
Insulation	Polyisocyanurate	Hot Asphalt
Cover board	Dens-Deck - .25" (1/4")	Hot Asphalt
Membrane	Mod Bit - 2 ply	Hot Asphalt
Surfacing	Granules	Factory Installed

Overall Core Condition

One (1) core cut revealed a tectum panel decking and there is a nailed base ply. The insulation is one (1) layer of 2" of polyisocyanurate board with a .25" layer of Dens-Deck cover board. The membrane is a two (2) ply SBS modified bitumen with a granulated surfacing.

Core Photos

Photos	Date	Description
	Mar 17, 2017	Deck Underside
	Mar 17, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 17, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson
<p>Roof Section C refers to the low slope roof system over the gymnasium at the Twin Ridge Elementary School facility. The roof is a nine (9) year old, SBS modified bitumen with a granular surfacing. The exterior perimeter sides of the roof area consist of a flat edge or raised roof edge detail where the roof system terminates with a metal roof edging.</p> <p>Defects and conditions found during the inspection include the following:</p> <ul style="list-style-type: none"> - Random areas with ridged roof membrane plies - Numerous open modified bitumen laps in the edge metal stripping laps <p>Overall, the roof system is in good working condition. 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. There was no warranty information available for this roof section at the time of inspection. Some defects may be covered under a roofing manufacturer's warranty if one is found to be in affect and the defects in question are <i>actively</i> causing leaks.</p>			

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$2,000
<p>RSI recommends repairs be completed in accordance with the attached deficiency list. If a warranty is in effect, the roofing manufacturer's warranty department should be contacted prior to repairs for investigation and repairs possibly covered by warranty.</p> <p><i>*Please Note: Warranty services will only respond if the defect(s)/specific roof area in question is actively leaking.</i></p>					
					\$2,000

Roof Name: D**Roof Size:** 80 sq. ft.**Est. replacement Cost:** \$ 2,000.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 0**Height:** 10 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Unknown**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section D slopes towards the south and drains over the edge of the area.

Facility personnel reported a past leak issue with repairs performed and he was not sure if the leak was still active.




Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Plywood	Nailed
Insulation	Unknown	Mechanically Fastened
Membrane	EPDM	Cold Adhesive

Overall Core Condition

No core sample was taken on this roof section. An under view of the structure revealed what appears to be plywood deck construction. The membrane is a fully-adhered EPDM.

Core Photos

Photos	Date	Description
	Mar 17, 2017	Membrane

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 17, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section D refers to the low slope roof system over the rear electrical room at the Twin Ridge Elementary School facility. The roof is a very old, fully-adhered EPDM. The perimeter walls are flashed with the same type of EPDM membrane. The north and east wall flashings terminate with a caulk strip detail. The west side is a raised roof edge where the roof membrane terminates with a metal roof edging; the south edge is a flat edge.

Defects and conditions found during the inspection include the following:

- One (1) reported past leak issue at a corner of the building
- EPDM repair attempts observed near the reported leak location

Overall, the roof system is in poor condition due to its age. The EPDM membrane has surpassed its design service life by approximately five (5) years. RSI recommends the roof system be replaced with a new twenty (20) year design life roof system.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Replacement	Yes	Capital	High	\$2,000

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.

\$2,000

Photos and Deficiencies



Defect Code:	2	Quantity:	Under 10 LF	Priority:	First Year
Description: Fishmouth in field or flashing seam.					
Repair: Cut away fishmouth and lay material flat. Apply repair of like material and extend onto existing roof surface a minimum of 4". Complete laps per manufacturer's requirements. On asphalt systems, apply three-course of mastic and fabric over lap. Resurface membrane with ballast, gravel, or granules.					



Defect Code:	3	Quantity:	Under 10 LF	Priority:	First Year
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:	7	Quantity:	10 LF	Priority:	Monitor
Description: Wrinkle in membrane.					
Repair: Cut out wrinkles and loose membrane. Apply new membrane of like material and plies to cover cuts and extend repairs a minimum of 6" in all directions past cut out areas.					



Defect Code:	46	Quantity:	400 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.					

Photos and Deficiencies



Defect Code:	47	Quantity:	10 SF	Priority:	Monitor
Description: Racked flashings					
Repair: Monitor flashings and repair when identified as deteriorated.					



Defect Code:	55	Quantity:	2	Priority:	First Year
Description: Deteriorated or shrunken pitch pan filler.					
Repair: Clean pocket and penetrations of all dirt, insulation, and other materials and debris. Install manufacturer's recommended sealant in prepared pitch pan.					



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.					



Defect Code:	58	Quantity:	1	Priority:	First Year
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.					

Photos and Deficiencies



Defect Code:	86	Quantity:	2	Priority:	Monitor
Description: Corrosion or rust					
Repair: Remove rusted components and replace with similar metal fabricated and installed per SMACNA requirements.					

Photos and Deficiencies



Defect Code:	2	Quantity:	Under 10 LF	Priority:	First Year
Description: Fishmouth in field or flashing seam.					
Repair: Cut away fishmouth and lay material flat. Apply repair of like material and extend onto existing roof surface a minimum of 4". Complete laps per manufacturer's requirements. On asphalt systems, apply three-course of mastic and fabric over lap. Resurface membrane with ballast, gravel, or granules.					



Defect Code:	15	Quantity:	Widespread	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:	17	Quantity:	1	Priority:	First Year
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.					



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

Photos and Deficiencies



Defect Code:	73	Quantity:	Under 10 SF	Priority:	First Year
Description: Improper sheet metal detail.					
Repair: Remove sheet metal and fabricate new metal per SMACNA requirements. Solder all joints in drainage systems, scuppers, etc., and seal all other sheet metal joints with polyurethane sealant.					

Photos and Deficiencies



Defect Code:	5	Quantity:	Random	Priority:	Monitor
Description: Buckling or ridging of membrane.					
Repair: Cut out deteriorated buckles and ridges and repair membrane with similar membrane material. Extend repair material a minimum of 6" in all directions past repair areas.					



Defect Code:	45	Quantity:	200 LF	Priority:	First Year
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 mimum 6" wide membrane on single ply systems or 6" wide fabric and mastic three-course application on asphalt systems. Regranulate or coat flashing repairs.					

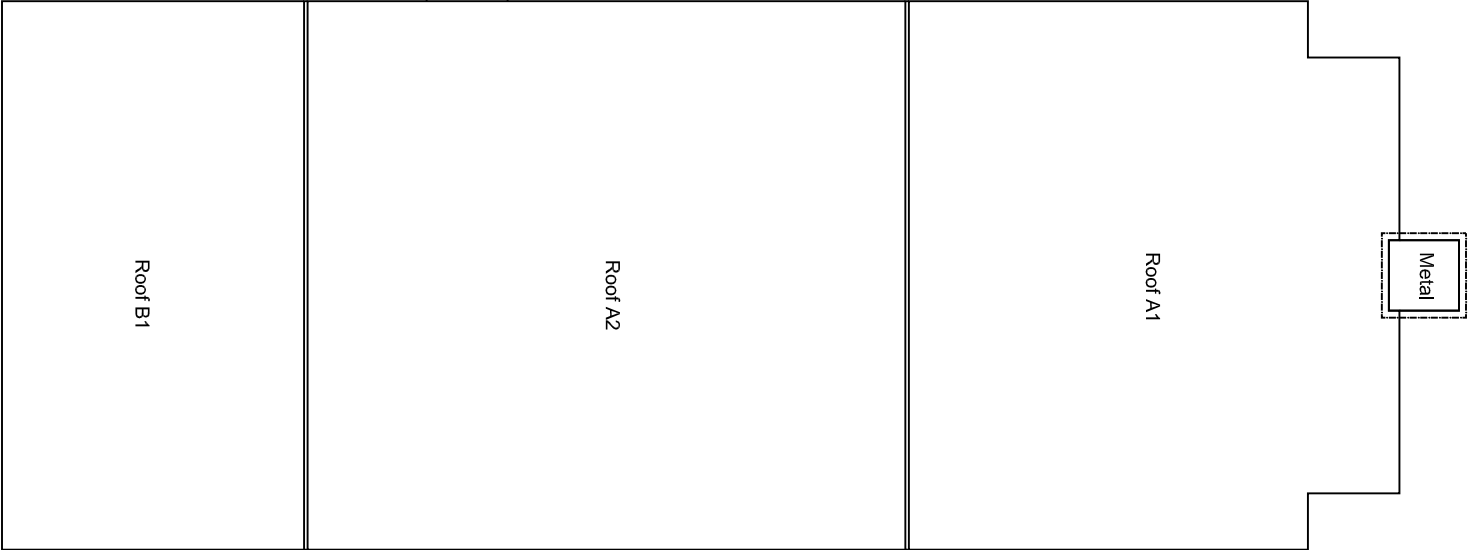
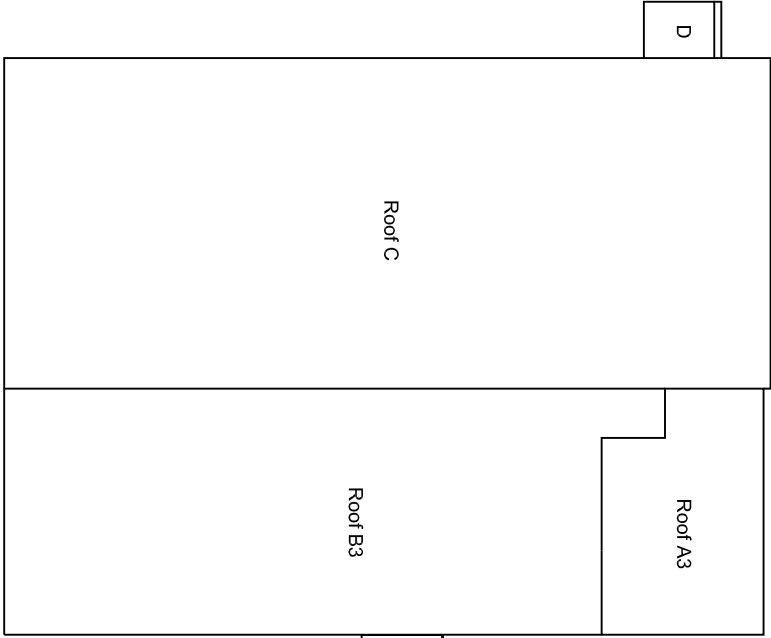
Photos and Deficiencies



Defect Code:	24	Quantity:	Random	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:	28	Quantity:	1	Priority:	Monitor
Description: Reported leak location					
Repair: Investigate leak and determine source. Repair areas with like materials of appropriate gauge and plies.					



Roofing Solutions, Inc.
 6728 W. 153rd Street
 Overland Park, KS 66223
 Office: (913)-897-1840
 Fax: (913)-897-1499
 RSI@roofingsolutionsinc.com

Project Name:

Twin Ridge Elementary

Project Address:

**1400 Sunbury Drive
 Bellevue, NE 68005**

Sheet Number:
01 of 01

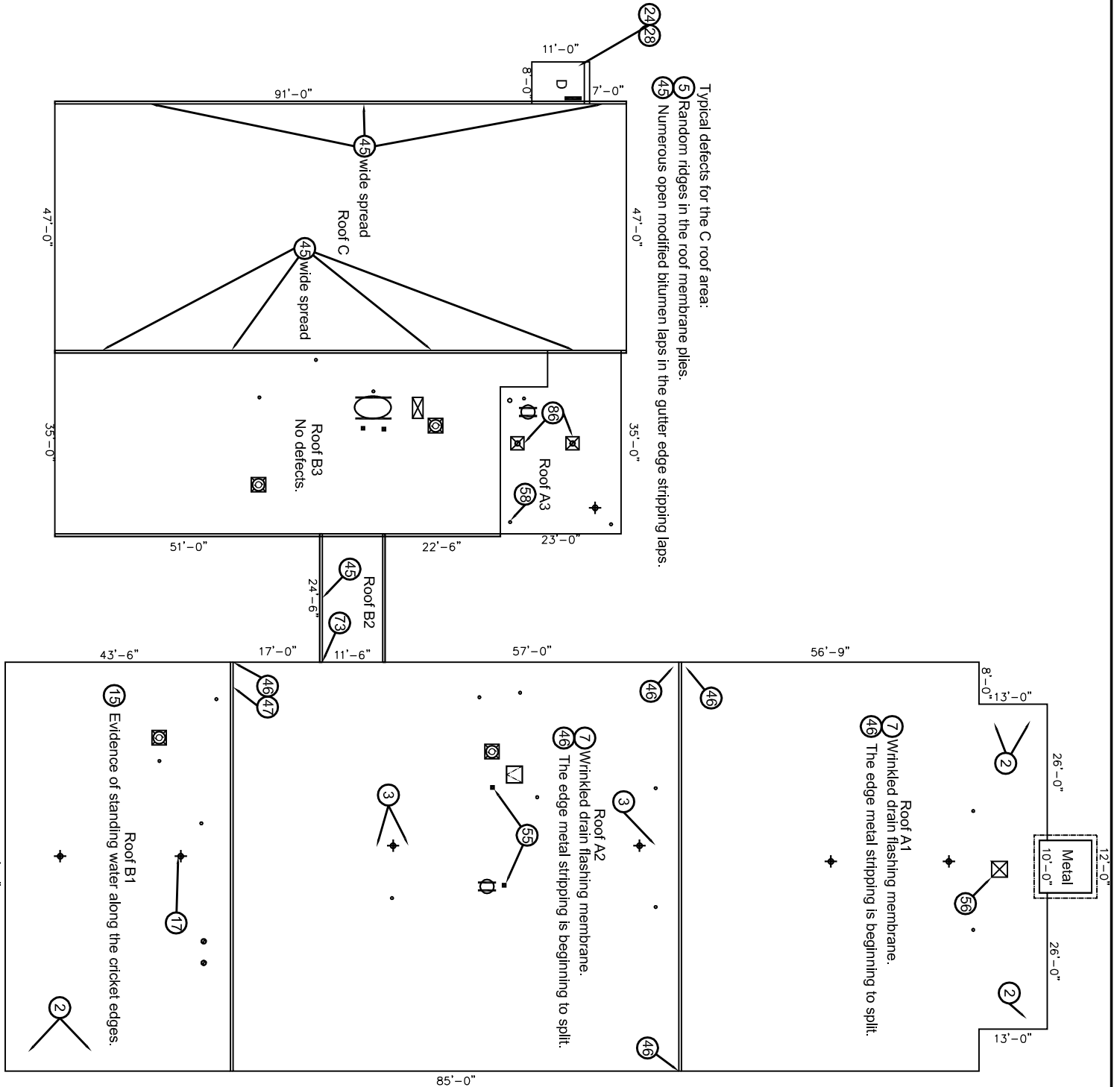
Date:
03/17/2017

Drawn By:
 GH

Project Number:
00-000000

Sheet Title:
Site Plan

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



Typical defects for the C roof area:
 (5) Random ridges in the roof membrane plies.
 (45) Numerous open modified bitumen laps in the gutter edge stripping laps.

DRAWING LEGEND

- ⊕ DRAIN
- ⊖ OVERFLOW
- ⊙ SCUPPER
- ⊠ HVAC UNIT
- ⊞ CURB
- ⊡ SATELLITE
- ⊞ PITCH PAN
- FLUE
- PIPE
- ▬ SLEEPER
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Project Name:
Twin Ridge Elementary

Project Address:
**1400 Sunbury Drive
 Bellevue, NE 68005**

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

Sheet Number: 01 of 01 **Date:** 03/17/2017 **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.

Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-1_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-1_2017-03-17



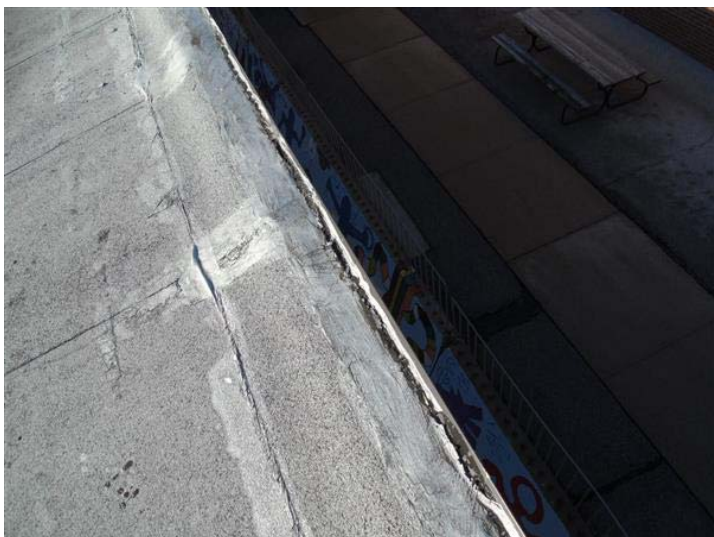
Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-1_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-1_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-2_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-2_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-2_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-2_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-3_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof A-3_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-1_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-1_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-2_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-2_2017-03-17



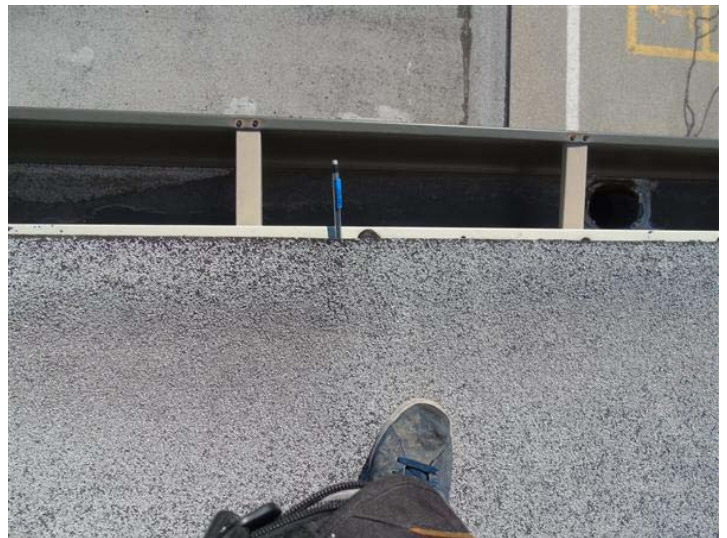
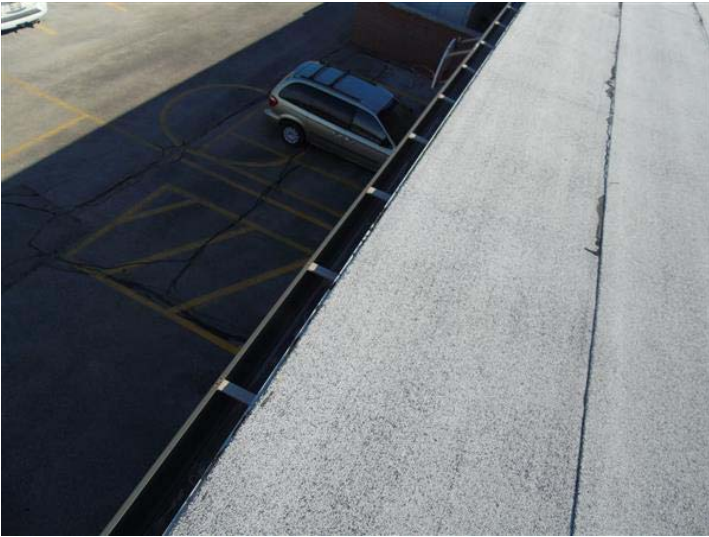
Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-3_2017-03-17



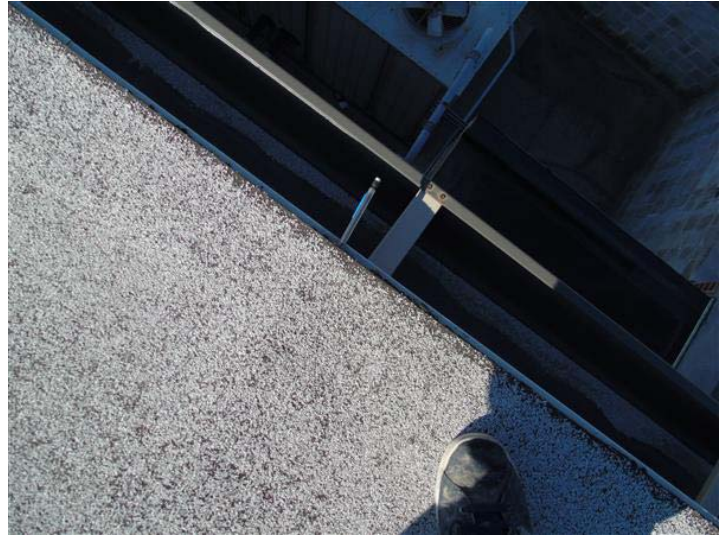
Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof B-3_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof C_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof C_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof C_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof D_2017-03-17



Twin Ridge Elementary_Bellevue, NE
Ph 1 Roof Inspection_Roof D_2017-03-17

