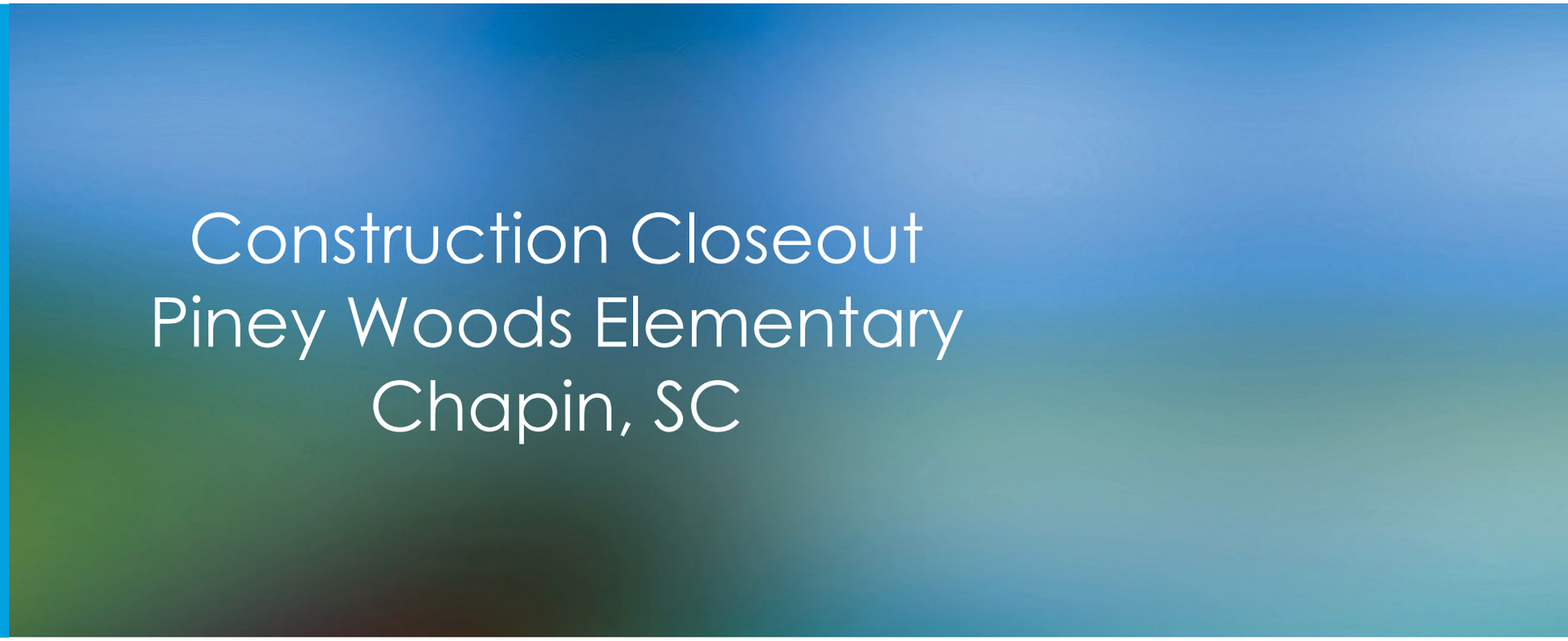
PREPARED BY

Mead & Hunt

FINAL REPORT



Construction Closeout
Piney Woods Elementary
Chapin, SC

March 28, 2022

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1. Roof Assemblies

A. Warranty Information

(1) Platinum NDL Roofing Warranty Document

(a) It was discovered that the Soprema roof system Plantinum NDL Roofing Warranty was not signed by the owner. This document was signed by the owner on 12/17/2021. It is our understanding that this signed document has been sent to Suprema, received by Suprema, and returned to the owner for activation of the 20 year warranty.

(2) Care and Maintenance

(a) The Care and Maintenance Instructions for the Sentrigard metal roof system was not provided in the documents we received. The hyperlink http://www.sentigard/Static/Installation provided in the warranty documents was invalid. We contacted Sentrigard and had them provide this document and the instructions for care and maintenance of the roof system. We are providing these documents to School District 5 of Lexington and Richland Counties. If there are any deviations from these instructions the roof warranty from Sentrigard will be void. *See Appendix F.*

(b) During a site visit on 12/20/2021 minor ponding of water was observed on the Suprema flat roof system. At the time of the site visit the water was iced over and we are uncertain of when the most recent precipitation event had occurred prior to the site visit. According to the nearest local weather station (approximately 0.5 miles away from the school), there had been approximately 0.75-inches of rainfall within 24 hours of inspection. It is recommended to observe the flat roof system 48 hours after the end of a precipitation event and ensure the roof has adequate draining and does not ratin water longer then 48 hours. If excessive ponding of water after the end of a precipitation event for longer then 48 hours the roof warranty may be void. *See Appendix A.*

(c) Roof access shall be restricted from excessive foot traffic to all personnel with the exception of maintenance personnel, Sentrigard, Suprema, and Aqua. This apprears to be in place with the Roof Access Doors remaining locked with a key. A sign-in log for roof access is recommended to ensure excessive foot trafiic is being controlled, and to exhibit to the manufacturer at the time a warranty claim may be processed. In addition, Suprema rocommends signage to be installed stating “STOP. ACCESS RESTRICTED TO AUTHORIZED PERSONNEL ONLY”. This signage is not required; however, Suprema will provide signage if requested in accordance with Suprema’s Care and Maintenance Guide.

(d) At a minimum, biannual inspections are required by maintenance personnel to maintain the warranty. Please reference the Suprema Care and Maintenance Guide which lists the required activities to be performed to maintain warranty.

(e) We recommend a maintenece manual or binder to enclose all of the care and maintenance documents, sign in log for access, and biannual inspection reports.

2. Emergency Generator

A. Warranty Information

(1) Warranty Requirements

(a) The generator must be registered with Generac including proof of purchase to validate the warranty

(b) We were not provided with the emergency generator Owner's Manual for Stationary Industrial Generators. We contacted the supplier and we have been provided the manual to deliver to School District 5 of Lexington and Richland Counties.

(c) We are of the understanding that the emergency generator maintenance, maintenance checks, and maintenance intervals has been subcontracted out. We recommend the school maintenance staff review and become familiar with this manual to ensure all required items are being complied with by the subcontractor. Any required maintenance, maintenance checks, and maintenance intervals not being complied with will void the warranty.

3. Civil Work

A. Concrete Sidewalk

(1) Expansion Joints

(a) The Project Plans on Sheet C-900 require expansion joints in concrete sidewalk to be scored to a depth of 1" below top surface of the concrete sidewalk. In addition to scoring the expansion joint area, the Project Specifications require sawed joints to be sealed in accordance with SCDOT Section 501.4.14. This can be observed as a visual representation in the detail on Sheet C-900 Concrete Sidewalk Joints detail for expansion joints. There **ARE NOT** any cut-backs, or scoring, of expansion joints at any location observed. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition of noncompliance with the Contract Documents or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents. *See Appendix E.*

(b) The areas with detectable warnings for handicap sidewalk ramps have expansion joints extending directly adjacent to the detectable warnings and not 6' off at the beginning of 12:1 slope as indicated in the Project Plans Sheet C-900. In addition, there is not consistency as one handicap sidewalk ramp has a contraction joint on one side of the detectable warning and the other side has an expansion joint. The Project Plans Sheet C-900 indicate contraction joints immediately adjacent to the detectable warnings. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition of noncompliance with the Contract Documents or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents.

(2) Score Joints

(a) The Project Plans Sheet C-900 Concrete Sidewalk detail indicates score joints depth of 1" below top surface of the concrete sidewalk in accordance with the sidewalk width (5' wide equals 5' spacing in score joints). The 5' joint spacing are placed contraction joints and **ARE NOT** scored joints in accordance with the Project Plans Sheet C-900. Contraction joints are specifically called out in the Handicap Sidewalk Ramp detail and not on the concrete sidewalk detail. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition of noncompliance with the Contract Documents or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents.

B. Concrete Curb and Gutter

(1) Expansion Joints

(a) During our site visits we observed the concrete curb and gutter **DO NOT** have any expansion joints placed in the in the concrete. The Project Specifications Section 321313 require all concrete to have expansion joints installed at intervals of no more than 100 ft. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition of noncompliance with the Contract Documents or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents. *See Appendix E.*

(2) Workmanship

(a) It is noted that areas of concrete curb, where repaired, are chipping away at the top of curb. Sections of the concrete curb are breaking off. *See Appendix D.*

(b) It is also noted that sections of the concrete curb do not have a smooth float finish. It appears that the curb either during placement or immediately after placement was not protected from inclement weather.

(c) It is noted, that at a random location, there appears to be a core hole on the gutter in the concrete curb and gutter area. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents. *See Appendix E.*

C. Handicap Accessible Parking Stalls

(1) Width of Parking Stall

(a) The handicap parking stalls are not a consistent width, and several **DO NOT** meet the minimum width of 8 feet. One parking stall measured approximately 8’2” exceeding the minimum width, the next stall measured was approximately 7’10”. One van accessible loading and unloading area measured approximately 7’9&1/2”. The parking stall with the shortest width measured approximately 7’9”. We recommend the Architect and design engineer RB Todd Consulting Engineers be notified for acceptance of current condition of noncompliance with the Contract Documents or provide additional information for correction. It is noted, we were not provided with any Request for Information or document changes from the original Contract Documents. *See Appendix E.*

4. Architectural Items

A. Gaps at Exterior Doors

(1) Rooms A-160 and A-162

(a) The exterior doors to the Courtyard area have gaps around the doors. These gaps are allowing water to pond inside the building during inclement weather. *See Appendix B.*

B. Aluminum Curtain Wall

(1) Café B-127

(a) The aluminum curtain wall at the exterior wall (South) has a snap on cover plate to hide the fasteners for curtain wall attachment at the exterior. We are noting that one piece of the snap on cover plate has blown off during inclement weather. The maintenance staff for Piney Woods Elementary is concerned and has requested to fasten the cover plate mechanically, if possible. It is noted that Mead & Hunt did not have access to any approved shop drawings or specs indicating if the item noted needs to be mechanically fastened. *See Appendix C*

5. Contingency Findings

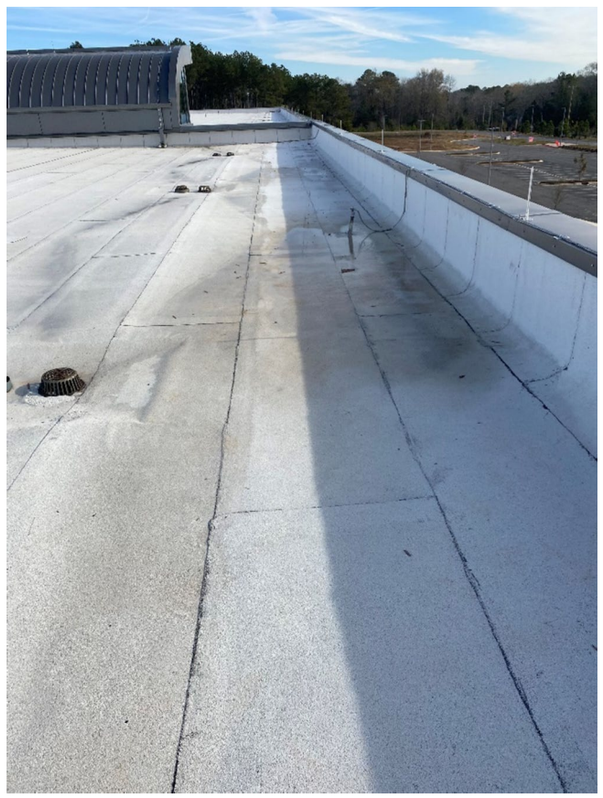
A. Pay App #13

(1) Line Item 1811

(b) It was discovered within Pay App #1, the contingency money went from $1,023,438 to $1,013,164 for Line Item 1811 (GMP2 Contingency) resulting in a difference of $10,274.

6. Appendix

A. Roof Ponding



MINOR ROOF PONDING 1

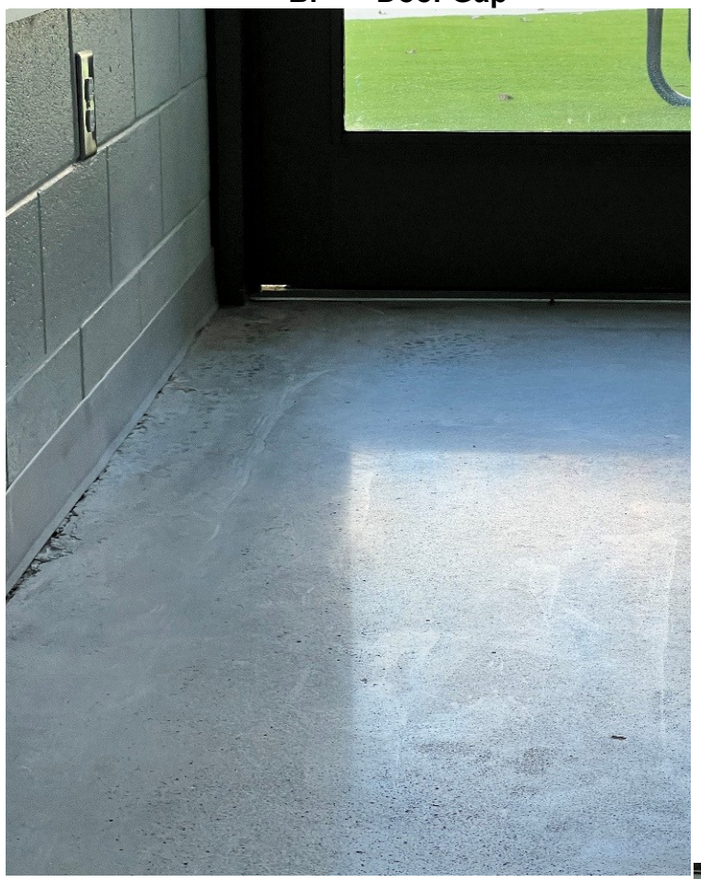


MINOR ROOF PONDING 2



MINOR ROOF PONDING 3

B. Door Gap



DOOR GAP 1



DOOR GAP 2

C. Café Curtain Wall



CAFE CURTAIN WALL 1



CAFE CURTAIN WALL 2

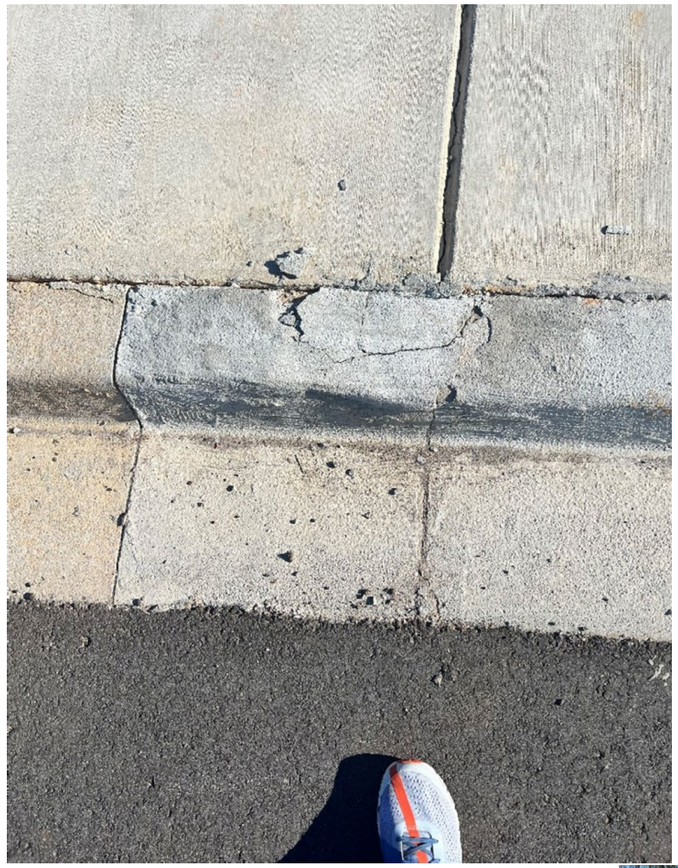


CAFE CURTAIN WALL 3



CAFE CURTAIN WALL 4

D. Damaged Curbing



DAMAGED CURBING 1



DAMAGED CURBING 2

E. General Civil Work



GENERAL CIVIL WORK 1

ADA Ramp Expansion and Contraction Joint



GENERAL CIVIL WORK 2

ADA Ramp Joints

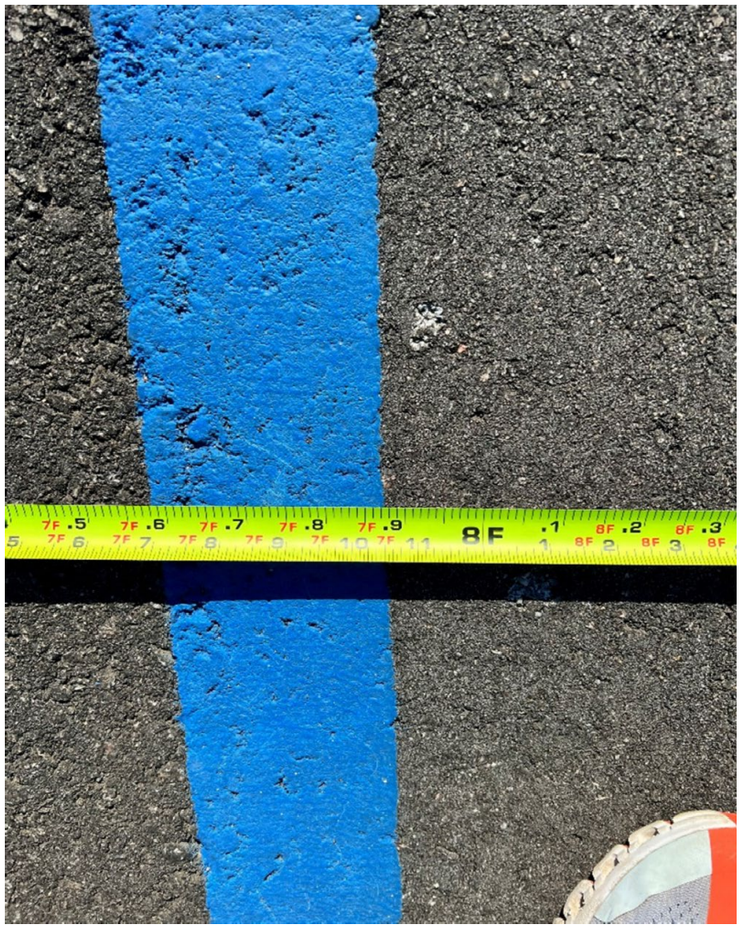


GENERAL CIVIL WORK 3

Contraction Joint Example

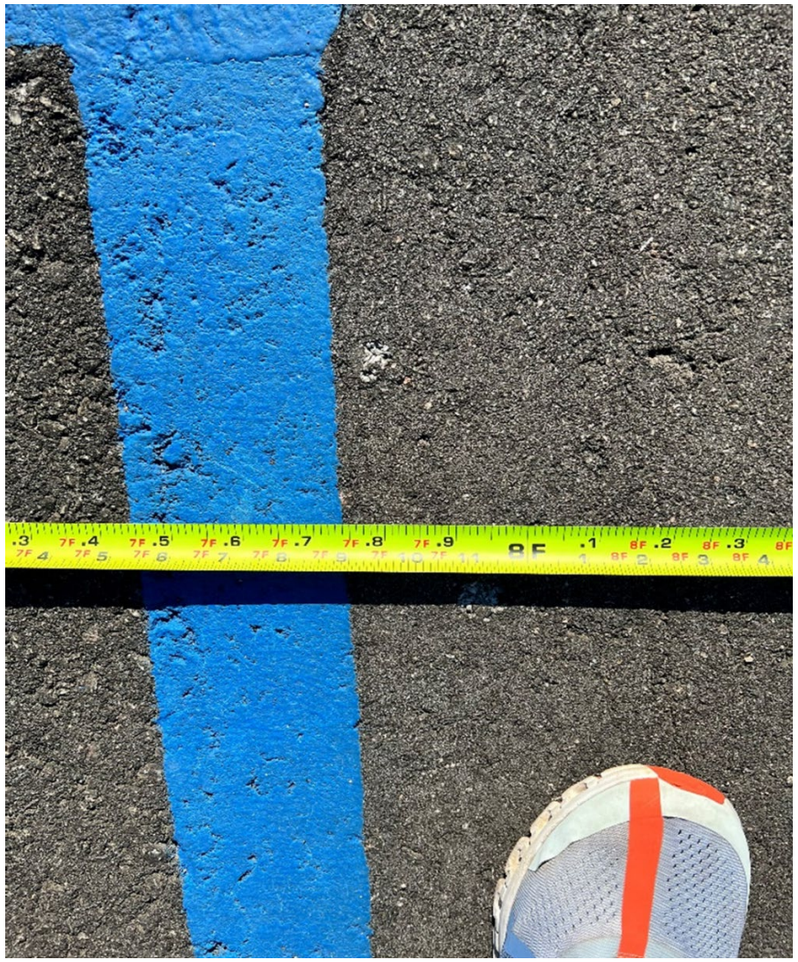


GENERAL CIVIL WORK 4
Expansion Joint Example



GENERAL CIVIL WORK 5

Handicap Stall Center to Center



GENERAL CIVIL WORK 6

Handicap Stall Edge Line to Edge Line



GENERAL CIVIL WORK 7

Curb and gutter Core Hole 1



GENERAL CIVIL WORK 8

Curb and Gutter Core Hole 2

F. Damaged Metal Curbing (See on Next Page)

Sentriclad by N.B. Handy Technical Bulletin

MAINTENANCE INSTRUCTIONS FOR SENTRICLAD METAL SYSTEMS

I. MAINTENANCE BY INSTALLER BEFORE LEAVING JOBSITE.

1. Remove metal filings from panels and flashings at the end of each day. Filings from drilling, grinding and cutting can start to rust overnight. At end of project, make a final check for any filings. If rust spots have already appeared they can be removed with a non-abrasive cleaner such as Soft Scrub. Do not use abrasive cleaners.

2. Touch-up paint should be used on scratches, but should be used sparingly and applied with a small artist's brush.

3. Clean or power wash panels as necessary after completion of project. This includes removing excess unsightly caulking.

4. Remove debris and crating materials from the sight.

II. ROUTINE MAINTENANCE FOR METAL WALL AND ROOFS BY OWNER, OR OWNERS AGENT, OVER LIFE OF BUILDING.

1. File all job records, including project plans, specifications, shop drawings, warranties (if any), etc. for future reference.

2. Set up maintenance and inspection schedule. Metal wall panels normally require little maintenance, but to ensure optimal serviceability, a routine inspection should be conducted at intervals no greater than once a year.

   Note: Steep metal roofs can be slippery. A qualified metal roofing contractor may be required for roof inspections.

3. Keep gutters and downspouts clear of debris that can impede water drainage.

4. Remove immediately any vegetation or debris that may contact metal panels. This should include tree branches, leaves, weeds, grass, etc.

5. Clean metal panels as necessary with a 5% solution, in water, of commonly used commercial and industrial detergent. Use a cloth, soft bristle brush, or high pressure washer. Rinse completely with water. Tar, grease or oil may be removed by using denatured alcohol, isopropyl alcohol or mineral spirits followed by a water rinse. Proceed with caution as aggressive cleaning with the above-described procedures may damage the coating and thus void the warranty.

6. Repair any damage that may have occurred to panels with caulking, touch-up paint, etc.

7. Correct any signs of corrosion or deterioration as necessary.

III. ADDITIONAL ROUTINE MAINTENANCE FOR METAL ROOFS.

1. Eliminate any conditions that are causing water to pond and accumulate on roof panels.

2. Re-seal curbs, gutters, flashings, closures, penetrations, etc. as necessary to maintain the weather tightness of the system. Typically, a non-acid cured silicone caulk is best for such repairs. Owner may wish to hire a qualified, experienced metal roofing contractor for these repairs.