The Garland Company, Inc.

Roof Asset Management Program

Parks & Rec Building

Prepared By

Manuel Darnell

Prepared For

Daron Trussell

October 23, 2023

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Client Data

Client: City of Stephenville

Client Data

Name	City of Stephenville		
Address 1	378 West Long St		
City	Stephenville	**State**	Texas
ZIP	76401	**Country**	United States

Contact Info

Contact Person	Daron Trussell	**Title**	Director
Mobile Phone:	254-424-1847	**Office Phone:**	254-918-1216
Email:	dtrussell@stephenvilletx.gov		

Facility Summary

Client: City of Stephenville

Facility: Parks & Recreation Building

Facility Data

Address 1	378 W Long St
City	Stephenville
State	Texas
ZIP	76401
Type of Facility	Municipal
Contact Person	Daron Trussell

Asset Information

Name	Date Installed	Square Footage	Roof Access
Parks & Recreation Building		14,280	

Construction Details

Client: City of Stephenville

Facility: Parks & Recreation Building

Wall: Parks & Recreation Building

Information			
Year Installed	-	**Square Footage**	14,280

Photo Report

Client: City of Stephenville
Facility: Parks & Recreation Building
Wall: Parks & Recreation Building

Report Date: 10/18/2023
Title: Wall Waterproofing

Issue Identified: Water Intrusion through Stone Walls Causing Mildew Smells in the Building, and causing damage to interior of the structure.

Summary: During the inspection, significant water intrusion was observed through the stone walls of the building. This infiltration has resulted in the development of mildew smells throughout the interior spaces. To mitigate this issue and prevent further water damage, it is imperative to implement a waterproofing solution. The recommended approach is the application of Seal-a-por, a product from the Garland company, to seal the stone effectively and prevent water from permeating through.

Summary Scope of Work:

1. **Assessment and Preparation:**
    - Conduct a thorough assessment of the extent of water damage on the stone walls.
    - Prepare the affected areas by cleaning and removing existing mildew, dirt, and loose materials from the stone surfaces.
    - check to see if any tuck-pointing is needed in areas.
    - Check all sealants between stone and windows
2. **Application of Seal-a-por:**
    - Apply Garland's Seal-a-por waterproofing solution on the stone walls according to the manufacturer's guidelines.
    - Ensure proper coverage and penetration of the Seal-a-por product into the stone substrate to create a water-resistant barrier.
3. **Quality Inspection:**
    - Conduct a detailed inspection post-application to verify the effectiveness of the Seal-a-por treatment.
    - Check for any missed spots or uneven application, addressing them promptly to guarantee comprehensive coverage.
4. **Interior Remediation:**
    - Address mildew smells inside the building by implementing interior remediation methods, such as dehumidification and use of air purifiers, to eliminate odors.
    - Inspect interior spaces for signs of mildew growth and water damage; conduct necessary repairs and cleaning as required.
5. **Preventive Measures:**
    - Advise the property owner on preventive measures, including proper drainage systems, gutter maintenance, and landscaping adjustments, to minimize future water intrusion risks.
6. **Documentation and Warranty:**

- Document the entire waterproofing process, including before-and-after photographs, product specifications, scope of work, and application details.
- Provide the property owner with a warranty certificate from the Garland company, ensuring the effectiveness of the Seal-a-por treatment for a specified period.

Conclusion: Implementing the Seal-a-por waterproofing solution from Garland is vital to prevent further water intrusion through the stone walls and eliminate damages and smells within the building. This comprehensive approach will not only address the current issue but also provide long-term protection against water damage, ensuring a dry and odor-free environment for the occupants. Some tuck-pointing my be necessary and minor sealing to the windows between stone and window casings.

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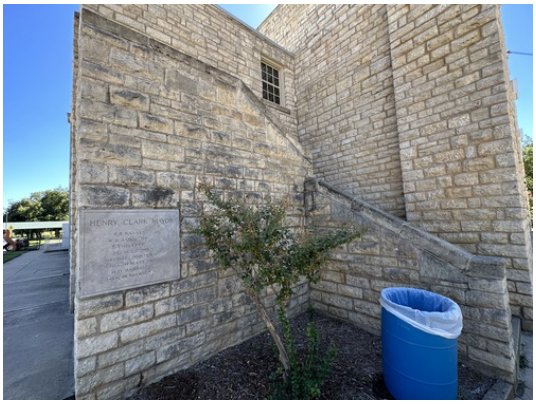

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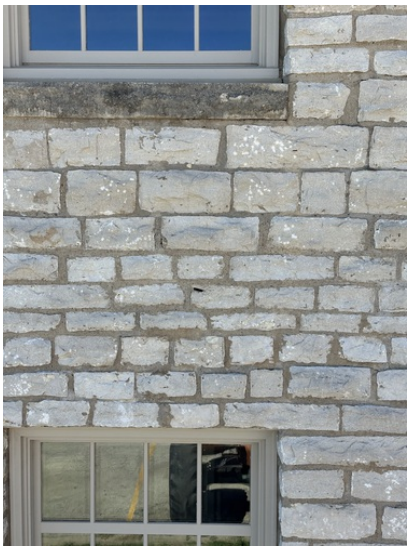

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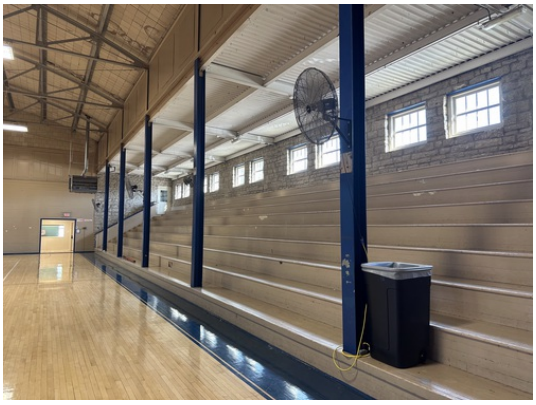

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Solution Options

Client: City of Stephenville

Facility: Parks & Recreation Building

Wall: Parks & Recreation Building

Maintenance Options

Solution Option:	Maintenance	**Action Year:**	2023
Square Footage:	14,280	**Expected Life (Years):**	10
Budget Range:	$33,000.00 - $40,000.00		

Scope of Work: Waterproofing Stone Walls with Seal-a-por

1. Project Overview: This scope of work outlines the process and requirements for waterproofing stone walls using Seal-a-por, a specialized waterproofing solution. The objective is to protect the stone walls from water infiltration, ensuring their longevity and structural integrity. The project area comprises [insert total square footage] of stone walls.

2. Preparatory Work:

- Conduct a thorough inspection of the stone walls to identify cracks, gaps, or other points of potential water entry.
- Clean the stone walls to remove dirt, dust, loose mortar, and other contaminants.
- Repair any visible cracks or damages using appropriate materials and techniques.

3. Waterproofing Process:

- Mix Seal-a-por according to the manufacturer's instructions.
- Apply Seal-a-por to the stone walls at a rate of 1 gallon per 100-200 square feet, ensuring even coverage.
- Utilize brushes, rollers, or sprayers as suitable for the specific application, ensuring all surfaces are adequately coated.
- Pay special attention to corners, joints, and any vulnerable areas prone to water penetration.
- Allow Seal-a-por to dry and cure as per the manufacturer's recommended drying time.

4. Quality Assurance:

- Inspect the applied Seal-a-por to ensure uniform coverage and proper sealing of the stone walls.
- Conduct a water test to verify the effectiveness of the waterproofing treatment.
- Rectify any areas with inadequate coverage or signs of water seepage promptly.

5. Site Cleanup:

- Clean up the work area, removing any debris, equipment, or materials used during the waterproofing process.
- Dispose of waste materials in an environmentally responsible manner.

6. Safety Measures:

- Adhere to all safety protocols and guidelines during the application of Seal-a-por.
- Ensure workers are equipped with appropriate personal protective equipment (PPE) such as gloves, masks, and safety goggles.

7. Documentation:

- Provide detailed documentation of the application process, including photographs before and after the waterproofing treatment.
- Furnish information on the quantity of Seal-a-por used, as well as any specific conditions or challenges encountered during the application.

8. Project Completion:

- Upon successful completion of the waterproofing process and inspection, the project will be considered finished.
- Provide the client with a comprehensive overview of the work carried out and any relevant maintenance instructions for the treated stone walls.

Photo Report

Client: City of Stephenville
Facility: Parks & Recreation Building
Wall: Parks & Recreation Building

Report Date: 10/18/2023
Title: Roof Section

Roof Type: White TPO Membrane Over Built-Up Tar and Gravel Roofing System.

Overall Roof Condition: The roof was found to be in **fair condition** during the inspection. Despite its unknown age, the roof's structural integrity remains intact.

Specific Findings:

1. **Fasteners Backing Out:** Several spots on the roof were identified where fasteners were observed backing out. This issue needs immediate attention to prevent potential leaks and damage to TPO roofing system.
2. **Old Sealant:** Some areas showed signs of deteriorating sealant. Weathered sealant can compromise the roof's waterproofing capabilities and should be replaced promptly to maintain the roof's integrity.
3. **Debris on Roof:** Accumulated debris on the roof was noted. Regular cleaning is recommended to prevent drainage issues and to prolong the life of the roofing system.
4. **Poor Flashing Details:** Certain flashing details were found to be poorly executed. Proper flashing is crucial for preventing water infiltration, and these areas should be repaired to avoid future leaks. Pipes coming up through the parapet walls are not recommended and should be moved if/when possible.

Recommendations:

1. **Fastener Replacement:** Secure all loose or backing out fasteners to ensure the TPO membrane remains tightly in place and membrane dose not become damaged.
2. **Sealant Replacement:** Remove old and deteriorated sealant and reapply a high-quality, weather-resistant sealant to maintain waterproofing.
3. **Roof Cleaning:** Schedule a professional cleaning to remove debris from the roof surface and gutters, ensuring proper drainage.
4. **Flashing Repairs:** Address poor flashing details by resealing or replacing flashing materials where necessary to prevent water ingress.
5. **Regular Maintenance:** Implement a routine maintenance plan to inspect the roof periodically, addressing minor issues before they escalate.

Conclusion: While the roof is currently in fair condition, addressing the identified issues promptly is essential to extend its lifespan and prevent potential water damage. Regular maintenance and timely repairs are key to ensuring the longevity and performance of the roofing system.

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Issue Identified: TPO Roofing Membrane Loss of Mil Thickness and Brittleness due to Sun Degradation.

Observations: During the inspection, it was observed that the TPO (Thermoplastic Polyolefin) roofing membrane has undergone **sun degradation**. This degradation has led to the gradual loss of mil thickness and brittleness of the material. Exposure to harsh sunlight and UV rays causes the TPO membrane to deteriorate over time, resulting in the following issues:

1. **Loss of Mil Thickness:** The TPO membrane has experienced a reduction in mil thickness, compromising its overall durability and protective capabilities. Thinning of the membrane can increase vulnerability to punctures and tears.
2. **Brittleness:** The material has become brittle, losing its flexibility and elasticity. Brittleness makes the membrane more prone to cracking, especially during temperature fluctuations and structural movement.

Implications:

1. **Reduced Lifespan:** The loss of mil thickness and brittleness significantly diminish the lifespan of the TPO roofing system. The membrane is less capable of withstanding environmental stressors and physical impacts.
2. **Increased Susceptibility to Damage:** Brittleness makes the roofing membrane susceptible to cracking, tearing, and punctures, increasing the likelihood of storm damage, water infiltration, leaks, and structural damage.

Recommendations:

1. Water Test: roofing areas that are suspected of water intrusion to insure that roofing system is functioning as intended.

2. Regular Inspections: For existing TPO roofs, implement a rigorous inspection schedule. Regular inspections allow for the early detection of issues, enabling timely repairs and maintenance to mitigate further damage.

3. Cool Roof Coatings: If replacing the roof is not immediately feasible, consider applying cool roof coatings. These coatings can provide some level of protection against UV rays and slow down the degradation process, although they are not a permanent solution.

Conclusion: Addressing the loss of mil thickness and brittleness in the TPO roofing membrane is crucial to maintaining the structural integrity and waterproofing capabilities of the building. Timely action, whether through replacement or strategic repairs, is essential to prevent further deterioration and protect the property from potential damage.

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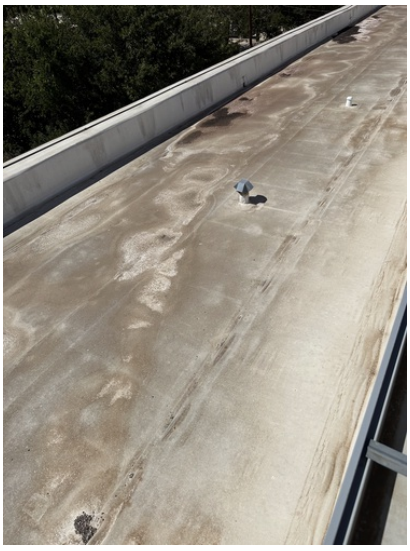

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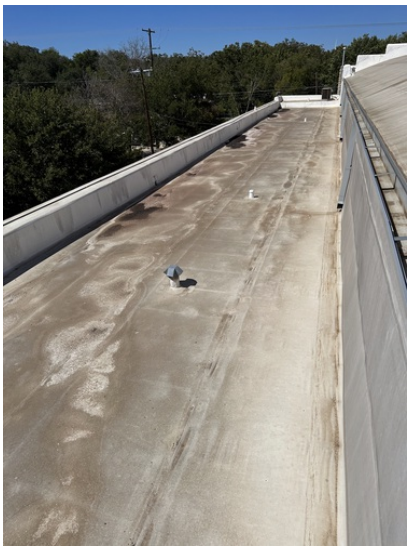

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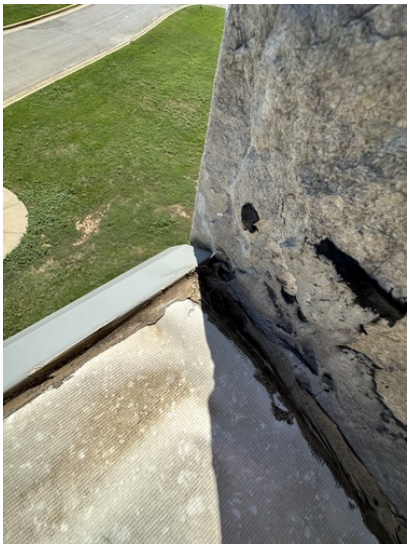

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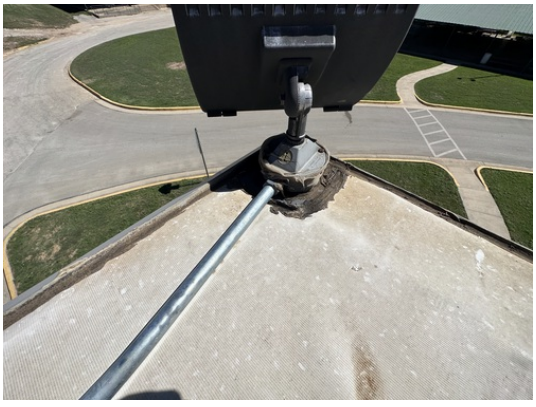

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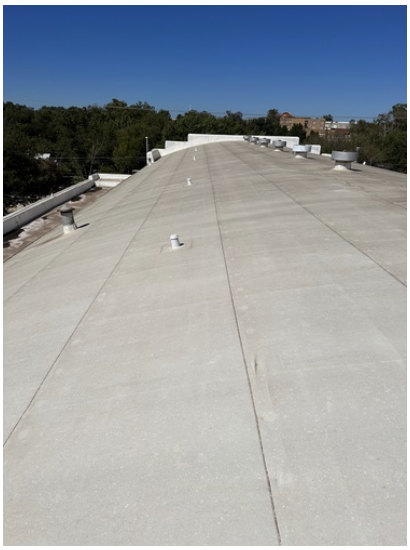

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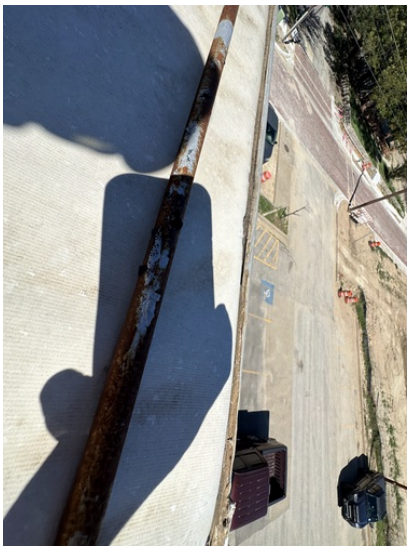

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Solution Options

Client: City of Stephenville

Facility: Parks & Recreation Building

Wall: Parks & Recreation Building

Inspection Options			
Solution Option:	Inspection	**Action Year:**	2023
Square Footage:	14,280	**Expected Life (Years):**	-
Budget:	$2,500.00		

Scope of Work: Roofing Water Test

1. Project Overview: This scope of work outlines the procedures and requirements for conducting a water test on the roofing system. The objective is to identify potential leaks, weak points, or areas of vulnerability in the roof structure. The test area includes the full roof surface with special focus on the parapet walls.

2. Preparatory Work:

- Ensure all safety measures are in place, including harnesses, guardrails, and any other necessary fall protection equipment.
- Clear the roof of any debris, loose materials, or obstacles that might obstruct the water test process.
- Verify that drainage systems are functioning correctly to prevent pooling of water during the test.

3. Water Test Procedure:

- Simulate natural rainfall by evenly applying water across the specified test area.
- Use hoses, sprinklers, or other appropriate equipment to distribute water uniformly over the roof surface.
- Apply water gradually, increasing the intensity to simulate different rainfall levels.
- Monitor the test area closely for a specified duration, typically at least 1-2 hours, to observe any signs of leaks or water infiltration.

4. Inspection and Documentation:

- Conduct a thorough inspection of the interior spaces directly beneath the test area to identify any signs of water penetration, such as stains, drips, or dampness.
- Document any observed leaks, their locations, and severity.
- Take photographs or videos as necessary to provide visual evidence of leaks or vulnerabilities.
- Prepare a detailed report summarizing the findings, including the location and extent of any identified leaks or weak points.

5. Remedial Measures:

- Identify and recommend appropriate remedial actions for any leaks or vulnerabilities found during the water test.
- Provide a cost estimate for the necessary repairs or improvements, if applicable.
- Clearly outline the recommended repairs, including materials, methods, and expected timeline for completion.

6. Safety Measures:

- Ensure all safety protocols are followed during the water test, especially when working at heights.
- Have a safety team present during the test to respond to emergencies or accidents.

7. Project Completion:

- Provide the client with a comprehensive report detailing the water test procedure, observations, and recommendations for repairs.
- Review the findings with the client and discuss potential solutions for addressing identified issues.
- Upon client approval, proceed with the necessary repairs or improvements based on the agreed-upon scope and timeline.