University of Kentucky
Procurement Services

INVITATION FOR BIDS

CCK-3187.10-1-26
Kroger Field Repairs 2026
Lower Bowl Concrete & Waterproofing
ADDENDUM #1
11/19/2025

IMPORTANT: BID AND ADDENDUM MUST BE RECEIVED BY: 12/16/2025 @ 3:00 P.M. LEXINGTON, KY TIME

Bidder must acknowledge receipt of this and any addendum as stated in the Invitation for Bids.

ITEM #1: Revisions to Original Bid Documents and Questions & Answers

- Refer to and incorporate within the offer, the enclosed additional information and Questions and Responses from the project team.

OFFICIAL APPROVAL
UNIVERSITY OF KENTUCKY

Ken Scott 11/19/2025

Ken Scott / (859) 257-9102

SIGNATURE

_____

_____
Typed or Printed Name

University of Kentucky
Procurement Services
322 Peterson Service Building
Lexington, KY 40506-0005

An Equal Opportunity University

THP Limited

Addendum No. 01

Date:

To the Project Manual and Drawings for:

UK Kroger Field Lower Bowl Concrete and Waterproofing
3187.10
25130.00
November 18, 2025

Prepared by:

THP Limited Inc.

To:

All Bidders

This addendum supplements and modifies the Project Manual and Drawings for the above Project dated October 27, 2025, and shall hereby be incorporated into the Work as part of the Contract Documents. Bidders shall verify this fact by indicating receipt of the Addendum in their bids.

Contractor Questions:

1. Question 1: The documents are unclear on whether the project must be performed under union labor or if prevailing wage/open shop is acceptable. Could you please clarify which labor classification applies?
    a. THP Response: This is not a prevailing wage project.

2. Question 2: We had a quick follow-up on this as we have started reviewing the project documents - is there a table of quantities for each repair item? We see there are notes calling out the repairs, but the structure of the drawings makes it difficult to perform takeoffs without making assumptions.
    a. THP Response: For Unit Price work/repairs, the quantities that are to be included in the bid are listed in Specification Section 01 22 00, Unit Price. All other work is to be bid as lump sum based on the drawings and verification during site review as part or preparation of your proposal submittal.

Project Manual:

1. Revise Specification Section 07 18 00 – Vehicular Traffic Membrane.
    a. Updated product names or instructions for membrane systems as noted below:
        i. Section 2.2.A.2.a
        ii. Section 2.2.A.2.c
        iii. Section 2.2.B.2.a
        iv. Section 2.2.B.2.c
        v. Section 2.2.B.2.d
        vi. Section 2.2.C.2.b
        vii. Section 2.2.C.2.e
    b. Removed Section 3.2.C Existing Coating (Recoat).

Drawings:

1. N/A

Attachments:

1. Specification Section 07 18 00 – Vehicular Traffic Membrane.

End of Addendum No. 01

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 071800

VEHICULAR TRAFFIC MEMBRANE

PART 1 GENERAL

1.1 SUMMERY

A. Section Includes thpltd.com

1. All labor, material, equipment, special tools, and services required to complete the work required for the project as indicated on the Drawings and in the Specifications, including but not limited to:

   a. Seating area medium duty traffic membrane system.

   b. Seating aisles/vomitories heavy duty traffic membrane system.

   c. Gate 4 Ramp traffic membrane system.

B. Related Sections

1. Section 012200: Unit Prices.
2. Section 012300: Alternates.
3. Section 012900: Payment Procedures.
4. Section 015600: Barriers.
5. Section 024119: Selective Structure Demolition.
6. Section 030100: Concrete Repairs.
7. Section 055000: Miscellaneous Metals.
8. Section 079200: Sealants.
9. Section 099100: High Performance Coatings.

1.2 DEFINITIONS

A. The term "manufacturer's recommendations”, or variations thereon it shall mean "manufacturer's recommendations which are found in publications available to and commonly used by the general architectural and consulting professions."

1.3 SUBMITTALS

A. Joint and Several Warranty Form meeting the requirements of Article 1.6.

B. Skid Resistance Addenda Form to Joint and Several Warranty meeting the requirements of Articles 1.6 and 3.4.

C. Bond Test Addenda Form to Joint and Several Warranty meeting the requirements of Articles 1.6 and 3.4.

D. Literature for all manufactured products, including manufacturer's specifications, test data and installation instructions or applicator's manual.

E. 12" x 12" samples of each membrane system to be used. Sample shall be applied to plywood or similar rigid material.

F. 1/4-lb. (±) sample of aggregate type intended to be used. Provide two (2) samples, one sent to THP for record, and other sample sent to Membrane Manufacturer for laboratory testing and sieve analysis.

G. Letter from Membrane Manufacturer stating sample aggregate was received, tested, and reviewed, and is approved for use for the specified system and jobsite conditions. Letter shall include the following information:

   1. Sieve or particle size analysis.
   2. Grain Shape.
   3. Hardness (Moh’s Scale).
   4. Moisture Content (ASTM C-566).
   5. Specific Gravity (ASTM C-128).
   6. Bulk Density (ASTM C-29).
   7. Chemical Analysis.

H. If requested, copy of letter of approval per Article 1.4.B.

I. If requested, resume per Article 1.4.C.

J. Provide letters of Certification per Article 1.4 Paragraphs E, F, and G.

K. Safety Data Sheets on all materials which are classified as hazardous materials.

L. Maintenance manuals with the following information:

   1. Project name.
   2. Project location.
   3. Date.
   4. Owner's name.
   5. Coating system(s).
   6. Drawings indicating the coating systems and their location in the structure.
   7. Schematic drawing of each membrane type identifying each element of the membrane system by dry film thickness and manufacturer's reference number or name.
   8. Recommendations for routine care and maintenance.
   9. List of three (3) approved Contractors nearest the project location authorized to perform repairs.

10. Identify common causes of damage and instructions for temporary patching until permanent repair can be made.
11. Upon completion of the Work and prior to final payment, provide a fully executed warranty.

1.4 QUALITY ASSURANCE

A. Applicable Codes

1. The Contractor shall comply with all Federal, State and Municipal laws, codes, ordinances, and regulations applicable to the Work in this Contract and also with all requirements of the National Fire Protection Association, the National Electric Code, and the Occupational Safety and Health Administration (OSHA). If the above laws, codes, or ordinances conflict with this Specification, then the laws, codes or ordinances shall govern, except in such cases where the Specification exceeds them in quality of materials or labor, then the Specifications shall be followed.

B. The membrane applicator shall be approved by the manufacturer and shall have been an approved manufacturer's applicator for the membrane products, as identified on the subcontractor supplemental proposal form, for a minimum of three consecutive years. If requested, the contractor shall provide written confirmation from the manufacturer within three calendar days of the request.

C. The membrane applicator and its superintendent shall meet the following minimum requirements:

1. Installed the approved membrane materials as identified on the Bid Form in a traffic membrane system in three previous similar projects. Each of the three projects shall have been a minimum of 50,000 square feet in size.
2. Installed the approved membrane materials as identified on the Bid Form in a traffic membrane system in a collegiate or professional stadium one previous similar projects.
3. Installed the approved membrane materials as identified on the Bid Form in a traffic membrane system currently in use within the last two years.

D. Conform to the Field Quality Control requirements in Part 3 of this Section.

E. Membrane manufacturer to certify that aggregate specified is acceptable for use in the membrane system.

F. Membrane manufacturer to certify that sealants in contact with membrane are compatible with membrane system and are included as part of the warranty.

G. Membrane manufacturer to certify that substrate surfaces in contact with any component of the vehicular traffic membrane are compatible.

H. Field Samples

1. Prior to beginning surface preparation, prepare a sample area in the initial phase work area for the project to be used as the minimum standard of acceptability for cleanliness and surface texture to be achieved throughout the work. The area shall be at least 400 sq. ft. Size and location shall be as directed by the Engineer. The standard shall be jointly reviewed and approved by both the Engineer and the Manufacturer relative to Article 3.2 paragraph B.4 prior to start of full scale surface preparation work. The approved standard shall remain uncoated until all surface preparation work is completed.
2. After approval, the sample area shall be covered with 6 mil thick plastic sheets. Edges shall be continuously taped, as well as splices, and the perimeter shall be weighted down. The sample area shall be kept covered unless viewing is needed for comparative purposes or until final preparation for membrane application. Contractor shall monitor the area to ensure the integrity of the covering. Neither foot nor vehicular traffic shall be allowed on the covering unless additional protective measures are taken to protect the cleanliness of the sample area.

I. Manufacturer’s Representation

1. For installation of membrane materials, a technically competent employee of the membrane manufacturer, approved by the Engineer and not associated with the installation crew, shall be on site before and during the installation of the membrane system during the first Work Area plus one additional Work Area which reflects changing environmental conditions, if requested by the Engineer.
2. Application of the membrane shall not begin until the manufacturer’s technician has approved the cleanliness and surface texture of the substrate.
3. The technician shall remain on site for the length of time necessary to observe the installation of the total membrane system.
4. The technician shall review all Contractor application techniques and procedures and shall advise the Contractor when, where and as required to obtain Specification compliance.
5. The Contractor and the membrane Manufacturer shall comply with the terms set forth in items 1 through 4 above at no additional cost to the Owner.

J. An employee of the applicator who has been trained by the membrane manufacturer on the installation of the approved membrane system shall be present during all applications of the membrane system.

K. Within twenty-four hours of application of membrane materials submit log required by Article 3.4 Paragraph F to Engineer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to job site in sealed, undamaged containers. Each container shall be identified with material's name, date of manufacture and lot number.

B. Only those materials being used during any one work shift may be stored in the current work area. Materials being used for shift work shall be uniformly distributed throughout the intended work area so as to not overload or otherwise distress the structural system. All other materials, if stored on site, shall be stored at the designated staging area.

C. Coating materials shall be kept sealed when not in use.

D. Storage and handling of materials shall conform to the manufacturer's requirements and the requirements of the applicable environmental protection and safety regulatory agencies.

E. Storage areas shall be heated or cooled as required to maintain the temperatures within the range recommended by the coating manufacturer.

F. The handling and use of toxic or flammable solvents shall conform to the requirements of the applicable safety regulatory agencies, recommended by the manufacturer.

1.6 WARRANTY

A. Completed installation shall be warranted jointly and severally on a single document by manufacturer and applicator against defects of materials and workmanship. The length of the warranty period shall not be less than (5) years from the date of substantial completion of the Project.

B. Manufacturer and installer shall further warrant the skid resistance and bond strength of the installed systems. The test may be measured at any single location and shall meet the specified criteria in Article 3.4. The length of the warranty period shall not be less than five (5) years from the date of substantial completion of the Project.

C. Warranty documents shall not require the signature of the Owner to be effective, shall not limit the Owner’s legal remedies otherwise allowed per the project contract, and shall not limit the venue of any potential legal jurisdiction.

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

A. Lymtal International

B. Neogard Corporation

C. Sika Corporation

2.2 MATERIALS

A. Seating area medium duty traffic membrane system.

1. Iso-flex 760 Aliphatic System by Lymtal International, comprised of:

a. Primer

1) Iso-Flex Epoxy SF, Primer 750, or Primer 757.

2) Apply at manufacturer’s recommended application rate.

b. Base Coat
    1) Iso-Flex 750 Base Coat.
    2) Apply at 40 mils dry film thickness.
c. Top Coat
    1) Iso-Flex 760 Aliphatic Top Coat.
    2) Apply at 18 mils dry film thickness.
    3) Aggregate seeded and back rolled to provide slip resistant surface.
d. Aggregate
    1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.
    2) Install at membrane manufacturer's maximum application rate.
    3) Uniformly distributed with no bare spots.

2. FC System by Neogard Corporation, comprised of:
    a. Primer
        1) Neogard 7797/7798 – Urethane Primer, Neogard 7760/7761 Epoxy Primer, or Neogard 70714/15 WK General Purpose Epoxy.
        2) Apply at manufacturer's recommended application rate.
    b. Base Coat
        1) Neogard FC7500/FC7960.
        2) Apply at 40 mils dry film thickness.
    c. Top Coat
        1) Neogard FC400TC Aliphatic Top Coat.
        2) Apply at 18 mils dry film thickness.
        3) Aggregate seeded and back rolled to provide slip resistant surface.
    d. Aggregate
        1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.
        2) Install at membrane manufacturer's maximum application rate.
        3) Uniformly distributed with no bare spots.
3. Sikalastic Traffic System by Sika Corporation, comprised of:
    a. Primer
        1) Sikalastic Primer or Sikadur 22 Lo-Mod FS.

2) Apply at manufacturer's recommended application rate.

b. Base Coat
   1) Sikalastic M 270 Base Coat.
   2) Apply at 40 mils dry film thickness.

c. Top Coat
   1) Sikalastic TC 295 Aliphatic Top Coat.
   2) Apply at 18 mils dry film thickness.
   3) Aggregate seeded and back rolled to provide slip resistant surface.

d. Aggregate
   1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.
   2) Install at membrane manufacturer's maximum application rate.
   3) Uniformly distributed with no bare spots.

B. Seating aisles/vomitories heavy duty traffic membrane system.
   1. Iso-flex 760 Aliphatic System by Lymtal International, comprised of:
      a. Primer
         1) Iso-Flex Epoxy SF, Primer 750 or Primer 757.
         2) Apply at manufacturer's recommended application rate.
      b. Base Coat
         1) Iso-Flex 750 Base Coat.
         2) Apply at 40 mils dry film thickness.
      c. Top Coat
         1) Iso-Flex 760 Aliphatic Top Coat.
         2) Apply at 18 mils dry film thickness.
         3) Aggregate seeded and back rolled to provide slip resistant surface.
      d. 2nd Top Coat
         1) Iso-Flex 760 Aliphatic Top Coat.
         2) Apply at 18 mils dry film thickness.
         3) Aggregate seeded and back rolled to provide slip resistant surface.
      e. Aggregate
         1) 12/20 grade silica sand per manufacturer and in accordance with Membrane

Submittal requirements.

2) Install at membrane manufacturer's maximum application rate.
3) Uniformly distributed with no bare spots.

2. FC System by Neogard Corporation, comprised of:
   a. Primer
      1) Neogard 7797/7798 – Urethane Primer, Neogard 7760/7761 Epoxy Primer, or Neogard 70714/15 WK General Purpose Epoxy.
      2) Apply at manufacturer's recommended application rate.
   b. Base Coat
      1) Neogard FC7500/FC7960.
      2) Apply at 40 mils dry film thickness.
   c. Top Coat
      1) Neogard FC400TC Aliphatic Top Coat.
      2) Apply at 18 mils dry film thickness.
      3) Aggregate seeded and back rolled to provide slip resistant surface.
   d. 2nd Top Coat
      1) Neogard FC400TC Aliphatic Top Coat.
      2) Apply at 18 mils dry film thickness.
      3) Aggregate seeded and back rolled to provide slip resistant surface.
   e. Aggregate
      1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.
      2) Install at membrane manufacturer's maximum application rate.
      3) Uniformly distributed with no bare spots.
3. Sikalastic Traffic System by Sika Corporation, comprised of:
   a. Primer
      1) Sikalastic Primer or Sikadur 22 Lo-Mod FS.
      2) Apply at manufacturer's recommended application rate.
   b. Base Coat
      1) Sikalastic M 270 Base Coat.
      2) Apply at 40 mils dry film thickness.

c. Top Coat
    1) Sikalastic TC 295 Aliphatic Top Coat.
    2) Apply at 18 mils dry film thickness.
    3) Aggregate seeded and back rolled to provide slip resistant surface.
d. Top Coat
    1) Sikalastic TC 295 Aliphatic Top Coat.
    2) Apply at 18 mils dry film thickness.
    3) Aggregate seeded and back rolled to provide slip resistant surface.
e. Aggregate
    1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.
    2) Install at membrane manufacturer's maximum application rate.
    3) Uniformly distributed with no bare spots.

C. Gate 4 Ramps Traffic Membrane System
1. Iso-flex 760 Aliphatic System by Lymtal International, comprised of:
    a. Vapor Barrier
        1) As required by the manufacturer depending on sequence of existing membrane removal.
    b. Primer
        1) Iso-Flex Epoxy SF, Primer 750, or Primer 757.
        2) Apply at manufacturer's recommended application rate.
    c. Base Coat
        1) Iso-Flex 750 Base Coat.
        2) Apply at 40 mils dry film thickness.
    d. Intermediate Coat
        1) Iso-Flex 750 IC.
        2) Apply at 25 mils dry film thickness.
        3) Aggregate broadcast to complete saturation of wet urethane with no bare spots and uniformly distributed; remove excess after full curing.
    e. Topcoat
        1) Iso-Flex 760 Aliphatic Topcoat.
        2) Apply at manufacturer's recommended rate to fully encapsulate the

aggregate.

f. Aggregate

1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.

2. System by Neogard Corporation, comprised of:

a. Vapor Barrier

1) As required by the manufacturer depending on sequence of existing membrane removal.

b. Primer

1) Neogard 7797/7798 – Urethane Primer, Neogard 7760/7761 Epoxy Primer, or Neogard 70714/15 WK General Purpose Epoxy.

2) Apply at manufacturer's recommended application rate.

c. Base Coat

1) Neogard FC7500/FC7960.

2) Apply at 40 mils dry film thickness.

d. Intermediate Coat

1) Neogard FC7500/FC7960.

2) Apply at 25 mils dry film thickness.

3) Aggregate broadcast to complete saturation of wet urethane with no bare spots and uniformly distributed; remove excess after full curing.

e. Top Coat

1) Neogard FC400TC Aliphatic Top Coat.

2) Apply at manufacturer's recommended rate to fully encapsulate the aggregate.

f. Aggregate

1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.

3. Sikalastic Traffic System by Sika Corporation, comprised of:

a. Vapor Barrier

1) As required by the manufacturer depending on sequence of existing membrane removal.

b. Primer

1) Sikalastic FTP Lo-VOC Primer or MT Primer.

2) Apply at manufacturer's recommended application rate.

c. Base Coat

1) Sikalastic 720 Base Coat.

2) Apply at 40 mils dry film thickness.

d. Intermediate Coat

1) Sikalastic 720 Intermediate Coat.

2) Apply at 25 mils dry film thickness.

3) Aggregate broadcast to complete saturation of wet urethane with no bare spots and uniformly distributed; remove excess after full curing.

e. Top Coat

1) Sikalastic 745 Aliphatic Top Coat.

2) Apply at manufacturer's recommended rate to fully encapsulate the aggregate.

f. Aggregate

1) 12/20 grade silica sand per manufacturer and in accordance with Membrane Submittal requirements.

D. Stadium Steps Colored Markings

1. Acrylithane HS2 by Neogard.
2. Isoflex 630 by Lymtal International.
3. Sikalastic TC 295 Tint base by Sika Corporation.

E. Localized Leveling Repairs

1. Lymtal Systems

a. Primer

1) Iso-Flex Epoxy SF, Primer 750, or Primer 757.

2) Apply at manufacturer's recommended application rate.

b. Leveling Material

1) Iso-Flex 750 Base Coat.

2) Pre-mix with manufacturer approved aggregate.

3) Install in multiple lifts up to 1" thickness total.

2. Neogard Systems

a. Primer

1) Neogard 7797/7798 Rebond Primer, or Neogard 70714/15 epoxy.

2) Apply at manufacturer's recommended application rate.

b. Leveling Material

1) Neogard FC7500 Base Coat.

2) Pre-mix with manufacturer approved aggregate.

3) Install in multiple lifts up to 1" thickness total.

3. Sika Systems

a. Primer

1) Sikalastic Primer or Sikadur 22 Lo-Mod FS.

2) Apply at manufacturer's recommended application rate.

b. Base Coat

1) Sikalastic M 270 Base Coat.

2) Apply at 40 mils dry film thickness.

F. Individual steps of any systems inclusive of greater than 5 percent solvents by either weight or volume calculations shall require monitoring by a licensed industrial hygienist for fumes and odors within work areas, at open air intakes within 200 ft. of work areas, and inside occupied spaces adjacent to work areas. Credentials of licensed hygienist and a monitoring plan must be approved by the Engineer in advance of the start of any membrane work.

G. Membrane color approved by the Owner as part of the mock-up. The contractor shall assume gray top coats. The Gate Ramp 4 membrane system may be a darker gray and the stadium a medium gray depending on the mock-up.

H. Intermediate coat and lock coat materials shall be U.V. stable.

PART 3 EXECUTIONS

3.1 EXAMINATION

A. Gate 4 Ramp Membrane Special requirements

1. All membrane removal must be completed using dry methods only.

2. Coordinate removal and membrane installation weather restrictions with Manufacturer and need for vapor barrier.

a. The exposed concrete slab upon membrane removal cannot be exposed to moisture unless coordinated with the Membrane Manufacturer and installation of vapor barrier.

B. Contractor and membrane manufacturer shall jointly review existing substrates (original concrete, past or new concrete repairs or overlays, past membrane, or coating systems) to ensure compatibility with the specified membrane system. Submit in writing any

materials which may cause membrane adhesion to substrate less than normally anticipated or other compatibility or performance difficulties. Failure to review and identify deleterious products/materials, and if failure of the membrane is a result of adhesion difficulties or chemical or physical incompatibilities with substrate materials, the Contractor and Manufacturer shall be responsible for all costs related to correcting the deficient Work. Manufacturer is bound to meet the above noted responsibilities equally with the Contractor regardless of the provisions of other agreements.

C. Inspect deck surface for any visibly distressed concrete. If encountered, chain drag area to determine extent of distressed or delaminated area and repair as directed by engineer.

D. Examine areas for slab cracks to be routed and sealed.

3.2 PREPARATION

A. Protection

1. Erect barriers and barricades to protect adjoining areas from dirt, steel shot and debris generated from this work.

2. Cover exposed drain grates during shotblasting/grinding operations. Recoat with approved rust inhibitive or galvanizing paint grates damaged by blasting operations. Similarly protect and recoat if necessary other, in place metal elements. Drains to be functional during non-working hours and during periods of inclement weather.

3. Cover exposed drain grates to protect from membrane material. Drains to be functional during non-working hours and during periods of inclement weather. Do not allow membrane material to enter drain piping system.

B. Concrete (General)

1. Preparation and cleaning procedures shall be in strict accordance with this Specification unless more stringent requirements are recommended by the system manufacturer.

2. Surface must be dry. New concrete shall be at least 28 days old and proven dry via mat tests, to be considered for membrane system installation without installation of a vapor barrier. Review manufacturer requirements relative to site conditions in advance of performing the work.

3. Surfaces shall be free from all traces of dirt, salt, grease, oil, asphalt, laitance, curing compounds, paint stripes, coatings, and other foreign materials. Use manufacturer approved degreasing agents if necessary.

4. Concrete surfaces shall be cleaned using shotblast equipment (with integral vacuum process) to achieve standard of cleanliness per Article 1.4. The size of shot and travel speed of the equipment shall be chosen to provide a uniformly clean surface and profile; basis for bid must be two perpendicular normal speed passes, or one slow speed pass.

5. Areas which cannot be adequately cleaned by shotblasting shall be cleaned by grinding with accompanying vacuum procedures.
6. Surfaces that become contaminated by dirt or moisture after initial shotblasting or grinding, shall be cleaned again by shotblasting, or grinding to manufacturer's requirements at no additional cost to the Owner.
7. Minimum standard of acceptability applies to all surfaces intended to receive membrane regardless of surface preparation procedure or process.
8. The use of acids in surface preparation procedures and techniques is prohibited.
9. After completion of shotblasting/grinding, and prior to application of membrane materials, repair all scaled, freeze-thaw damaged and loose, pop-out areas, cracks and all damage made apparent by the shotblasting/grinding procedures, in a manner approved by the Engineer. Such repair work shall be part of the Base Bid without unit price adjustment. Areas requiring patching will be subject to re-shotblast or re-grinding where a patch exceeds one (1) square foot in area.
10. Grind all high spots or transition grind all depressions per details, and clean to manufacturer's requirements.

C. Precast Concrete (Stadium/Ballpark seating areas)
1. Preparation and cleaning procedures shall be in strict accordance with this Specification unless more stringent requirements are recommended by the system manufacturer.
2. Locate, remove, and replace areas of deteriorated or debonded concrete.
3. Pressure wash clean all surfaces to receive new pedestrian traffic membrane system - minimum 4,000 psi with oscillating turbo tip. Contractor shall perform cleaning in manner that does not mar existing structure features to remain.
4. Minimum standard of acceptability applies to all surfaces intended to receive membrane regardless of surface preparation procedure or process.
5. Surface must be completely dry prior to start of recoating efforts.

D. Membrane Removal
1. If existing membrane system scheduled to be removed, the criteria for acceptance are 0% of the existing membrane remaining on horizontal surfaces. 5% of the existing membrane may remain on the vertical curb faces with no area larger than 3 square inches.
2. The membrane removal is to be done with a combination of dry cutting and hydro-demo processes.
    a. If hydro-demo removal is utilized the contractor must control the following:
        1) Comply with all University, Local, Federal, EPA requirements for capturing,

testing water, and legal disposing of the water. The Contractor is responsible for all permits, testing, and monitoring throughout the duration of the process. Also, submit procedure and monitoring program to ensure not debris enters the stadium drainage system.

2) Do not damage areas below the removal process.

3) Do not impact the adjacent projects in the stadium.

3. After removal, perform surface preparation the same as for Concrete, Article 3.2 Paragraph B.

3.3 INSTALLATION

A. General

1. Install materials in strict accordance with all safety and weather conditions required by product literature and Local, State and Federal regulations.
2. Fumes and dust shall be controlled to prevent harmful or undesirable effects in surrounding areas. All potential avenues for penetration of fumes or dust into surrounding occupied areas shall be sealed prior to the start of the work.
3. All exposed membrane edges and termination details shall be taped to provide straight, neat edges.
4. Install base coat membrane materials on concrete surfaces only when concrete temperature has stabilized or is falling. Do not install base coat membrane on concrete surfaces when surface temperature is rising.
5. Install membrane materials only if the temperature of the surfaces to be coated is 5 degrees or higher than the dew point temperature measured at the job site.

B. Membrane

1. Where necessary to locally level surfaces and after approval by Owner, install membrane leveling materials in depressed areas. Refer to Article 2.2.
2. Install detail coat 4" wide by 20 mil thick (dry film thickness) over properly primed cracks, caulked joints, joints between concrete pours, or leveling repairs, junctures and other locations in the membrane area which is a deviation from the nominal membrane plane, except where otherwise indicated by the Specifications or Drawings.
    a. Detail coat may be omitted at membrane strip installations over tee-to-tee joints on level surfaces. Detail coat is still required for membrane strips over tee-to-tee joints on ramps.
3. The membrane system shall turn up 4" at all vertical surfaces unless shown otherwise on the drawings. Detail coat is required at all turn-ups to vertical surfaces. Detail coat at turn-ups shall be the same as the detail coat required by Article 3.3 Paragraph C.1.
4. Contractor shall ensure the specified/recommended application rates of all

components of the membrane system. Base coat(s), intermediate coat, and lock coat of each application of the membrane system shall be distributed onto the deck by calibrated, notched squeegees. Squeegees showing signs of wear shall be discarded.

5. Contractor shall ensure specified/recommended application rates of liquid products on vertical or sloped surfaces by the use of non-sag grade materials or by multiple applications of material over previous applications which are fully cured.
6. Each fluid-applied component of the membrane system shall be back-rolled to properly distribute materials across the deck and eliminate squeegee marks.
7. Use of power rollers either to distribute the membrane system or to back roll squeegee marks shall not be permitted.
8. No vehicular traffic shall be allowed on membrane areas for at least 48 hours after completion of membrane installation. Provide extended cure time with no vehicular traffic exposure if temperatures fall below 50°F.

3.4 FIELD QUALITY CONTROL

A. Bond Test

1. Bond tests of the installed membrane systems may be performed by the Engineer during and after the membrane work on this project. Tests shall be conducted using a calibrated instrument which measures in-place bond strength by applying a direct axial pull on a 3 inch diameter steel disk epoxied to the completed membrane top surface.
2. A membrane phase for the purpose of bond testing is an area of base coat installed in a single work shift. If examined, a membrane phase will be tested at (3) locations per phase no sooner than 10 days after completion of the entire membrane system and no sooner than 14 days if temperatures fall below 40°F for two or more days. Contractor shall assume a total of 20 test locations in the Base Bid.
3. The acceptance criteria for initial tests of a Phase shall average bond strength of 200 psi for all locations, with no single location testing below 150 psi. Any Phase failing to meet the initial acceptance criteria may be retested at a later date by the Engineer. Retests of Phase shall include at least 4 separate test locations not sooner than 14 days after the initial tests. The acceptance criteria for retests of a Phase shall average bond strength of 200 psi for all locations, with no single location testing below 175 psi.
4. Any Phase failing to meet the initial test and retest acceptance criteria shall be considered "deficient" and shall be cause for the Contractor to execute or provide one of the following remedies:
    a. Extend Standard Guarantee to include an additional 5 years (for a total of 10 years) on membrane system intercoat bond and bond to the concrete for the “deficient” areas.
    b. Removal and replacement of the "deficient" area, including all necessary

preparatory work and Engineering costs to coordinate and observe the work, at no additional cost to the Owner.

5. Any additional bond testing requested by the Contractor to limit the extent of the "deficient" area(s) as determined by initial tests and retests as defined above shall be paid for by the Contractor.
6. Contractor shall include as part of his proposal the costs of repairing all test locations.

B. Skid Test

1. Prior to any membrane preparation work and after membrane installation, the Engineer may conduct tests to determine values of the static coefficient of friction between the coated and uncoated floor surfaces and the neoprene base of the Engineer's test equipment.
2. Determination of the coefficient of friction will consist of a series of individual tests for each surface type. The initial coefficient of friction is defined as the average of the tests performed on the concrete surfaces prior to membrane preparatory work. The final coefficient of friction is defined as the averages of the tests performed on each type of completed membrane system surface.
3. The final, average static coefficient of friction shall be a minimum of 0.85 under wet and dry conditions and equal to or greater than 110% of the initial coefficient of friction. No individual test area shall have a coefficient less than 0.80 or 95% of the initial coefficient of friction. Any membrane system that does not conform, as determined by the Engineer, to the specified acceptance criteria shall be subject to rework, upgrading or replacement of the deficient areas, including necessary preparatory work, at no additional cost to the Owner.

C. The Engineer may direct the Contractor to make test cuts in the membrane for testing purposes. Tests cuts shall be 2" x 2" and will be in partially-completed or fully-completed membrane. A maximum of 3 total tests per separate installation phase may be made. Contractor shall include as part of his Proposal the costs of taking test cuts as directed and located by the Engineer and the costs of patching test cut areas.

D. The Engineer will periodically monitor application rates of the membrane system individual components and will notify job foremen of discrepancies noted.

E. The Contractor shall keep at the site and maintain in proper condition an adequate number (at least one per application crew) of wet film thickness gages and shall continuously use such to ensure the specified thickness of each membrane coat is uniformly maintained. The periodic monitoring of application rates per Article 3.4 Paragraph D shall not relieve the Contractor of the responsibility of verifying specified coating thickness.

F. Contractor shall provide information required by Article 3.6.

3.5 CLEANING

A. Empty containers shall be removed from the project work areas at the end of each working day. Cloths soiled with coating that might constitute a fire hazard shall be placed in suitable metal safety containers or shall be removed from the structure at the end of each working day. Special care shall be taken in storage or disposal of flammable materials. Comply with health, fire, and environmental regulations.

B. All spilled coating material shall be completely removed from hardware, adjacent floor areas, metal work, etc. Remove spilled coating by approved methods.

C. Repaint in matching color all curbs, columns, walls, etc., where existing paint was removed during preparation for membrane application.

D. All hardware, adjacent floor areas, metal work, etc., and the general premises shall be left clean and free of all construction dirt and debris.

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3.6 MEMBRANE APPLICATION LOG FORM EXAMPLE

DAILY MEMBRANE APPLICATION LOG

Project:

Date: Time Start Time End

Work Area
(Give Description)

Membrane Materials Applied
Type and Quantity

Crew Size Size of Area Materials Applied
(in Square Feet)

Temperature Data (°F)

	Start				End
Deck					
Air					
Relative Humidity (%)					
Dewpoint					

Note: Contractor shall estimate quarter points in time between the start and end of membrane application. Record air and deck temperatures at those times.

Superintendent's Signature:

END OF SECTION