

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

Mission Middle School
2202 S. Washington Street
Bellevue, NE 68005

Facility: Mission Middle School
2202 S. Washington St
Bellevue
Nebraska
68005
U.S.A.



Contact Name: Greg Boettger

Contact Telephone: (402) 293-5066 Ext:



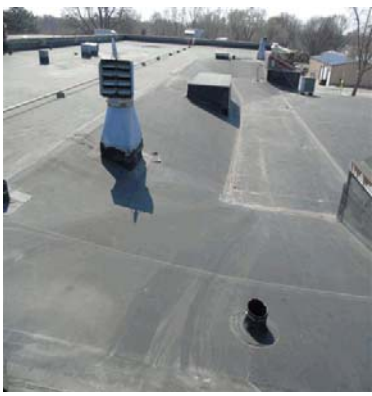
Contact Fax: () -

Date of Last Inspection: Mar 23, 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 1992	12,038 sq. ft. 28 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Poor 33 0(Yrs)	\$180,570.00
	Roof B B 1990	1,910 sq. ft. 28 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Poor 33 0(Yrs)	\$32,470.00
	Roof C C 1992	12,709 sq. ft. 28 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Poor 33 0(Yrs)	\$101,672.00




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	2,679 sq. ft. 26 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Poor 40 1(Yrs)	\$45,543.00
	Roof E E 1992	8,318 sq. ft. 26 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Poor 40 1(Yrs)	\$124,770.00
	Roof F F 2014	8,318 sq. ft. 28 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Good 75 17(Yrs)	\$124,770.00


Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index/ *RCI/ ASLR(Yrs)	Estimated Replacement Value
	Roof G G 1989	2,210 sq. ft. 12 ft.	(EPDM) Ethylene-Propyl ene-Diene-Mon omer Roofing	Poor 33 0(Yrs)	\$26,520.00
	Roof H H 2000	6,325 sq. ft. 12 ft.	Built-Up Asphalt Roofing	Fair 55 3(Yrs)	\$94,875.00
	Roof I I 1992	6,627 sq. ft. 16 ft.	Built-Up Asphalt Roofing	Poor 40 1(Yrs)	\$99,405.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof J J 2006	9,555 sq. ft. 28 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Good 70 9(Yrs)	\$143,325.00
	Roof K K 2006	297 sq. ft. 12 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Good 70 9(Yrs)	\$4,455.00
	Roof L L 1987	2,627 sq. ft. 16 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Urgent 20 0(Yrs)	\$31,524.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index / *RCI / ASLR(Yrs)	Estimated Replacement Value
	Roof M M 1992	683 sq. ft. 12 ft.	(EPDM) Ethylene-Propyl ene-Diene-Mon omer Roofing	Poor 40 1(Yrs)	\$13,660.00
74,296				\$1,023,559.00	
*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	High	\$180,570
Roof B	2017	Replacement	Yes	Capital	High	\$32,470
Roof C	2017	Partial Tear-Off	Yes	Capital	High	\$101,672
Roof D	2017	Repair	Yes	Expense	High	\$1,000
Roof D	2018	Replacement	Yes	Capital	Moderate	\$45,543
Roof E	2017	Repair	Yes	Expense	High	\$1,000
Roof E	2018	Replacement	Yes	Capital	Moderate	\$124,770
Roof F	2017	No Action	No	N/A	N/A	\$0
Roof G	2017	Partial Tear-Off	Yes	Capital	High	\$26,250
Roof H	2017	Repair	Yes	Expense	High	\$300
Roof H	2020	Replacement	Yes	Capital	Moderate	\$94,875
Roof I	2017	Repair	Yes	Expense	High	\$1,500
Roof I	2018	Replacement	Yes	Capital	Moderate	\$99,405
Roof J	2017	Repair	Yes	Expense	High	\$2,000
Roof K	2017	Repair	Yes	Expense	High	\$300
Roof L	2017	Partial Tear-Off	Yes	Capital	Urgent	\$31,524
Roof M	2017	Repair	Yes	Expense	High	\$300
Roof M	2018	Replacement	Yes	Capital	Moderate	\$13,660
						\$757,139

Capital Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$180,570	\$0	\$0	\$0	\$0
Roof B	\$32,470	\$0	\$0	\$0	\$0
Roof C	\$101,672	\$0	\$0	\$0	\$0
Roof D	\$0	\$45,543	\$0	\$0	\$0
Roof E	\$0	\$124,770	\$0	\$0	\$0
Roof G	\$26,250	\$0	\$0	\$0	\$0
Roof H	\$0	\$0	\$0	\$94,875	\$0
Roof I	\$0	\$99,405	\$0	\$0	\$0
Roof L	\$31,524	\$0	\$0	\$0	\$0

Capital Budgets - 5 Years Continued...

Section ID	2017	2018	2019	2020	2021
Roof M	\$0	\$13,660	\$0	\$0	\$0
	\$372,486	\$283,378	\$0	\$94,875	\$0

Expense Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof D	\$1,000	\$0	\$0	\$0	\$0
Roof E	\$1,000	\$0	\$0	\$0	\$0
Roof H	\$300	\$0	\$0	\$0	\$0
Roof I	\$1,500	\$0	\$0	\$0	\$0
Roof J	\$2,000	\$0	\$0	\$0	\$0
Roof K	\$300	\$0	\$0	\$0	\$0
Roof M	\$300	\$0	\$0	\$0	\$0
	\$6,400	\$0	\$0	\$0	\$0

Total Budgets - 5 Years

Section ID	2017	2018	2019	2020	2021
Roof A	\$180,570	\$0	\$0	\$0	\$0
Roof B	\$32,470	\$0	\$0	\$0	\$0
Roof C	\$101,672	\$0	\$0	\$0	\$0
Roof D	\$1,000	\$45,543	\$0	\$0	\$0
Roof E	\$1,000	\$124,770	\$0	\$0	\$0
Roof F	\$0	\$0	\$0	\$0	\$0
Roof G	\$26,250	\$0	\$0	\$0	\$0
Roof H	\$300	\$0	\$0	\$94,875	\$0
Roof I	\$1,500	\$99,405	\$0	\$0	\$0
Roof J	\$2,000	\$0	\$0	\$0	\$0
Roof K	\$300	\$0	\$0	\$0	\$0
Roof L	\$31,524	\$0	\$0	\$0	\$0
Roof M	\$300	\$13,660	\$0	\$0	\$0
	\$378,886	\$283,378	\$0	\$94,875	\$0

Roof Name: A**Roof Size:** 12,038 sq. ft.**Est. replacement Cost:** \$ 180,570.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 0**Height:** 28 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section A slopes to the interior and drains to primary roof drains with overflow drains adjacent.

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
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Expanded Polystyrene (EPS)	Laid - In -Place
Cover board	Fiberboard - .5" (1/2")	Mechanically attached
Membrane	EPDM	Cold Adhesive

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 core samples revealed the same type of roofing layers at each location. The deck is poured in place gypsum decking. There is one (1) layer of 3" polyisocyanurate insulation board, one (1) layer of air-expanded polystyrene, which is a tapered insulation system, and a .5" layer of wood fiber cover board with a fully-adhered, .060 mil EPDM. The wood fiber cover board was deteriorated at all three (3) core cut locations.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Membrane stamp
	Mar 23, 2017	Core cut #1
	Mar 23, 2017	Core cut #2
	Mar 23, 2017	Core cut #3

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section A refers to the low slope roof system over the SE wing (A-1 & A-2) and the east end of the central eastern wing (A-3) roof areas at the Bellevue Mission Middle School facility. The roof is a twenty-five (25) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a raised roof edge where the roof membrane terminates with a metal roof edging. The control joints are an 8" tall curb which are covered with the same type of EPDM flashing and are topped with a metal cap. The internal walls are flashed in the same manner where the membrane flashing extends under the edge metal on the upper roof areas.

Defects and conditions found during the inspection include the following:

- Loose EPDM lap edges observed
- Random areas with unadhered and loose EPDM membrane observed
- EPDM stripping repair attempts to the roof system laps
- Evidence of roof membrane shrinkage with pulled corner flashings observed
- The EPDM flashings are bridged
- Loose lap edges or open EPDM flashing laps observed

Overall, the roof system is in poor condition due to its age and the 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	\$180,570

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.

\$180,570

Roof Name: B**Roof Size:** 1,910 sq. ft.**Est. replacement Cost:** \$ 32,470.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1990**Assessed Service Life Remaining (Years) :** 0**Height:** 28 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Yes**History of Leaking?** Yes

Drainage and Leak Details: The main portion of the B roof section slopes to the interior and drains to two (2) primary roof drains; the northern end of the roof area drains to an external guttering.

Facility personnel reported one (1) recent leak near the NE corner of the roof area.




Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Gypsum	Poured - In - Place
Insulation	Expanded Polystyrene (EPS)	Laid - In -Place
Cover board	Fiberboard - .5" (1/2")	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

The deck is poured in place gypsum. There is one (1) layer of air-expanded polystyrene, which appears to be a tapered insulation system, and a .5" layer of wood fiber cover board with a fully-adhered, .060 mil EPDM. The wood fiber cover board was deteriorated at the core cut location.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Membrane stamp
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section B refers to the low slope roof system over a small roof area at the SW corner of the Bellevue Mission Middle School facility. The roof is a twenty-seven (27) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a wall detail, which are covered with the same type of EPDM flashing and are topped with a metal cap. The common wall with the raised C-1 roof area is flashed up 12" with the same type of EPDM flashing which terminates with a caulk strip detail.

Defects and conditions found during the inspection include the following:

- Loose EPDM lap edges observed
- Unadhered and loose EPDM membrane observed along the north end of the roof area
- EPDM patch repair attempts to the roof system
- Evidence of roof membrane shrinkage with pulled corner flashings
- The EPDM wall flashings are bridged
- Loose lap edges or open EPDM flashing laps observed
- One (1) split EPDM flashing corner

Overall, the roof system is in poor condition due to its age and the 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	\$32,470

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.

\$32,470

Roof Name: C**Roof Size:** 12,709 sq. ft.**Est. replacement Cost:** \$ 101,672.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 0**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 C 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	Wood plank	Nailed
Insulation	Polyisocyanurate	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

Two (2) core samples were taken on the C-1 roof area and a single core sample was taken on the C-2 roof area to verify the roofing layers in place. Both core samples revealed the same type of roofing layers in place. The deck is wood plank. There is one (1) layer of 2.7" polyisocyanurate insulation board and a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Core cut #1
	Mar 23, 2017	Core cut #2
	Mar 23, 2017	Core cut #3
	Mar 23, 2017	Membrane stamp

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section C refers to the low slope roof system over a central portion of the Bellevue Mission Middle School facility, which appears to be the original construction part of the facility. The roof section includes the upper, main C-1 roof area which is divided by large canted walls. The lower C-2 roof area is over a portion of the Early Intervention Services area. The roof is a twenty-five (25) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the C-1 roof area are a wall detail which are flashed with the same type of EPDM flashing that terminates with a caulk strip detail installed just below a stone wall cap. The internal divisions in the C-1 area are large canted walls where the EPDM membrane runs continuously through the areas. The internal walls are flashed up 12" with the same type of EPDM membrane which terminates with a caulk strip detail. The eave edges on both areas are an external guttering detail where the roof membrane terminates with a metal roof edging. The C-1 roof area has a very old type of skylight which should be considered for replacement or removal at the time of the roof replacement. The C-1 roof area is also in considerably worse condition than the C-2 area and should be a higher priority for replacement than the C-2 area.

Defects and conditions found during the inspection include the following:

- Loose or open EPDM laps and loose EPDM stripping repair material observed
- Evidence of standing water on the upper portion of the C-1 roof area
- Random areas with unadhered and loose EPDM membrane observed on the C-1 area
- EPDM stripping repair attempts to the roof system laps on the C-1 roof area
- The EPDM flashings are bridged on the C-1 roof area
- Loose lap edges or open EPDM flashing laps observed
- Abandoned vent and duct units observed
- The metal flashings around the skylight are rusted
- One (1) detached wall mounted light fixture observed

Overall, the roof system is in poor condition due to its age and the 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	Partial Tear-Off	Yes	Capital	High	\$101,672

RSI recommends a partial tear-off of the existing roof system, leaving the existing insulation in place, and installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per SMACNA Architectural Sheet Metal Manual.

\$101,672

Roof Name: D**Roof Size:** 2,679 sq. ft.**Est. replacement Cost:** \$ 45,543.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 1**Height:** 26 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section D slopes to the 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	Concrete	Poured - In - Place
Insulation	Polyisocyanurate	Laid - In -Place
Cover board	Fiberboard - .5" (1/2")	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

One (1) core cut revealed a concrete decking. There is one (1) layer of 2.7" polyisocyanurate insulation board and a 1/2" layer of wood fiber cover board. The membrane is a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Deck Underside
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section D refers to the low slope roof system over an area that sits to the south of the Library at the Bellevue Mission Middle School facility. The roof is a twenty-five (25) year old, fully-adhered, .060 mil EPDM. Most the perimeter sides of the roof area are a wall detail and are flashed with the same type of EPDM membrane to just below a stone wall cap, where it terminates with a caulk strip detail. The north wall has the stone cap covered with the EPDM flashing from the F roof area application. The west edge is a gutter detail where the roof system terminates with a metal roof edging.

Defects and conditions found during the inspection include the following:

- Loose EPDM lap edges observed
- Loose EPDM flashing lap edges observed

Overall, the roof system is in poor condition due to its age. With leak repairs performed only as needed, the roof system should remain effective for the duration of its assessed service life, approximately one (1) year. 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 leak repairs be performed only as needed until the roofs recommended replacement in 2018.					
2018	Replacement	Yes	Capital	Moderate	\$45,543
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.					
					\$46,543

Roof Name: E**Roof Size:** 8,318 sq. ft.**Est. replacement Cost:** \$ 124,770.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 1**Height:** 26 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** The E roofs 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	Concrete	Poured - In - Place
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Expanded Polystyrene (EPS)	Loose Laid
Cover board	Fiberboard - .5" (1/2")	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

Core samples were taken on both the E-1 and E-2 roof areas and revealed the same roofing layers in place. The deck is concrete. There is one (1) layer of 2.7" polyisocyanurate insulation board, one (1) layer of air-expanded polystyrene, which appears to be part of a tapered insulation system, and one (1) 1/2" layer of wood fiber cover board. The membrane is a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Core cut #1
	Mar 23, 2017	Core cut #2
	Mar 23, 2017	Deck Underside

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section E refers to the low slope roof system over portions of the central wing on the east side of the Bellevue Mission Middle School facility. The roof section includes the upper E-1 and lower E-2 roof areas. The roof is a twenty-five (25) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a raised roof edge detail where the roof membrane terminates with a metal roof edging. The internal walls are flashed up 12" with the same type of EPDM membrane which terminates with a caulk strip detail. The common wall with the raised D roof area is a wall expansion detail. The common side with the A-3 roof area is an 8' tall curb which is flashed with the EPDM membrane and topped with a metal cap. The E-2 roof area has a wall constructed skylight along the common wall with the F roof area. The skylight is flashed in the same manner as the wall detail where the membrane flashing terminates with a bar detail just below the counter flashing on the skylight.

Defects and conditions found during the inspection include the following:

- Accumulation of debris observed around a drain strainer
- EPDM stripping repair attempts observed to the roof system field laps
- Loose or open EPDM flashing laps observed
- Abandoned roof curbs have metal covers
- Deteriorated mortar observed in the brick walls located above the roof system
- Numerous cracks observed in a skylight lens

Overall, the roof system is in poor condition due to its age. With leak repairs performed only as needed, the roof system should remain effective for the duration of its assessed service life, approximately one (1) year. 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 leak repairs be performed only as needed until the roofs recommended replacement in 2018.					
2018	Replacement	Yes	Capital	Moderate	\$124,770
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.					
					\$125,770

Roof Name: F**Roof Size:** 8,318 sq. ft.**Est. replacement Cost:** \$ 124,770.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 2014**Assessed Service Life Remaining (Years) :** 17**Height:** 28 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section F slopes to the interior and drains 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	Unknown	Unknown
Insulation	Unknown	Unknown
Membrane	EPDM	Cold Adhesive

Overall Core Condition

Due to the recent application of the roof system, no core sample was taken on this roof section. The membrane is a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Membrane stamp

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section F refers to the low slope roof system over the Library and commons area at the Bellevue Mission Middle School facility. The roof is a three (3) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a wall detail and are flashed with the same type of EPDM membrane and topped with a metal coping cap. The common wall with the raised D roof area is a wall expansion detail. The common wall with the C-1 roof area has the top of the wall covered with the EPDM membrane flashing.

Overall, the roof system is in good working condition with no defects observed at the time of the inspection. With 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.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	No Action	No	N/A	N/A	\$0

No action is recommended at this time.

\$0

Roof Name: G**Roof Size:** 2,210 sq. ft.**Est. replacement Cost:** \$ 26,520.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1989**Assessed Service Life Remaining (Years) :** 0**Height:** 12 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section G slopes to the interior and drains to three (3) primary roof drains with two (2) overflow scuppers.

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
Thermal barrier	5/8" Gypsum board	Laid - In -Place
Insulation	Expanded Polystyrene (EPS)	Laid - In -Place
Cover board	Fiberboard - .5" (1/2")	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

One (1) core cut revealed a steel decking. There is one (1) layer of 5/8" gypsum board, one (1) layer of air-expanded polystyrene, which appears to be a tapered insulation system, and one (1) 1/2" layer of wood fiber cover board. The membrane is a fully-adhered, .060 mil EPDM. The wood fiber cover board was deteriorated at the core cut location.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Membrane stamp
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section G refers to the low slope roof system over a small roof area at the NW end of the Bellevue Mission Middle School facility. The roof is a twenty-eight (28) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a wall detail that are covered with the same type of EPDM flashing and are topped with a metal cap. The internal walls are flashed up 12" with the same type of EPDM flashing which terminates with a caulk strip detail. The common side with the H roof area is an 8" tall curb which is flashed in the same manner as the other walls and topped with a metal cap.

Defects and conditions found during the inspection include the following:

- Loose EPDM lap edges observed
- One (1) drain and all scuppers are blocked with debris
- Accumulation of debris observed along the perimeter sides of the roof area
- Random areas with EPDM stripping repair attempts
- The EPDM wall flashings are bridged
- Loose lap edges or open EPDM flashing laps observed

Overall, the roof system is in poor condition due to its age and the 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	Partial Tear-Off	Yes	Capital	High	\$26,250

RSI recommends a partial tear-off of the existing roof system, leaving the existing insulation in place, and installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per SMACNA Architectural Sheet Metal Manual.

\$26,250

Roof Name: H**Roof Size:** 6,325 sq. ft.**Est. replacement Cost:** \$ 94,875.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 2000**Assessed Service Life Remaining (Years) :** 3**Height:** 12 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** Unknown**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section H slopes to the interior and drains to four (4) primary roof drains.

Facility personnel reported one (1) past leak issue near the SW corner of area and was not sure if the leak had been resolved.




Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Concrete	Poured - In - Place
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

One (1) core cut revealed a concrete deck. There is one (1) layer of 2.25" polyisocyanurate insulation board and a .25" layer of Dens-Deck cover board. The membrane is a multiply BUR system with a gravel surfacing.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section H refers to the low slope roof system over an area that adjoins the Gymnasium on the west and south sides at the Bellevue Mission Middle School facility. The roof is an approximately seventeen (17) year old BUR with a gravel surfacing. The exterior perimeter sides of the roof area are a raised roof edge where the roof membrane terminates with a metal roof edging. The internal walls are flashed with a BUR type of membrane flashing which has been coated with an aluminum pain and the membrane flashing extends under a surface mounted metal counter flashing. The common side with the G roof area is an 8" tall curb that is covered with the BUR flashing and topped with a metal cap. The southwest corner of area has a wall mounted skylight where the membrane flashing extends under the counter flashing on the skylight. The roof area also has two (2) equipment stands for the HVAC units for Gymnasium area with exposed duct work and supports.

Defects and conditions found during the inspection include the following:

- Deteriorated caulking observed on the top of the perimeter wall counter flashing
- Random areas with surface loss of the gravel roof surfacing
- Accumulation of debris observed around the drain strainers
- Roof mastic repair attempts observed near the past leak area
- Sunken or split pitch pocket filler observed
- There are abandoned roof curbs

Overall, the roof system is in fair 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, 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	\$300
RSI recommends repairs be completed in accordance with the attached deficiency list.					
2020	Replacement	Yes	Capital	Moderate	\$94,875
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.					
					\$95,175

Roof Name: I**Roof Size:** 6,627 sq. ft.**Est. replacement Cost:** \$ 99,405.00**Existing System Type:** Built-Up Asphalt Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 1**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 I roofs slope toward corners of the areas where they drain to four (4) thru-wall scuppers.

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	Hot Asphalt
Insulation	Polyisocyanurate	Hot Asphalt
Cover board	Fiberboard - .5" (1/2")	Hot Asphalt
Membrane	BUR - Multiply	Hot Asphalt
Surfacing	Gravel	Hot Asphalt

Overall Core Condition

Core samples were taken on both the I-1 & I-2 roof areas to verify the roofing layers in place, both of which revealed the same type of roof layers in place. The deck is a tectum panel decking. There is a heavy base ply which may be considered an additional roof system. There is then one (1) layer of 2" polyisocyanurate insulation board and a 1/2" wood fiber cover board. The membrane is a multiply BUR with a gravel surfacing.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Core cut #1
	Mar 23, 2017	Core cut #2

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section I refers to the low slope roof system over an area at the NW corner of the Bellevue Mission Middle School facility. The roof section includes the southern I-1 area and the northern I-2 roof areas, which are divided by a control joint curb. The roof is an approximately twenty-five (25) year old BUR with a gravel surfacing. The exterior perimeter sides of the roof area are a wall detail which are flashed with a BUR type of membrane flashing which has been coated with an aluminum paint. The walls are topped with a metal coping cap. The common wall with the raised F area is flashed up 12" with the same type of BUR membrane flashing which extends under a metal counter flashing. The metal flashing is part of a wall expansion detail. The internal control joint is an 8" tall curb that is covered with the BUR flashing and topped with a metal cap.

Defects and conditions found during the inspection include the following:

- Random areas observed with surface loss of the gravel roof surfacing
- Deteriorated BUR flashings observed on the south side of internal control joint
- There have been aluminum coating repair attempts to the I-2 BUR flashings
- The BUR flashings on the I-1 area are weathered/deteriorated with exposed membrane reinforcement is visible on the south side of the control joint curb
- There are inadequate caps on the abandoned pipe penetrations
- Abandoned roof curbs, abandoned pipe penetrations, abandoned gas lines and one (1) abandoned equipment stand observed

Overall, the roof system is in poor condition due to its age and the deteriorated nature of the roof system. 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 one (1) year. 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.					
2018	Replacement	Yes	Capital	Moderate	\$99,405
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.					
					\$100,905

Roof Name: J**Roof Size:** 9,555 sq. ft.**Est. replacement Cost:** \$ 143,325.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 2006**Assessed Service Life Remaining (Years) :** 9**Height:** 28 Ft.**Slope:** 02:12**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes

Drainage and Leak Details: The J roof areas slope from a central ridge line towards the east and west and drain to valley areas. The valleys drains to four (4) 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
Membrane	BUR - Multiply	Hot Asphalt
Insulation	Polyisocyanurate	Cold Adhesive
Membrane	EPDM	Cold Adhesive

Overall Core Condition

One (1) core cut revealed a poured in place gypsum decking. The core sample revealed two (2) roof systems in place. The original roof system is a multiply BUR system. That roof system was later covered with one (1) layer of 3" polyisocyanurate insulation board and a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Deck Underside
	Mar 23, 2017	Membrane stamp
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section J refers to the low slope roof system over the Gymnasium (J-1) and lower entryway to the Gym (J-2) roof areas at the Bellevue Mission Middle School facility. The roof is an approximately eleven (11) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof areas are a raised roof edge where the roof membrane terminates with a metal roof edging. The internal walls on the J-2 roof area are flashed up 12" with the same type of EPDM membrane which terminates with a caulk strip detail. The control joint between the J-2 roof area and the K roof area is an 8" tall curb which is covered with EPDM membrane and topped with a metal cap.

Defects and conditions found during the inspection include the following:

- Random areas with standing water observed on the J-2 roof area
- Accumulation of debris observed around the drain strainers and sides of the J-2 roof area
- Split sealant observed on the roof edging laps on the J-1 roof area

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.

Recommendations Details

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

RSI recommends repairs be completed in accordance with the attached deficiency list.

\$2,000

Roof Name: K**Roof Size:** 297 sq. ft.**Est. replacement Cost:** \$ 4,455.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 2006**Assessed Service Life Remaining (Years) :** 9**Height:** 12 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section K slopes to the NW corner and drains to a thru-wall scupper.

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 attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

One (1) core cut revealed a steel decking. There is one (1) layer of 2" and one (1) layer of 2.3" polyisocyanurate insulation board and a fully-adhered, .060 mil EPDM. The insulation layers may be part of a tapered insulation system.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section K refers to the low slope roof system over the north end of entryway to the Gym roof area at the Bellevue Mission Middle School facility. The roof is an approximately eleven (11) year old, fully-adhered, .060 mil EPDM. The exterior perimeter sides of the roof area are a raised roof edge where the roof membrane terminates with a metal roof edging. The internal wall is flashed up 12" with the same type of EPDM membrane which terminates with a caulk strip detail. The control joint between the K roof area and the J-2 roof area is an 8" tall curb which is covered with the EPDM membrane and topped with a metal cap.

Defects and conditions found during the inspection include the following:

- The scupper and collection box are blocked with debris
- Accumulation of debris observed around the scupper and sides of the roof area

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.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$300

RSI recommends repairs be completed in accordance with the attached deficiency list.

\$300

Roof Name: L**Roof Size:** 2,627 sq. ft.**Est. replacement Cost:** \$ 31,524.00**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:** Roof Section L slopes to the eave edges and drains to an external guttering.

The poor condition of the roof system indicates that roof leaks are probable.



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Deck	Wood plank	Nailed
Insulation	Polyisocyanurate	Laid - In -Place
Insulation	Polyisocyanurate	Laid - In -Place
Membrane	EPDM	Laid - In -Place
Surfacing	Round river washed stone	Laid - In -Place

Overall Core Condition

One (1) core cut revealed a wood plank decking. There are two (2) layers of 1.5" polyisocyanurate insulation board and a .045 mil EPDM which is ballasted with a washed river rock.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Deck Underside
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section L refers to the low slope roof system over the maintenance building at the Bellevue Mission Middle School facility. The roof is an approximately (30) year old, .045 mil EPDM which is ballasted with a washed river rock. The majority of the perimeter sides of the roof area are a wall detail which are flashed with the same type of EPDM flashing that terminates with a caulk strip detail installed just below a bell tile wall cap. The southeast edges are an external guttering detail where the roof membrane terminates with a metal roof edging.

Defects and conditions found during the inspection include the following:

- The EPDM membrane is shrunken and is pulling at the wall details
- The base flashing and termination bar attachment has failed
- There is one (1) missing flue cap
- The guttering is rusted

Overall, the roof system is in URGENT condition due to its age and the extremely deteriorated nature of the roof system, including wall flashings. 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	Partial Tear-Off	Yes	Capital	Urgent	\$31,524
<p>RSI recommends a partial tear-off of the existing roof system, leaving the existing insulation in place, and installation of a new twenty (20) year design life roof system. We further recommend installation of new perimeter metal and projection details per SMACNA Architectural Sheet Metal Manual.</p>					
					\$31,524

Roof Name: M**Roof Size:** 683 sq. ft.**Est. replacement Cost:** \$ 13,660.00**Existing System Type:** (EPDM) Ethylene-Propylene-Diene-Monomer Roofing**Year Installed:** 1992**Assessed Service Life Remaining (Years) :** 1**Height:** 12 Ft.**Slope:** 1/4" per ft.**Interior Sensitivity:** Normal**Drainage:** Adequate**Currently Leaking?** No**History of Leaking?** Yes**Drainage and Leak Details:** Roof Section M slopes to the 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	Concrete	Poured - In - Place
Insulation	Expanded Polystyrene (EPS)	Laid - In -Place
Insulation	Polyisocyanurate	Mechanically attached
Membrane	EPDM	Cold Adhesive

Overall Core Condition

One (1) core cut revealed a concrete decking. There is one (1) layer of air-expanded polystyrene, which appears to be a tapered insulation system, and one (1) layer of 2.7" polyisocyanurate insulation board. The membrane is a fully-adhered, .060 mil EPDM.

Core Photos

Photos	Date	Description
	Mar 23, 2017	Membrane stamp
	Mar 23, 2017	Roof System Core

Overall Roof Inspection Assessments

Date	Inspection Type	Inspecting Company	Inspector
Mar 23, 2017	Phase 1 Roof Inspection	Roofing Solutions, Inc.	Garry Hendrickson

Roof Section M refers to the low slope roof system over a portion of the Early Intervention Services area the Bellevue Mission Middle School facility. The roof is a twenty-five (25) year old, fully-adhered, .060 mil EPDM. The internal walls are flashed up 12" with the same type of EPDM flashing where it terminates with a caulk strip detail. The south edge is a gutter detail where the roof system terminates with a metal roof edging.

Defects and conditions found during the inspection include the following:

- One (1) puncture observed to the EPDM membrane
- One (1) abandoned roof curb has a metal cover

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 one (1) year. There was no warranty information available for this roof section at the time of inspection.

Please Note: This roof area should be replaced in conjunction with the C-2 roof area as they are adjacent to one another.

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation \$
2017	Repair	Yes	Expense	High	\$300
RSI recommends repairs be completed in accordance with the attached deficiency list.					
2018	Replacement	Yes	Capital	Moderate	\$13,660
<p>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.</p> <p><i>Please Note: This roof section should be replaced in conjunction with the C-2 roof area as they are adjacent to one another.</i></p>					
					\$13,960

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:	18	Quantity:	Random	Priority:	Monitor
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:	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:	Random	Priority:	Monitor
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:	Random	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 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:	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:	18	Quantity:	500 SF	Priority:	Monitor
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:	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:	26	Quantity:	Random	Priority:	Monitor
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 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.					



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.					

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:	18	Quantity:	Random	Priority:	Monitor
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:	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.					

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 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.					



Defect Code:	56	Quantity:	7	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:	86	Quantity:	Widespread	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:	87	Quantity:	1	Priority:	First Year
Description: Mechanical defect					
Repair: Repair mechanical defect. Replace or reinstall missing access doors and panels. Reseal rooftop unit, pans, ducts, curbs, etc.					

Photos and Deficiencies



Defect Code:	3	Quantity:	Random	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:	45	Quantity:	Random	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 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:	22	Quantity:	1	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:	45	Quantity:	Random	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.					

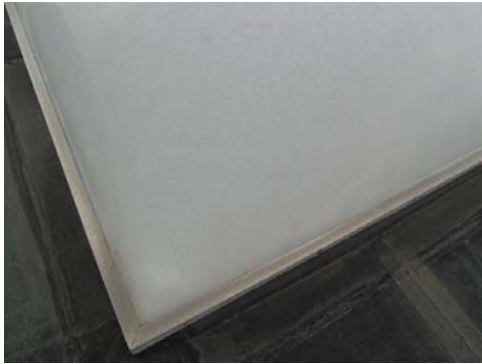


Defect Code:	56	Quantity:	5	Priority:	Monitor
Description: Abandoned and obsolete equipment.					
Repair: Monitor for leaks. Check systems are abandoned and disconnected and will not be used in the future. Remove abandoned equipment and repair deck at scheduled roof replacement.					

Photos and Deficiencies



Defect Code:	82	Quantity:	Random	Priority:	Monitor
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.					

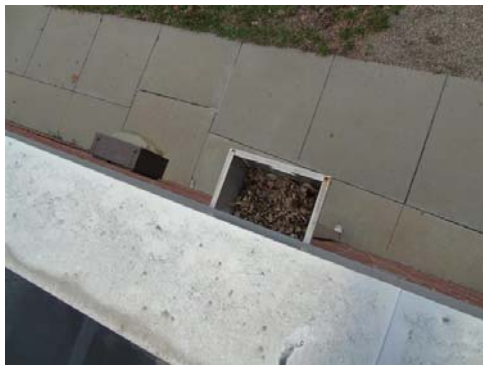


Defect Code:	88	Quantity:	1	Priority:	Monitor
Description: Skylight defect/cracked/deteriorated					
Repair: Remove and replace affected components.					

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:	16	Quantity:	3	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:	22	Quantity:	Widespread	Priority:	First Year
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:	Random	Priority:	Monitor
Description: Evidence of past problem and previous repair.					
Repair: Investigate for chronic leak problems and repair any areas that are suspect.					

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 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:	1	Quantity:	Random	Priority:	Monitor
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:	8	Quantity:	Random	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 appearance to match the existing surfacing.					



Defect Code:	22	Quantity:	2	Priority:	First Year
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:	Random	Priority:	Monitor
Description: Evidence of past problem and previous repair.					
Repair: Investigate for chronic leak problems and repair any areas that are suspect.					

Photos and Deficiencies



Defect Code:	55	Quantity:	1	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:	4	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:	8	Quantity:	Random	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 appearance to match the existing surfacing.					



Defect Code:	9	Quantity:	Under 10 SF	Priority:	First Year
Description: Membrane deterioration.					
Repair: Replace all deteriorated membrane with new membrane of similar type, gauge, and plies.					



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:	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.					

Photos and Deficiencies



Defect Code:	52	Quantity:	2	Priority:	Monitor
Description: Missing rain cap, rain collar, or hood.					
Repair: Install rain cap, hood, or collar and secure and seal to pipe.					



Defect Code:	56	Quantity:	Numerous	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:	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:	22	Quantity:	Random	Priority:	First Year
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:	70	Quantity:	Widespread	Priority:	First Year
Description: Open joint in metal flashing.					
Repair: Remove metal and old sealants from joint. Reinstall metal with new polyurethane sealants at joints per SMACNA requirements.					

Photos and Deficiencies



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:	22	Quantity:	Random	Priority:	First Year
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.					

Photos and Deficiencies



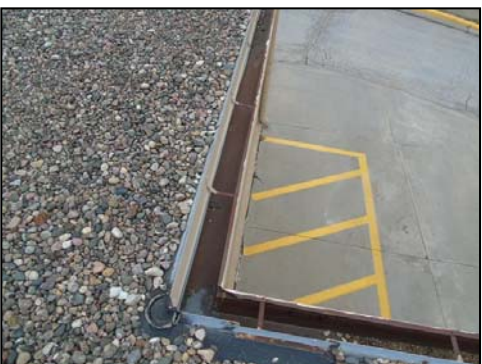
Defect Code:	26	Quantity:	Widespread	Priority:	Monitor
Description: Membrane shrinkage					
Repair: Investigate and repair cause of shrinkage. Cut away affected areas and prepare to receive new membrane. Install new membrane and secure at base flashings. Adhere to walls and substrates and reinstall metal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



Defect Code:	41	Quantity:	Widespread	Priority:	Monitor
Description: Missing or inadequate flashing attachment.					
Repair: Mechanically attach flashings a maximum of 6" O.C using screws and plates or 1" cap nails. Terminate with metal flashings or compression bar.					



Defect Code:	52	Quantity:	1	Priority:	First Year
Description: Missing rain cap, rain collar, or hood.					
Repair: Install rain cap, hood, or collar and secure and seal to pipe.					



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

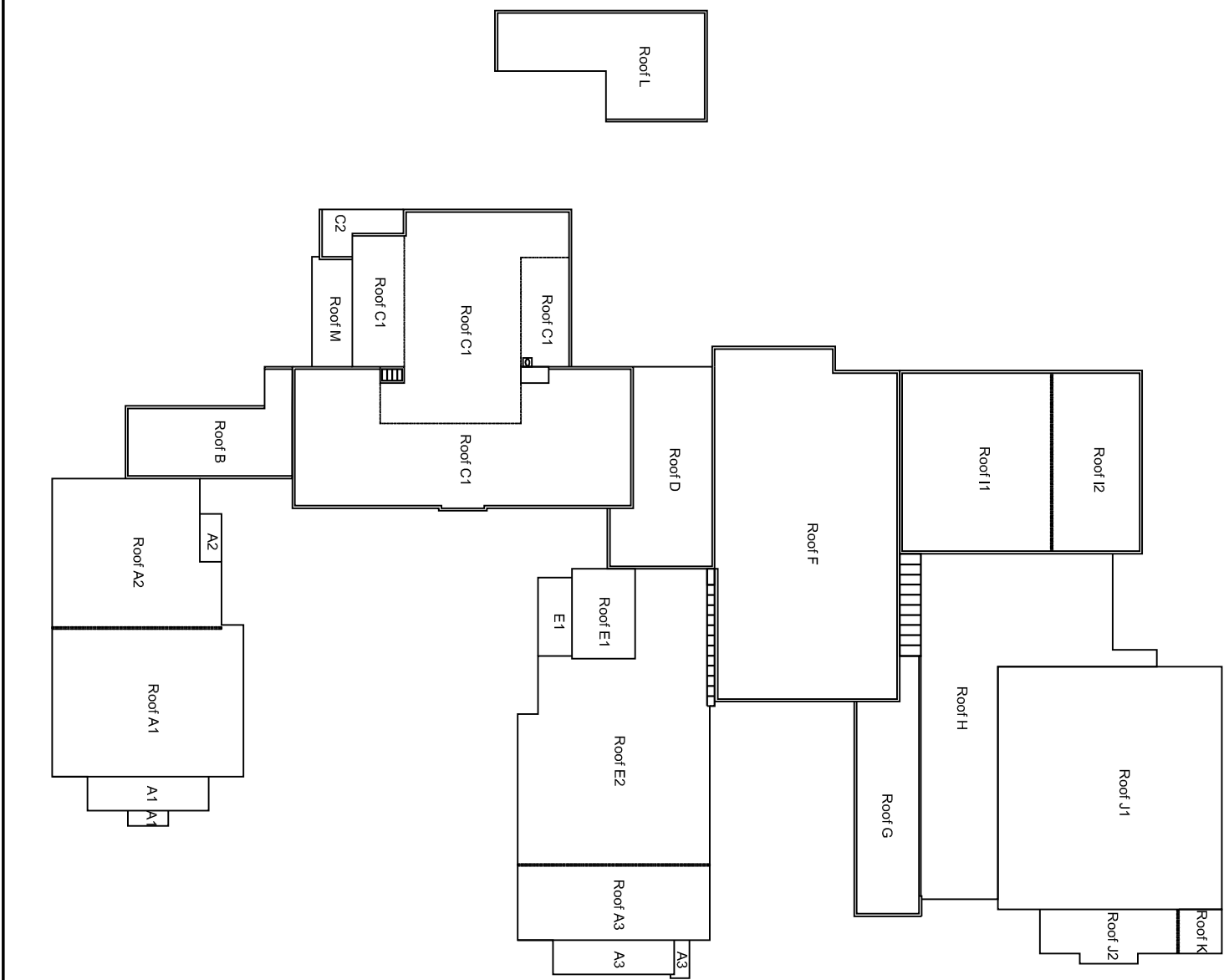
Photos and Deficiencies



Defect Code:	23	Quantity:	Under 10 LF	Priority:	First Year
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.					



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.					



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

Project Name: **Bellevue Mission Middle School**
 Project Address: **2202 S. Washington Street
 Bellevue, NE 68005**

Sheet Number:
01 of 01

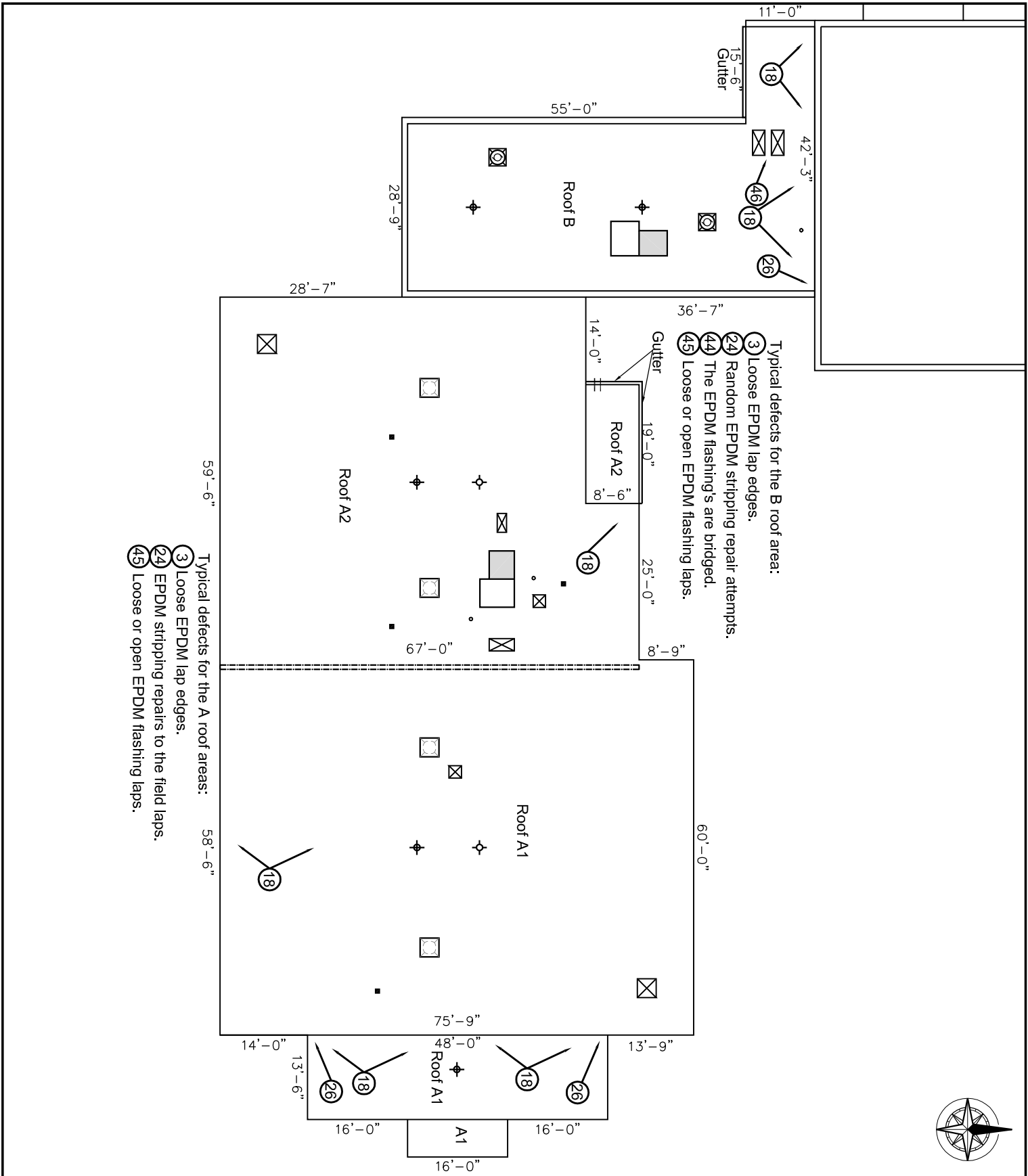
Date:
03/23/2017

Drawn By:
 GH

Project Number:
17-7645

Sheet Title:
Site Plan

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



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

Project Name:
Bellevue Mission Middle School

Project Address:
**2202 S. Washington Street
 Bellevue, NE 68005**

Sheet Number:
01 of 01

Date:
03/23/2017

Drawn By:
 GH

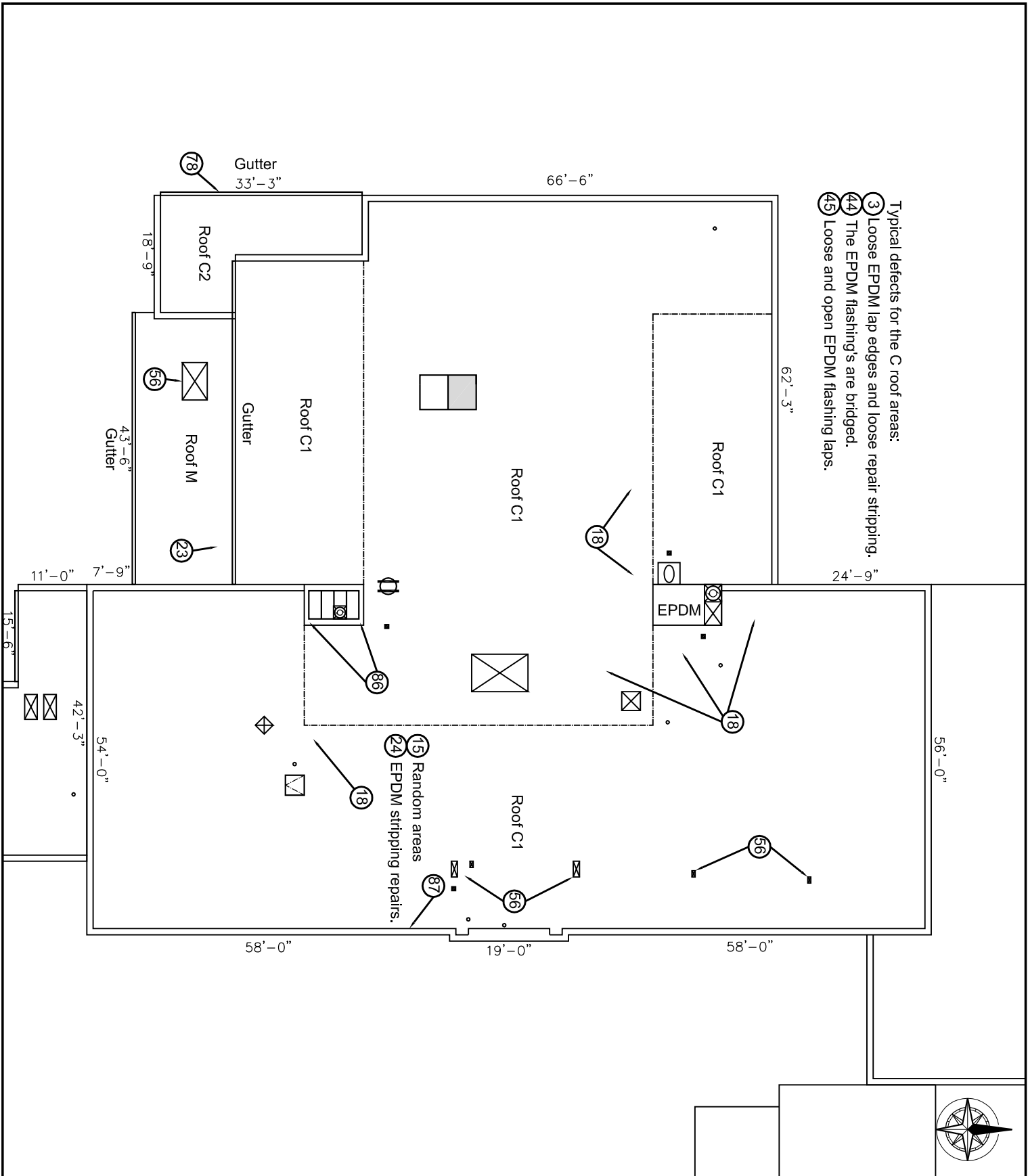
Project Number:
17-7645

Sheet Title:
A&B-Roof 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
 U.N.O. UNLESS NOTED OTHERWISE



Typical defects for the C roof areas:
 (3) Loose EPDM lap edges and loose repair stripping.
 (44) The EPDM flashings are bridged.
 (45) Loose and open EPDM flashing laps.

(15) Random areas
 (24) EPDM stripping repairs.



DRAWING LEGEND

- ⊕ DRAIN
- ⊖ OVERFLOW
- ⊙ SCUPPER
- ⊞ HVAC UNIT
- ⊞ CURB
- ⊞ SATELLITE
- ⊞ PITCH PAN
- PIPE
- FLUE
- SLEEPER
- SKYLIGHT
- ⊞ EXHAUST FAN
- ⊞ CONDENSER ON SLEEPERS
- ⊞ DEFECT NOTE
- ⊞ CONSTRUCTION NOTE
- ⊞ NOT IN CONTRACT
- ⊞ UNLESS NOTED OTHERWISE



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

Project Name:
Bellevue Mission Middle School

Project Address:
2202 S. Washington Street
Bellevue, NE 68005

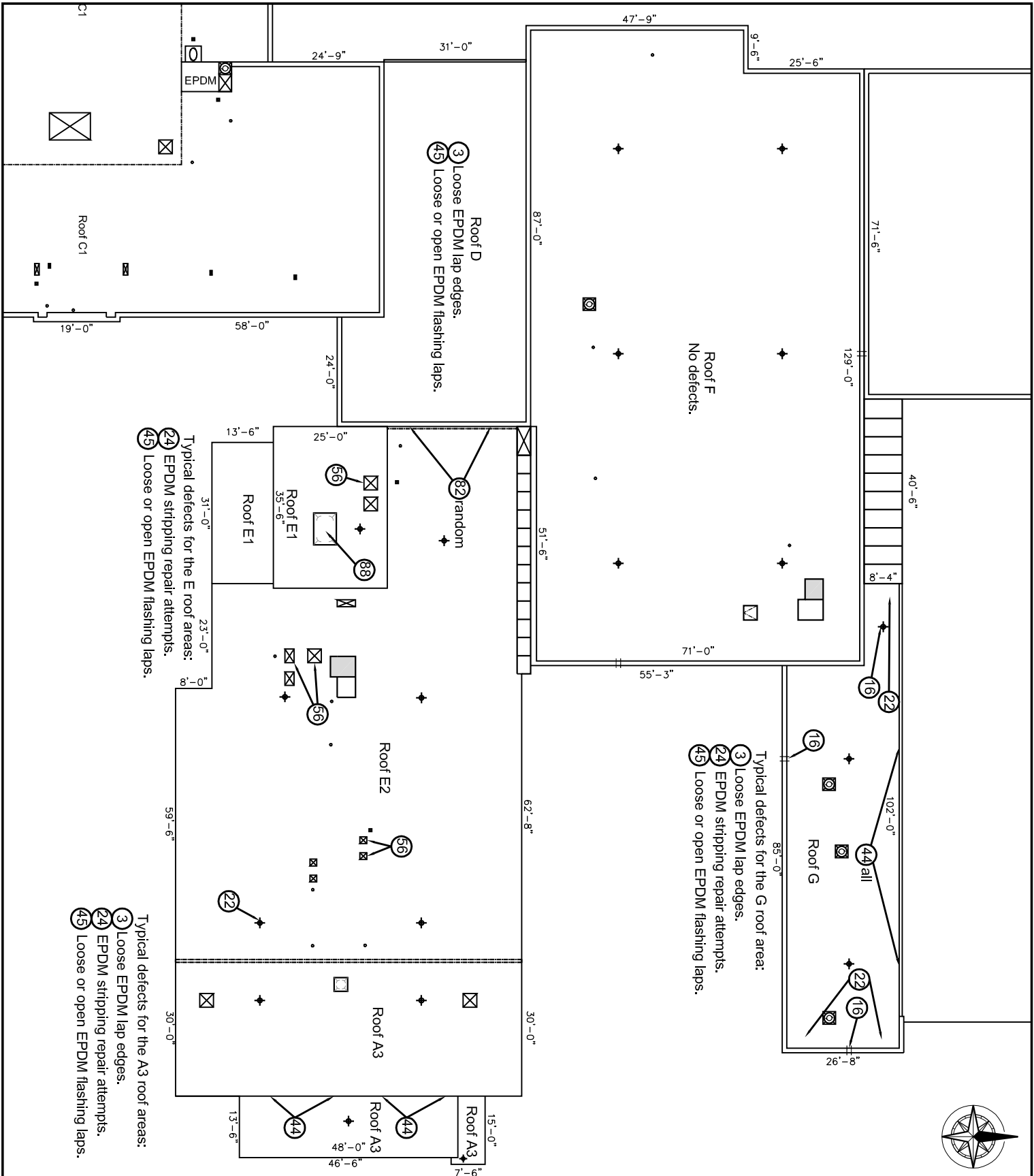
Sheet Number:
01 of 01

Date:
03/23/2017

Drawn By:
 GH

Project Number:
17-7645

Sheet Title:
C&M-Roof Plan



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

Project Name:
Bellevue Mission Middle School
Project Address:
2202 S. Washington Street
Bellevue, NE 68005

Sheet Number:
01 of 01

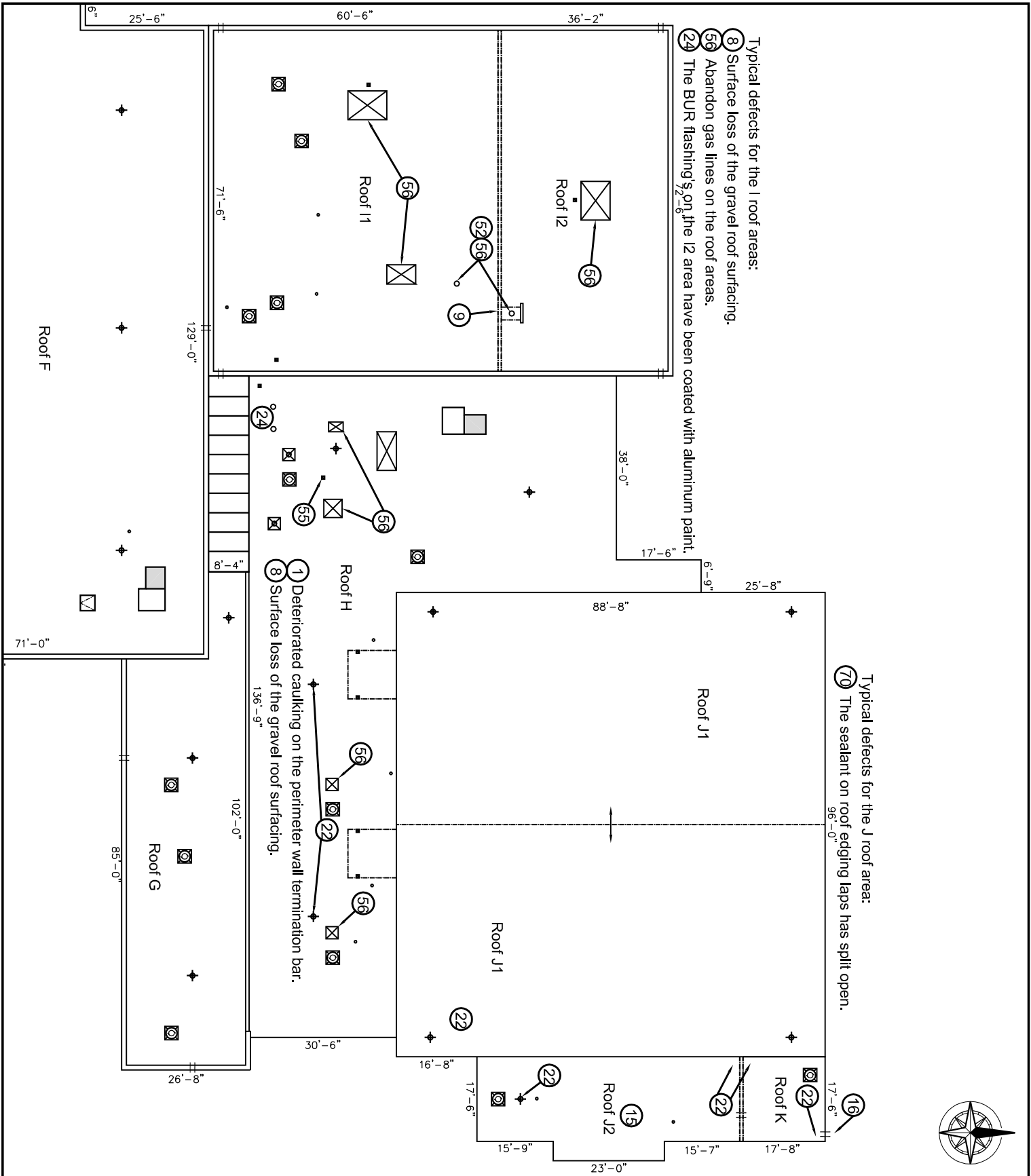
Date:
03/23/2017

Drawn By:
 GH

Project Number:
17-7645

Sheet Title:
A3,D,E,F&G-Roof Plan

- DRAWING LEGEND**
- DRAIN
 - OVERFLOW
 - SCUPPER
 - HVAC UNIT
 - CURB
 - SATELLITE
 - PITCH PAN
 - FLUE
 - PIPE
 - 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 I roof areas:
 8 Surface loss of the gravel roof surfacing.
 59 Abandon gas lines on the roof areas.
 24 The BUR flashing's on the 12 area have been coated with aluminum paint.

Typical defects for the J roof area:
 70 The sealant on roof edging laps has split open.



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

Project Name:
Bellevue Mission Middle School
Project Address:
2202 S. Washington Street
Bellevue, NE 68005

Sheet Number:
01 of 01

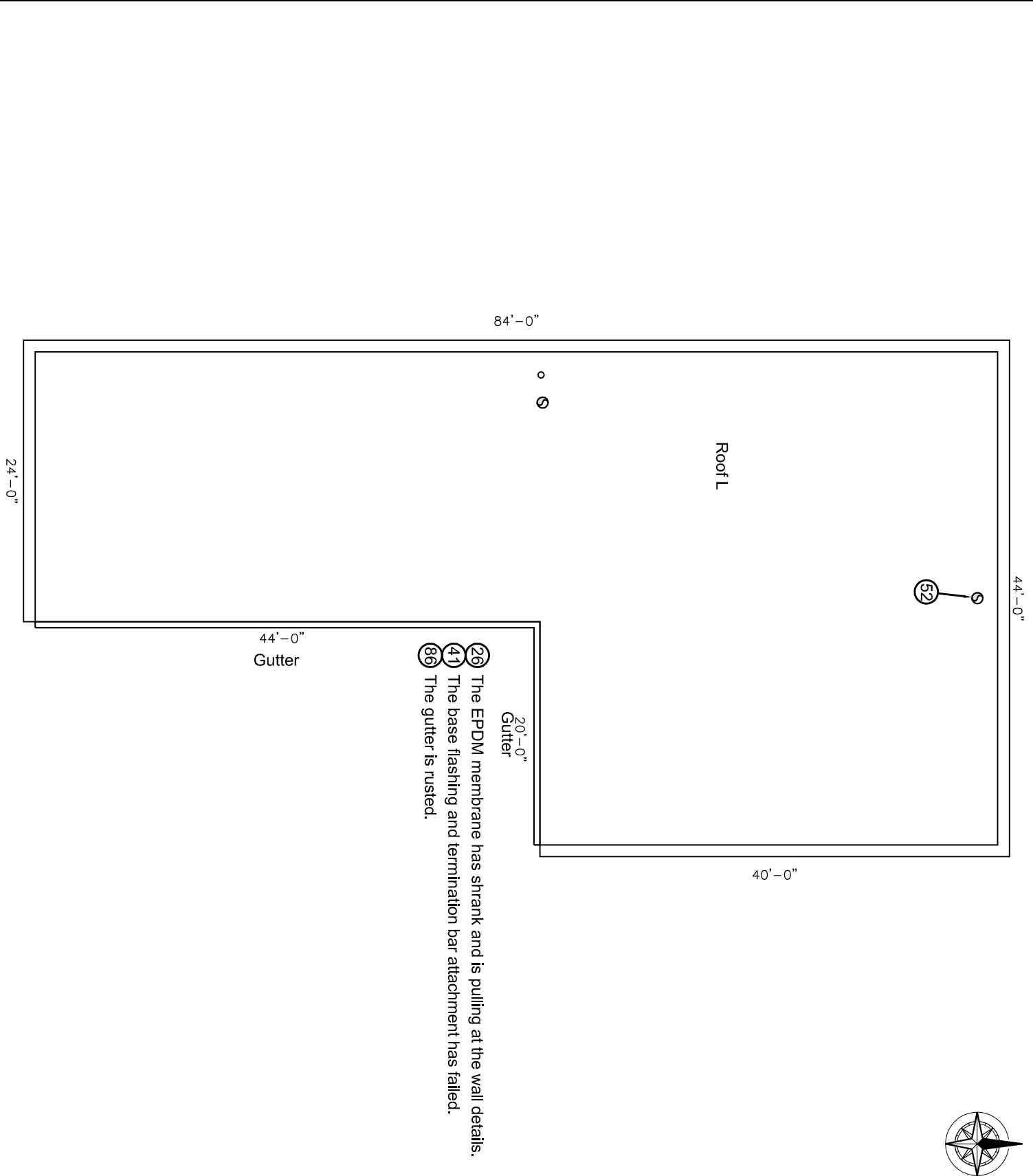
Date:
03/23/2017

Drawn By:
 GH

Project Number:
17-7645

Sheet Title:
H,I,J&K-Roof 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
 - U.N.O. UNLESS NOTED OTHERWISE



- 26 The EPDM membrane has shrank and is pulling at the wall details.
- 41 The base flashing and termination bar attachment has failed.
- 86 The gutter is rusted.



	Roofing Solutions, Inc. 6728 W. 153rd Street Overland Park, KS 66223 Office: (913)-897-1840 Fax: (913)-897-1499 RSI@roofingsolutionsinc.com		Project Name: Bellevue Mission Middle School	
	Sheet Number: 01 of 01		Project Address: 2202 S. Washington Street Bellevue, NE 68005	
Date: 03/23/2017	Drawn By: GH	Project Number: 17-7645	Sheet Title: L-Roof Plan	
<div style="float: right; text-align: right; font-size: small;"> DRAWING LEGEND DRAIN OVERFLOW SCUPPER HVAC UNIT CURB SATELLITE PITCH PAN FLUE PIPE SLEEPER SKYLIGHT EXHAUST FAN CONDENSER ON SLEEPERS DEFECT NOTE CONSTRUCTION NOTE N.I.C. NOT IN CONTRACT U.N.C. UNLESS NOTED OTHERWISE </div>				

 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.