



Roof Inspection and Condition Report for:

**Madison Department of Public Works
Motor Equipment Division
200 North First Street
Madison, WI 53704**



Contact Information



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**Madison Department of Public Works
Motor Equipment Division
200 North First Street
Madison, WI 53704**



Madison Department of Public Works
Motor Equipment Division
William T. Vanden Brook
200 North First Street
Madison, WI 53704

Re: Transportation Garage—200 N. 1st Street—Madison, WI

Dear Sir,

We conducted a roof survey on the above referenced facility on Wednesday, September 21, 2005. My onsite interview with Mr. Gary Kramer revealed to us a problem that only occurs in the Spring. It had rained the night before the inspection had taken place and there were no current roof leaks at this time.

The roof has four distinct roof areas and a small out building that is separate from the main facility. The roof areas are as follows:

Roof Area #1

This roof area covers approximately 10,800 square feet and is composed of a structural steel framework with a metal roof deck. Covering the roof deck is an EPDM ballasted roof system. This roof system is approximately 14 years of age and is fair condition.

There are a few deficiencies in this roof system that should be taken care of before the problems worsen. The wall flashings around this roof section have become un-adhered from the wall, and are starting to tent. When wall flashings tent they will pull out from under the termination which in turn will cause water to enter the facility at the perimeters. There is an area where a contractor was looking for a leak and did not redistribute the ballast stone. The ballast serves a couple of purposes: **1)** It holds the roof membrane in place, **2)** It keeps the insulation from shifting, and **3)** acts as a protector to the membrane against UV rays. There is also a lot of debris on this roof system caused by the over hanging tree limbs. This will restrict the water flow to the drains and allows for excess weight to the structure of this facility.

With proper maintenance this roof system should to provide water tightness for an additional 5—7 years.

Roof Area #2

This roof area covers approximately 7,650 square feet and is composed of a structural steel framework with a metal roof deck. Covering the roof deck is fully adhered roof system with the membrane being .060 mils in thickness. This roof system is approximately 14 years of age and is fair condition.

There are a few deficiencies that need to be corrected. As you will see in the photographs, there are several holes in the wall flashing between the two adhered roof areas. There is also a dead roof penetration that is covered with a bag that should be removed. There is some ponding water along the west side of this roof area but it is not causing any problems at this time. We will need to keep an eye on this in the future, if the ponding starts to cause problems, we can install tapered insulation to eliminate the water.

With proper maintenance this roof system should to provide water tightness for an additional 5—7 years.

**Madison Department of Public Works
Motor Equipment Division
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Roof Area #3

This roof area covers approximately 12,720 square feet and is composed of a structural steel framework with a metal roof deck. Covering the roof deck is fully adhered roof system with the membrane being .060 mils in thickness. This roof system is approximately 14 years of age and is fair condition.

There are a few deficiencies that need to be corrected. As you will see in the photographs there is a hole in the wall flashing. There is some ponding water (water was 2" deep in some spots) along the west side of this roof area and I feel is the cause of the roof problems during the freeze thaw in the Spring. We feel that we can eliminate this by removing the metal coping and installing tapered insulation out far enough so the water makes it to the roof drains.

With proper maintenance this roof system should to provide water tightness for an additional 5—7 years.

Roof Area #4

This roof area covers approximately 5,400 square feet and is composed of a structural steel framework with a metal roof deck. Covering the roof deck is an EPDM ballasted roof system. This roof system is approximately 14 years of age and is fair condition.

There are a few deficiencies in this roof system that should be taken care of before the problems worsen. The wall flashings around this roof section have become un-adhered from the wall, and are starting to tent. When wall flashings tent they will pull out from under the termination which in turn will cause water to enter the facility at the perimeters.

With proper maintenance this roof system should to provide water tightness for an additional 5—7 years.

Roof Area #5

This roof area covers approximately 560 square feet and is composed of a structural steel framework with a metal roof deck. Covering the roof deck is an EPDM ballasted roof system. This roof system is approximately 14 years of age and is fair condition.

There are a few deficiencies in this roof system that should be taken care of before the problems worsen. The wall flashings around this roof section have become un-adhered from the wall, and are starting to tent. When wall flashings tent they will pull out from under the termination which in turn will cause water to enter the facility at the perimeters.

With proper maintenance this roof system should to provide water tightness for an additional 5—7 years.

Thank you for the opportunity to present you with this information. If you have any questions or concerns feel free to contact me at your convenience.

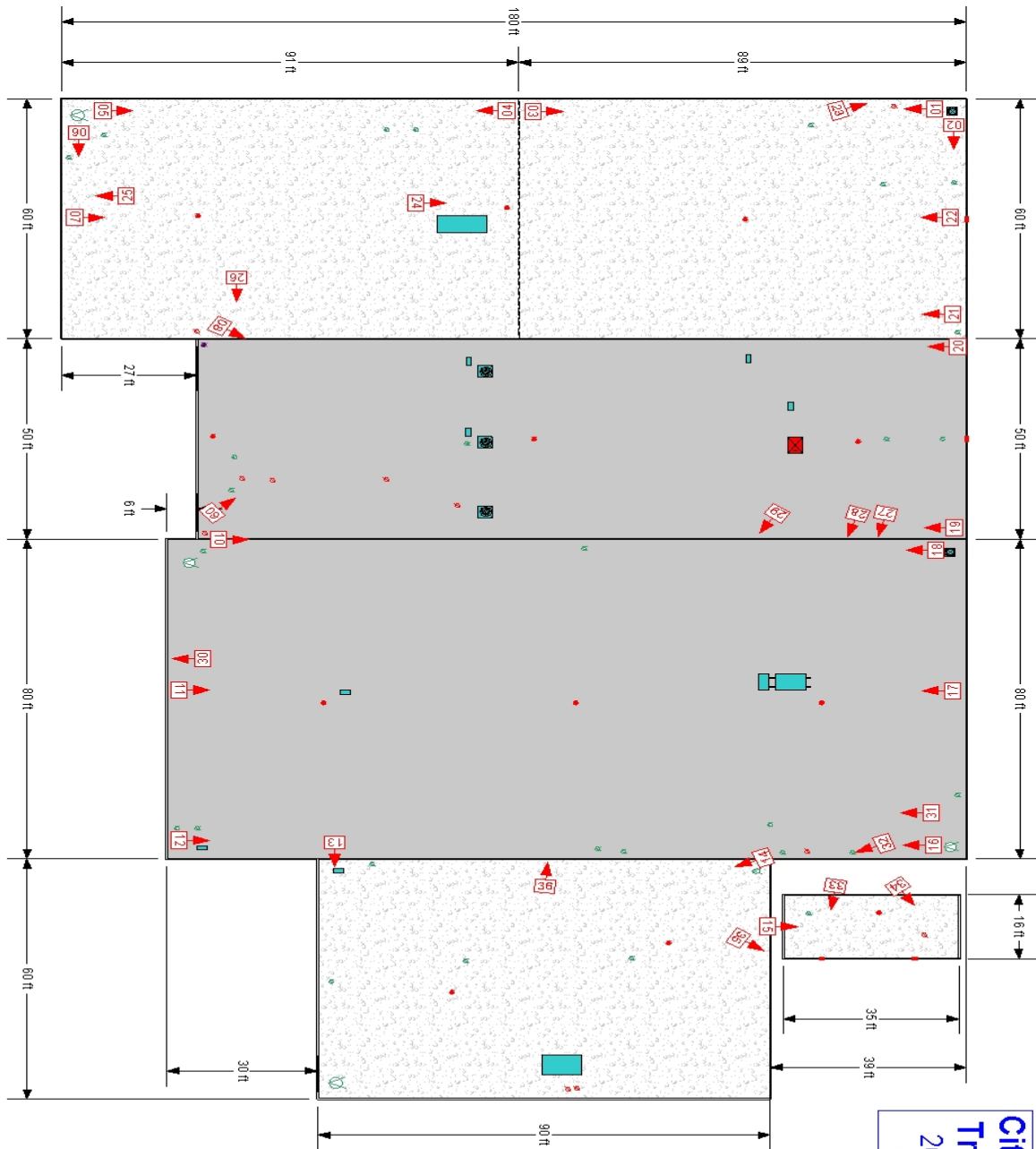
Sincerely,

Gary Boley
SRS Roofing & Sheet Metal, Inc.

Madison Department of Public Works
 Motor Equipment Division
 200 North First Street
 Madison, WI 53704



Facility Map



City of Madison
 Transit Facility
 200 N 1st Street
 Madison, WI

**Madison Department of Public Works
Motor Equipment Division
200 North First Street
Madison, WI 53704**



Roof Area One Summary

Roof Size (Sq. Ft).....	10,800
Roof Asset Value.....	\$81,000.00
Roof System.....	EPDM Ballasted
Roof Evaluation.....	Fair
Maintenance Investment....	\$6,018.00
System Manufacturer.....	
Warranty Number.....	
Warranty Issued.....	
Warranty Expiration.....	
Installer.....	

Roof System Overview

Roof System.....	EPDM Ballasted
Surfacing.....	Washed River Rock
Insulation.....	
Deck Type.....	Metal
Coping/Edging.....	Metal Coping
Wall Construction.....	Brick/Block
Drainage.....	Internal Roof Drains



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Motor Equipment Division
200 North First Street
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Roof Section One Deficiencies

Priority Level "A" - High Priority Repair

Deficiencies are causing current leaks into the building and/or the roof system.

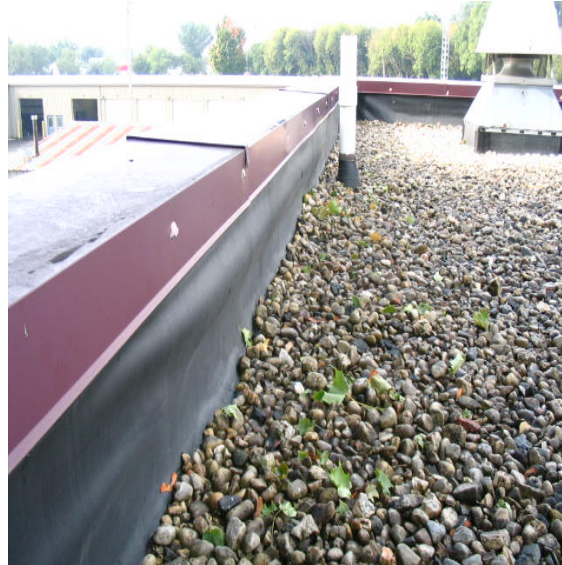
Component Count..... 326 lineal feet
Photo Reference..... 23
Category..... Flashings
Deficiency..... The wall flashings have become detached from the roof system.

Prevention If Possible.

Cause..... Age
Cost to repair..... \$5,868.00

Repair Recommendation

Cut membrane at the base of wall. Remove old flashing material. Install new base termination. Add a piece of EPDM membrane that extends a minimum of 6" beyond the area of repair.



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Roof Section One Deficiencies

Priority Level “B” - Medium Priority Repair

Deficiencies have high probability of causing leaks in the near future.

Component Count..... Some
Photo Reference..... 24
Category..... Surfacing
Deficiency..... The ballast stone has been removed from the roof membrane.

Prevention If Possible.

Cause..... Workmanship
Cost to repair..... \$150.00

Repair Recommendation
Redistribute ballast stone as required.



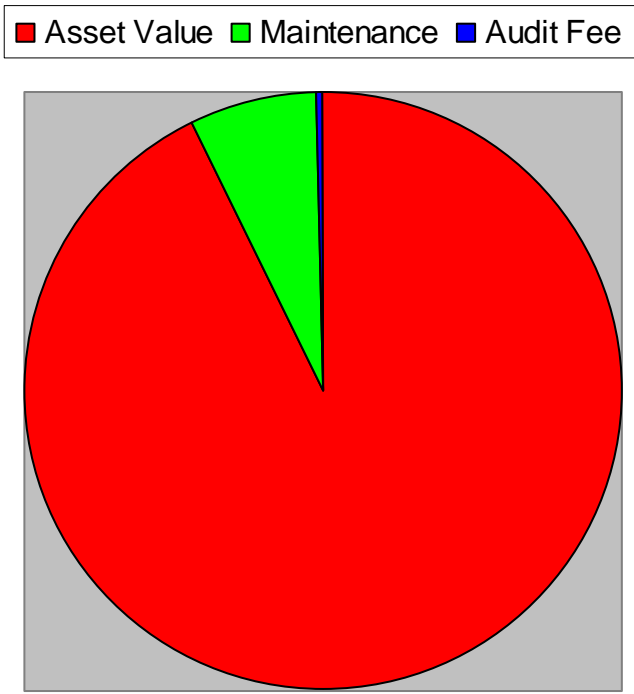
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 Motor Equipment Division
 200 North First Street
 Madison, WI 53704



**Roof Section One Deficiencies
 Repair Cost
 Summary**

Priority "A"	\$5,868.00	
Fix Current Leaks.....		\$5,868.00
Priority "B"	\$150.00	
Fix current and potential problem areas.....		\$6,018.00
Priority "C"	\$0.00	
Fix current and potential problem areas And perform good maintenance.....		\$6,018.00

Section One



**Madison Department of Public Works
Motor Equipment Division
200 North First Street
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Roof Area Two Summary

Roof Size (Sq. Ft).....	7,650
Roof Asset Value.....	\$57,375.00
Roof System.....	Adhered EPDM
Roof Evaluation.....	Fair
Maintenance Investment....	\$1,000.00
System Manufacturer.....	
Warranty Number.....	
Warranty Issued.....	
Warranty Expiration.....	
Installer.....	

Roof System Overview

Roof System.....	Adhered EPDM
Surfacing.....	None
Insulation.....	
Deck Type.....	Metal
Coping/Edging.....	Metal
Wall Construction.....	Brick/Block
Drainage.....	Interior Roof Drains



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Roof Section Two Deficiencies

Priority Level “A” - High Priority Repair

Deficiencies are causing current leaks into the building and/or the roof system.

Component Count..... Several
Photo Reference..... 28
Category..... Flashings
Deficiency..... There are holes in the wall flashings.

Prevention If Possible.

Cause..... Material Failure
Cost to repair..... \$600.00

Repair Recommendation

Clean and prepare area for repair. Apply adhesive as required. Install patch that extends a minimum of three inches beyond hole.



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Roof Section Two Deficiencies

Priority Level “B” - Medium Priority Repair

Deficiencies have high probability of causing leaks in the near future.

Component Count..... 1
Photo Reference..... 26
Category..... Penetrations
Deficiency..... There is an unused roof penetration.

Prevention If Possible.

Cause..... Other
Cost to repair..... \$400.00

Repair Recommendation

Remove unused roof penetration, and roof area in as required.



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Roof Section Two Deficiencies

Priority Level “C” - Good Maintenance

Deficiencies repairs that are part of proper roof maintenance

Component Count..... Some
Photo Reference..... 09
Category..... Membrane
Deficiency..... There is water ponding on the roof system.

Prevention If Possible.

Cause..... Drainage
Cost to repair..... \$0.00

Repair Recommendation

This ponding is not causing any problems at this time. We will keep an eye on this area and if the problem worsens we will take corrective measures at that time.



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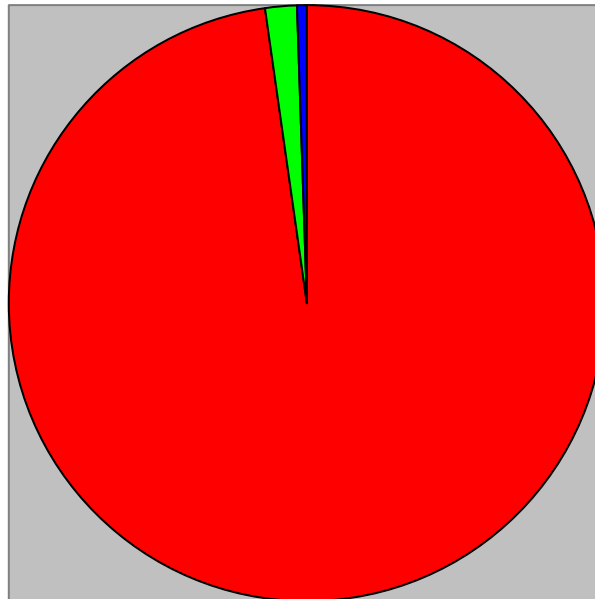


**Roof Section Two Deficiencies
 Repair Cost
 Summary**

Priority "A"	\$600.00	
Fix Current Leaks.....		\$600.00
Priority "B"	\$400.00	
Fix current and potential problem areas.....		\$1,000.00
Priority "C"	\$0.00	
Fix current and potential problem areas And Perform good maintenance.....		\$1,000.00

Section Two

■ Asset Value ■ Maintenance ■ Audit Fee



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Roof Area Three Summary

Roof Size (Sq. Ft).....	12,640
Roof Asset Value.....	\$88,480.00
Roof System.....	Adhered EPDM
Roof Evaluation.....	Fair
Maintenance Investment....	\$11,460.00
System Manufacturer.....	
Warranty Number.....	
Warranty Issued.....	
Warranty Expiration.....	
Installer.....	

Roof System Overview

Roof System.....	Adhered EPDM
Surfacing.....	None
Insulation.....	
Deck Type.....	Metal
Coping/Edging.....	Metal
Wall Construction.....	Brick/Block
Drainage.....	Interior Roof Drains





Roof Section Three Deficiencies

Priority Level “A” - High Priority Repair

Deficiencies are causing current leaks into the building and/or the roof system.

Component Count..... 1
Photo Reference..... 30
Category..... Flashings

Deficiency..... There is a hole in the wall flash-
ing.

Prevention If Possible.

Cause..... Age
Cost to repair..... \$250.00

Repair Recommendation

Clean and prepare area for repair. Apply adhesive as re-
quired. Install patch that extends a minimum of three
inches beyond hole.



Component Count..... 2
Photo Reference..... 32
Category..... Penetrations
Deficiency..... The seal at the top of the storm
collar is deteriorated.

Prevention If Possible.

Cause..... Normal wear and tear
Cost to repair..... \$200.00

Repair Recommendation

Install new sealant as required.



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Roof Section Three Deficiencies

Priority Level “B” - Medium Priority Repair

Deficiencies have high probability of causing leaks in the near future.

Component Count..... 2,212 sq/ft
Photo Reference..... 31
Category..... Membrane
Deficiency..... There is ponding water on the roof system.

Prevention If Possible.

Cause..... Design
Cost to repair..... \$11,060.00

Repair Recommendation

Remove metal coping. Install tapered insulation from wall out 14 feet. Install new membrane over insulation. Membrane to extend up and over parapet, and out past insulation a minimum of 6 inches.



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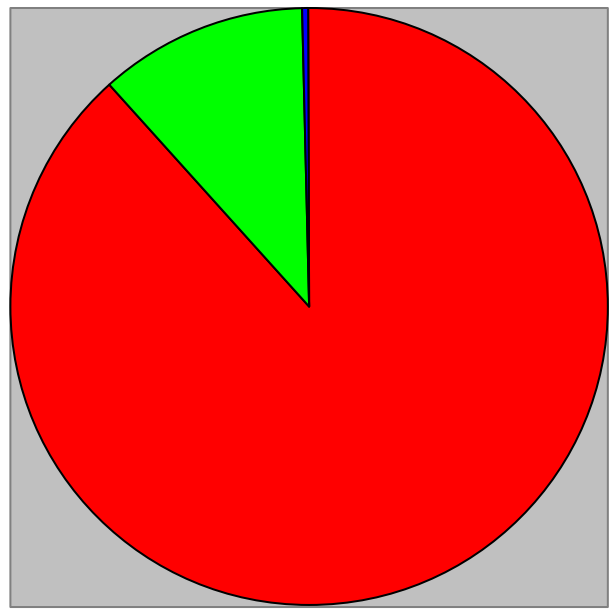


**Roof Section Three Deficiencies
 Repair Cost
 Summary**

Priority "A"	\$450.00	
Fix Current Leaks.....		\$450.00
Priority "B"	\$11,060.00	
Fix current and potential problem areas.....		\$11,460.00
Priority "C"	\$0.00	
Fix current and potential problem areas And Perform good maintenance.....		\$11,460.00

Section Three

■ Asset Value ■ Maintenance ■ Audit Fee



**Madison Department of Public Works
Motor Equipment Division
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Roof Area Four Summary

Roof Size (Sq. Ft).....	5,400
Roof Asset Value.....	\$37,800.00
Roof System.....	EPDM Ballasted
Roof Evaluation.....	Fair
Maintenance Investment....	\$5,400.00
System Manufacturer.....	
Warranty Number.....	
Warranty Issued.....	
Warranty Expiration.....	
Installer.....	

Roof System Overview

Roof System.....	EPDM Ballasted
Surfacing.....	Washed River Rock
Insulation.....	
Deck Type.....	Metal
Coping/Edging.....	Metal Coping
Wall Construction.....	Brick/Block
Drainage.....	Internal Roof Drains



**Madison Department of Public Works
Motor Equipment Division
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Roof Section Four Deficiencies

Priority Level “B” - Medium Priority Repair

Deficiencies have high probability of causing leaks in the near future.

Component Count..... 300 lineal feet
Photo Reference..... 36
Category..... Flashings
Deficiency..... The wall flashings have become detached from the roof system.

Prevention If Possible.

Cause..... Material Failure
Cost to repair..... \$5,400.00

Repair Recommendation

Cut membrane at the base of wall. Remove old flashing material. Install new base termination. Add a piece of EPDM membrane that extends a minimum of 6” beyond the area of repair.



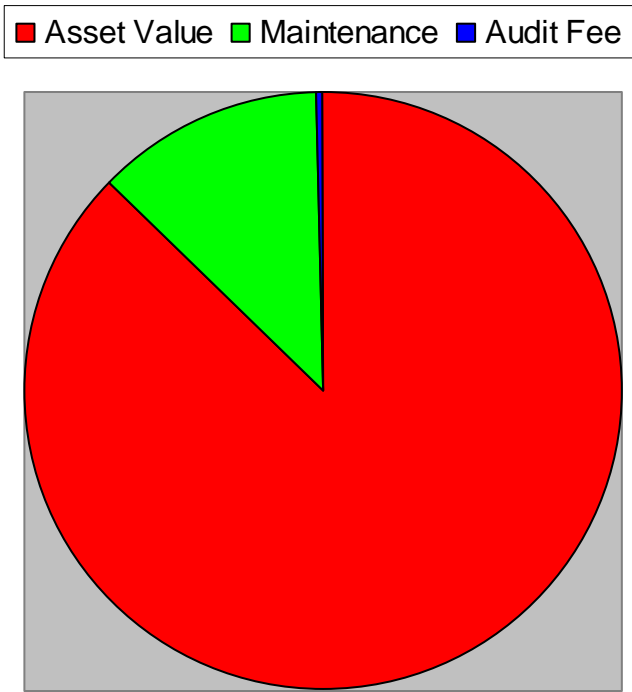
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 Motor Equipment Division
 200 North First Street
 Madison, WI 53704



**Roof Section Four Deficiencies
 Repair Cost
 Summary**

Priority "A"	\$0.00	
Fix Current Leaks.....		\$0.00
Priority "B"	\$5,400.00	
Fix current and potential problem areas.....		\$5,400.00
Priority "C"	\$0.00	
Fix current and potential problem areas And Perform good maintenance.....		\$5,400.00

Section Four



**Madison Department of Public Works
Motor Equipment Division
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Madison, WI 53704**



Roof Area Five Summary

Roof Size (Sq. Ft).....	560
Roof Asset Value.....	\$3,920.00
Roof System.....	EPDM Ballasted
Roof Evaluation.....	Fair
Maintenance Investment....	\$1,836.00
System Manufacturer.....	
Warranty Number.....	
Warranty Issued.....	
Warranty Expiration.....	
Installer.....	

Roof System Overview

Roof System.....	EPDM Ballasted
Surfacing.....	Washed River Rock
Insulation.....	
Deck Type.....	Metal
Coping/Edging.....	Metal Coping
Wall Construction.....	Brick/Block
Drainage.....	Internal Roof Drains



**Madison Department of Public Works
Motor Equipment Division
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Roof Section Five Deficiencies

Priority Level “B” - Medium Priority Repair

Deficiencies have high probability of causing leaks in the near future.

Component Count..... 102 lineal feet
Photo Reference..... 36
Category..... Flashings
Deficiency..... The wall flashings have become detached from the roof system.

Prevention If Possible.

Cause..... Material Failure

Cost to repair..... \$1,836.00

Repair Recommendation

Cut membrane at the base of wall. Remove old flashing material. Install new base termination. Add a piece of EPDM membrane that extends a minimum of 6” beyond the area of repair.



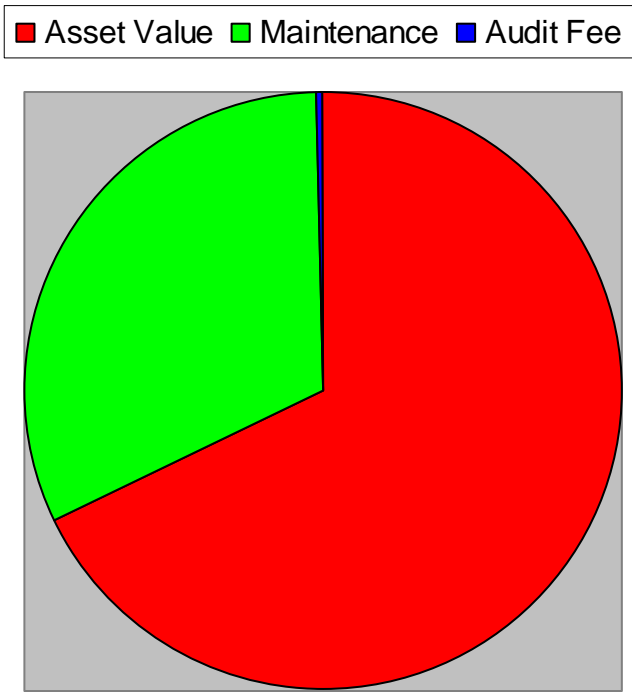
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 Motor Equipment Division
 200 North First Street
 Madison, WI 53704



**Roof Section Five Deficiencies
 Repair Cost
 Summary**

Priority "A"	\$0.00	
Fix Current Leaks.....		\$0.00
Priority "B"	\$1,836.00	
Fix current and potential problem areas.....		\$1,836.00
Priority "C"	\$0.00	
Fix current and potential problem areas And Perform good maintenance.....		\$1,836.00

Section Five































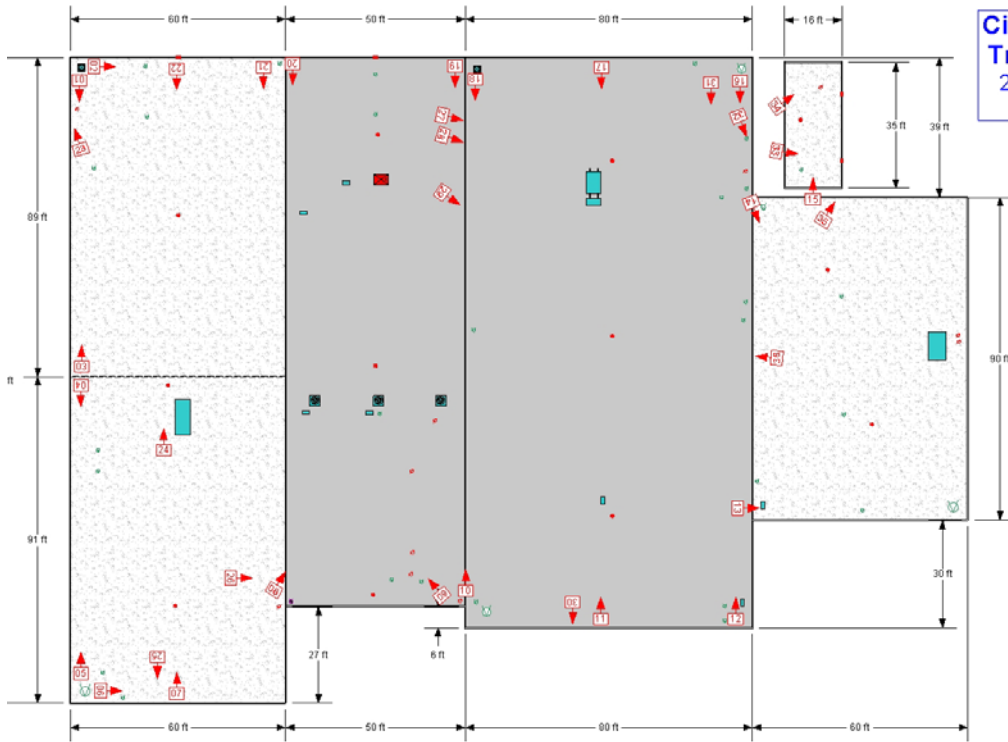








**City of Madison
Transit Facility
200 N 1st Street
Madison, WI**



LEGEND	
HVAC Unit	
Curb Fan	
Roof Drain	
Soil Stack	
Vent Stack	
Roof Hatch	
Photo	
Vantage	

Scale: 1" = 20'





Executive Summary

**Prepared For: Mr. William T. Vanden Brook
City Of Madison
Motor Equipment Division
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Tom Roanhouse	Business Development	(262) 210-3707	troanhouse@srsroofandmetal.com

Executive Summary



City of Madison

Motor Equipment Division

200 North First Street

Madison, WI 53704

Location

Roof Section	Size	Roof Asset Value	Roof System	Roof Evaluation	Maintenance Investment
Roof Area #1	10,800	\$81,000.00	EPDM Ballasted	Restore and Maintain	\$6,018.00
Roof Area #2	7,650	\$57,375.00	EPDM Fully Adhered	Restore and Maintain	\$1,000.00
Roof Area #3	12,700	\$88,480.00	EPDM Fully Adhered	Restore and Maintain	\$11,460.00
Roof Area #4	5,400	\$37,800.00	EPDM Ballasted	Restore and Maintain	\$5,400.00
Roof Area #5	560	\$3,920.00	EPDM Ballasted	Restore and Maintain	\$1,836.00

Total Maintenance Investment..... \$25,714.00



Roof Evaluation Recommendations

Glossary

Re-Roof

This recommendation is based on four factors

- Current Roof Condition
- Roof Age
- Expected Roof Design Life
- Repair cost required to move roof to a maintainable condition

Repair as Needed

- Repair leaks Promptly
- Repair “A” Priorities Only
- Budget for Re-Roof within Three Years

Restore and Maintain

Requires corrective maintenance, but it would be cost effective to bring this roof to a maintainable condition.

Preventative Maintenance

Roof should be regularly maintained in order for:

- It to last it’s design life.
- The manufacturer’s warranty to be valid