Kauffman Stadium Assessment | 2015

JCSCA + Burns & McDonnell

This document contains information pertaining to the condition of Kauffman Stadium as documented by the Jackson County Sports Complex Authority (JCSCA), including descriptions, conditions, and exhibits which have been verified by Burns & McDonnell.

Jackson County Sports Complex Authority

JACKSON COUNTY Sports Complex Authority

2/1/2015

BURNS McDONNELL

Report Outline

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I. Purpose and Scope

A. Purpose

The Kansas City Royals organization has a lease with the Jackson County Sports Complex Authority (JCSCA) that requires the organization to maintain Kauffman Stadium to a level consistent with a First Class MLB Baseball Stadium. The purpose of this study is to report the overall condition of Kauffman Stadium and its immediate environs to determine if the team is upholding their lease agreement.

B. Scope

Burns & McDonnell, in conjunction with the JCSCA, has developed a Facility Assessment Report that reviews and documents the stadium condition. During 2014, the Jackson County Sports Complex Authority conducted an inspection of every space in Kauffman Stadium. Each room was carefully examined and documented using iPad technology (Fuze Inspections mobile application by Evoco Inc.) for the walkthrough. This application allowed the Jackson County Sports Complex Authority to build a database containing photos, condition ratings, and an inventory of building elements in each room. These elements included: a rating of overall room, electrical components, mechanical components, and various pieces of equipment, including, a listing of the type of floors, walls, and ceilings in each room. Checks of mechanical and plumbing equipment, including, life safety systems, such as 24 hour monitored control rooms and fire suppression systems were also completed. Burns & McDonnell reviewed the database, interviewed Kansas City Royals staff and received maintenance records. This report is based on the above review in conjunction with on-site evaluations by Burns & McDonnell engineers and architects.

Burns & McDonnell's scope is limited in nature and did not include an entire facility room-by-room inspection or evaluation. An on-site walk through of the stadium and its immediate environs was performed by Burns & McDonnell's engineers and architects to spot-check rooms and areas to compare that the overall conditions reported in the Jackson County Sports Complex Authority's condition reports align with the actual conditions as observed. Additionally, Burns & McDonnell has provided recommendations for observed maintenance issues that may need to be rectified in the near future.

II. Executive Summary

A. General Description

Kauffman Stadium, located at One Royal Way in Kansas City, Missouri. The renovation completed in 2010 was intended to enhance the fan game day experience, increase revenue generation, and improve the day to day operations of the Kansas City Royals and its other users. The stadium holds approximately 38,000 fans and offers amenities such as an outfield concourse, kids' area, bars, restaurants, hall of fame/conference center, and various other spaces geared towards large scale entertainment.

B. General Condition

In general, Kauffman Stadium and its immediate environs were observed to be in satisfactory condition. It is apparent that the Kansas City Royals have performed the ordinary cleaning and maintenance obligations consistent with a First Class MLB Baseball Stadium.

Minor physical deficiencies were observed throughout various locations within Kauffman Stadium and its immediate environs. Such deficiencies are expected in such a large facility and typical of a high-use facility. Most deficiencies can be easily addressed by the Kansas City Royals through standard maintenance procedures.

C. Recommendations

Section III – Description and Condition includes recommendations for the deficiencies observed for each building or site category. Most observed deficiencies are generally minor and may require attention in the near future. A summary of recommendations may be found in Section IV (pages 21-23).

III. Description and Condition

A. Site

1. Flatwork

Description:

- The site infrastructure in general is in satisfactory condition with minor defects observed.
- Kauffman contains numerous concrete retaining walls and stairs between the curb cut and the stadium concourse.
- Concrete walkways are abundant surrounding the stadium.

Observation/Comments:

- Retaining Walls and Stairs
  - Minor hair line cracking along with minor web cracking was observed in some retaining walls.
- Concrete Walkways
  - Minor cracking was observed throughout the facility on walkways and concourses. Several slightly more severe distresses in the concrete were observed. Refer to Flatwork Image: Exhibit A1.1 (right).
  - Several locations near the structure facade around the Royal Way entrance show signs of distress. Moderate pavement deterioration and occasionally missing joint sealant can both be observed in this area. Refer to Flatwork Image: Exhibit A1.2 and A1.3 (right).
  - Very Mild D-cracking was observed around the columns near Gate B.
  - Minor slab faulting was observed in a concrete walking path along Lancer Ln and also along Red Coat Dr. This faulting presents a minor tripping hazard to pedestrians even though it is outside of the main flow of foot traffic and raises concern for compliance with ADA code. Refer to Flatwork Image: Exhibit A1.3 (right).

Flatwork Images:

Exhibit A1.1

Exhibit A1.2

Exhibit A1.3

Exhibit A1.4

- A trench drain was observed in the upper section beyond the right field fence. The drain grate is not properly secured and presents a potential safety concern. Refer to Flatwork Image: Exhibit A1.4 (page 4)

2. Landscaping and Appurtenances

Description:

- Various species of native planting and grass can be found between walkways and within planting beds surrounding the stadium.

Observation/Comments:

- All landscaping observed was in a dormant stage at the time of observation, but is well maintained and in satisfactory condition. Refer to Landscape Images: Exhibit A2.1 (right).
- The narrow grass area next to the electrical equipment pad just northeast of the stadium will not drain properly. Minor earthwork may be required to provide positive drainage. Refer to Landscape Images: Exhibit A2.2 (right).
- The storm water inlet structure to the south of this electrical equipment pad is damaged and dislodged from its intended position. Repair of this structure may be required to provide sufficient flow capacity. Refer to Landscape Images: Exhibit A2.3 (right).
- Sediment scouring was observed at the utility pad to the south of this storm structure. Proper backfill may be required to improve the structural integrity of the slab. Refer to Landscape Images: Exhibit A2.4 (right).

B. Frame and Envelope

1. Substructure

Description:

- Primarily reinforced concrete drilled piles with pile caps.
- Grade beams around perimeter and throughout foundation system.

Landscape Images:

Exhibit A2.1

Exhibit A2.2

Exhibit A2.3

Exhibit A2.4

- Single spread footings partially throughout foundation system.
- Mat foundations support stair and elevator core walls.
- Floating slab-on-grade.

Observation/Comments:

- No significant settlement of the structure was observed.
- The slab-on-grade is in satisfactory condition. No major cracks or spalling was observed. The slab surface is flat and smooth.
- Control joints and expansion joints are in satisfactory condition.

2. Superstructure

Description:

- The original superstructure is primarily reinforced concrete columns and walls with reinforced concrete pan joist slab system. See the following bullet points for a description of the additions constructed during the major renovations stage.
- The vertical support system is primarily a mixture of reinforced concrete walls and steel wide flange columns.
- Plaza level consists of a suspended reinforced concrete slab/beam system. Other framing systems include a light weight slab-on-foam fill bearing on suspended concrete slab and composite deck supported by steel wide flange beams.
- Broadcast level primarily consists of light weight composite deck supported by steel wide flange beams.
- Outfield Roof level primarily consists of steel wide flange and Hollow Structural Section (HSS) beams supporting standing seam metal roof deck. This level also consists of metal roof deck supported by steel wide flange beams.

Superstructure Images:

Exhibit B2.1

Exhibit B2.2

- Loge level primarily consists of composite deck supported by composite steel wide flange beams. This level also consists of light weight slab-on-foam fill bearing on suspended concrete slab.
- Writing Press level primarily consists of cold form metal joists supporting steel deck. This level also consists of light weight composite deck supported by steel wide flange beams.
- View level primarily consists of light weight composite deck supported by steel wide flange beams.
- Roof level consists of steel roof deck supported by steel wide flange beams.
- The Scoreboard consists of a mixture of steel wide flange beams, Hollow Structural Sections (HSS) tubes and steel angles. The floor system is metal grating.
- The lateral support system is a mixture of ordinary braced frames and reinforced concrete shear walls.

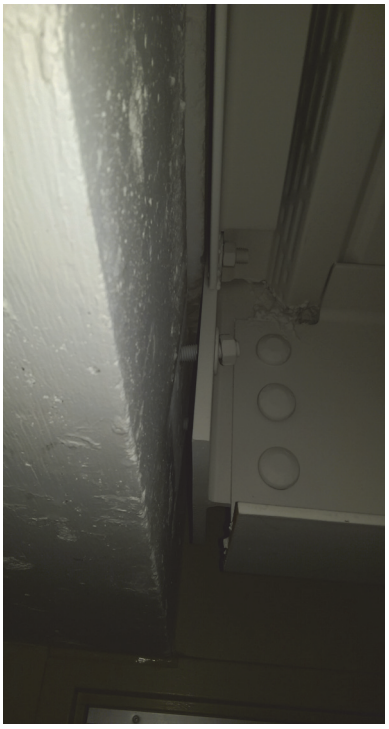
Observation/Comments:

- The original reinforced concrete columns and walls are in satisfactory condition. No major cracks or spalling was observed. The vertical column and wall surfaces are flat and smooth.
- Concrete patchwork of the original structure is in satisfactory condition. The patchwork is flat and smooth.
- The expansion joints at the original superstructure to the renovation superstructure are in satisfactory condition. No deterioration was observed.
- The original reinforced concrete pan joist slab systems are in satisfactory condition. No major cracks or spalling was observed. Minor cracking and spalling exist but are of no concern. The suspended slab surface is flat

Superstructure Images:

Exhibit B2.3

Exhibit B2.4



and smooth. Refer to Superstructure Images: Exhibit B2.1 (page 6).

- The reinforced concrete walls of the renovation stage are in satisfactory condition. No major cracks or spalling was observed. The vertical wall surface is flat and smooth.
- The steel wide flange columns are in satisfactory condition. No corrosion was observed. Column base plate connections are in satisfactory condition. Refer to Superstructure Images: Exhibit B2.2 (page 6). Minor cracking of the concrete at the base of the foul pole was observed. Refer to Superstructure Images: Exhibit B2.3 (page 7).
- The steel wide flange beams are in satisfactory condition. No corrosion or significant deflection was observed. Beam connections are primarily in satisfactory condition. Concrete anchors of the steel beam connection pulling out of concrete were observed in the ceiling of the corridor at the Press Level, as shown under Superstructure Images: Exhibit B2.4 (page 7).
- The steel decks are in satisfactory condition. No corrosion or significant deflection was observed.
- The structural steel of the scoreboard is in satisfactory condition. No corrosion or significant deflection was observed. Beam, column and bracing connections are in satisfactory condition.
- Guard rails are primarily in satisfactory condition. However, corrosion and concrete spalling were observed in some locations, as shown under Superstructure Images: Exhibit B2.5 (right).

Superstructure Images:

Exhibit B2.5

Facades Images:

Exhibit B3.1

Exhibit B3.2

Exhibit B3.3

3. Facades

Description:

- Primary
  - Insulated Metal Wall Panel on Cold Formed Steel Substructure
  - Curtain Wall Glazing
  - Concrete Seating Bowl
- Secondary
  - Stone Cladding and Glass Storefront (Base)
  - Graphic Mesh Panel on Steel Frame
- Tertiary
  - Fencing
  - Metal Entry Canopy

Observation/Comments:

- All observed façades, in general, are in satisfactory condition.
- Metal panel and graphic mesh systems were observed to be in satisfactory condition. No oil canning, staining, or degradation of any kind was observed.
- Stone cladding systems were observed to be in satisfactory condition. No chipping or staining of the stone or grout was observed.
- All observed glass storefronts are in satisfactory condition. Aluminum frame and mullions were observed to be free of staining, fading, or degradation of any kind. Seals and flashing around observed storefronts are in satisfactory condition.
- Refer to Façade Images: Exhibit B3.1, B3.2, and B3.3 (page 8) for typical façade conditions.

4. Roofing (Main and Canopy)

Description:

- Primary
  - Polyvinyl-Chloride (PVC) Membrane Roofing on R-24 Insulation (typical)
  - Coping and Fascia painted to Match Metal Panel (typical)
- Secondary

Roofing Images:

Exhibit B4.1

Exhibit B4.2

Flooring Images:

Exhibit C1.1

- Standing Seam Metal Roof

Observation/Comments:

- Roofing membranes were observed to be in satisfactory condition. No rips, tears, or defects were observed.
- All observed copings, flashings, and curbs are in satisfactory condition.
- Observed metal roofing is in satisfactory condition. No rust, staining, or defects were observed.
- Refer to Roofing Images: Exhibit B4.1 and B4.2 (page 9) for typical roofing condition.

C. Interior Elements

1. Floors

Description:

- Primary
  - Epoxy Floor Topping System
  - Sealed Concrete
- Secondary
  - Porcelain/Ceramic Tile
  - Carpet
- Tertiary
  - Vinyl Composition Tile
  - Athletic Rubber Flooring

Observation/Comments:

- Flooring surfaces are generally in satisfactory condition. Some minor defects were observed as described below.
- Epoxy floor finishes were observed to be in satisfactory condition, typically. Minor cracking was observed at the view level finish adjacent to the women's restroom. Refer to Flooring Images: Exhibit C1.1 (page 9).
- Observed sealed/stained flooring is in satisfactory condition, typically. Minor cracking was observed at the kid's academy as shown in Exhibit C1.2 (right).
- Porcelain tile floors were observed to be in

Flooring Images:

Exhibit C1.2

Exhibit C1.3

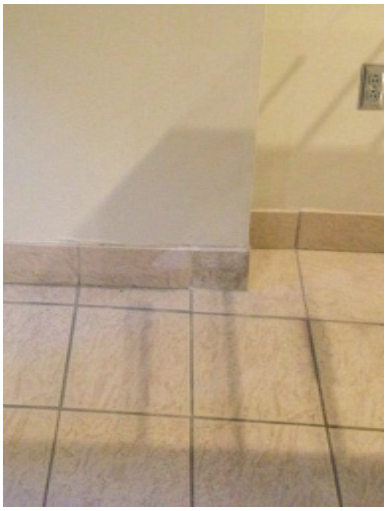


Exhibit C1.4

satisfactory condition, typically. Tile base board deficiencies found in the 2014 stadium assessments have been repaired as recommended. Refer to Flooring Images: Exhibit C1.3 (page 10).

- Carpet, in general, is in satisfactory condition. No signs of rips, tears, or discoloration were observed. Refer to Flooring Images: Exhibit C1.4 (page 10) for typical condition.

2. Walls

Description:

- Primary
  - Painted or Exposed Concrete Masonry Unit (CMU)
  - Painted Gypsum Board on Metal Stud
- Secondary
  - Ceramic Tile
  - Wood Veneer
  - Glazed Storefront System

Observation/Comments:

- Ceramic tile walls were observed to be in satisfactory condition. No visible chipping, flaking, or cracking of the tile or grout was observed. Refer to Wall Images: Exhibit C2.1 (right) for typical condition.
- Observed painted gypsum board walls are in satisfactory condition. No punctures, holes, or scratches were observed. Refer to Wall Images: Exhibit C2.2 (right) for typical condition.
- Observed glazed storefront systems are in satisfactory condition. No signs of staining, fading, or degradation were observed.
- Wood paneling, typically, is in satisfactory condition. No signs of scratching, fading, or deterioration were observed. Refer to Wall Images: Exhibit C2.3 (right) for typical condition.

Wall Images:

Exhibit C2.1

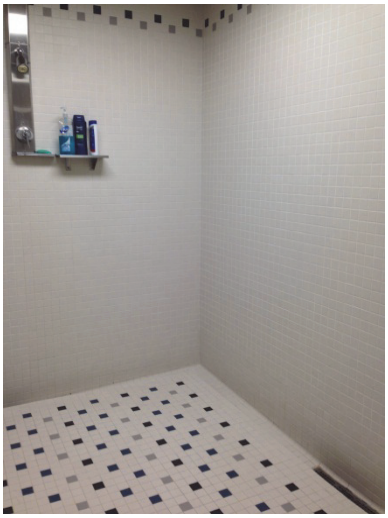


Exhibit C2.2

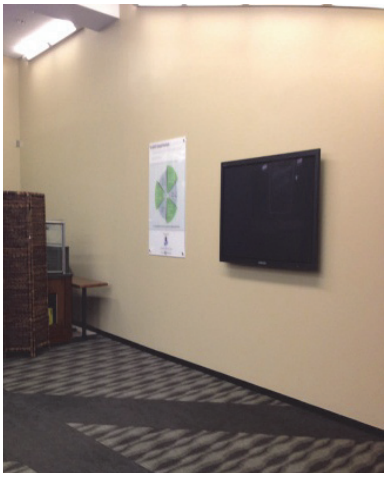


Exhibit C2.3

3. Ceilings

Description:

- Primary
  - Exposed or Painted (typical)
- Secondary
  - Gypsum Board on Metal Framing
- Tertiary
  - Acoustic Ceiling Tile

Observation/Comments:

- Exposed and painted ceilings were observed to be in satisfactory condition.
- Observed gypsum board ceilings are in satisfactory condition, in general. However, at the Stadium Club Dining room excessive leaking through the roof has caused damage to the drywall/paint adjacent to the curtain wall system. Refer to Ceiling Images: Exhibit C3.1 (right). Repair of drywall/paint is necessary in the near future. Consider acquiring analysis and solution by a roofing consultant to prevent future water damage.
- Observed acoustic ceiling tiles are in satisfactory condition, in general. Several back of house spaces, including kitchens and pantry areas, contained warped, drooping, or stained ceiling tiles. Refer to Ceiling Images: Exhibit C3.2 (right) as an example. Consider replacing ceiling tile at such locations in the near future.

4. Doors

Description:

- Painted Hollow Metal Door and Frames
- Flush Wood Doors
- Aluminum Glazed Doors
- Overhead Coiling Doors
- Access Doors

Ceiling Images:

Exhibit C3.1

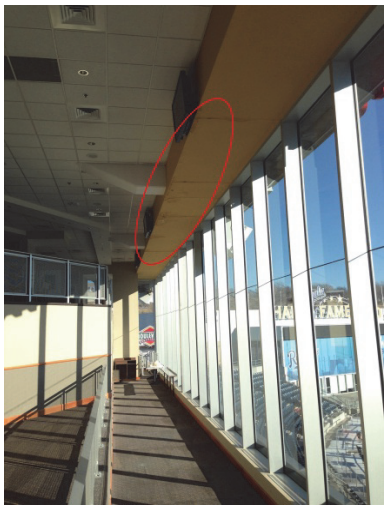


Exhibit C3.2

Door Images:

Exhibit C4.1

Observation/Comments:

- All doors, in general, are in satisfactory condition.
- Painted hollow metal back of house doors are in generally satisfactory condition. Scuffed and scratched doors observed in the 2014 stadium assessments were repaired and painted as recommended. Refer to Door Images: Exhibit C4.1 (page 12).
- Refer to Door Images: Exhibit C4.2 (right) for typical conditions at aluminum framed doors.

Door Images:

Exhibit C4.2

D. Plumbing, HVAC and Electrical

1. Plumbing

Description:

- Water heaters.
- Distribution equipment.
- Water/Fire Protection entrance.
- Water/Fire Protection piping.
- Plumbing Fixtures.
- Roof drains.

Observation/Comments:

- Plumbing piping insulation in various areas of the facility are degrading and in need of repair. Reference Plumbing Images: Exhibit D1.1, D1.2 (right), and D1.3 (Page 14).
- Plumbing piping is properly labeled with direction of flow and valves are clearly tagged.
- Several pipe hanging supports were missing their protective insulation shields. Over time, this will result in insulation damage. Reference Plumbing Images: Exhibit D1.4 (page 14).
- Facility central PVI water heating boilers were observed to be in good condition. Reference Plumbing Images: Exhibit D1.5 (page 14).
- Plumbing fixtures and associated flush valves,

Plumbing Images:

Exhibit D1.1

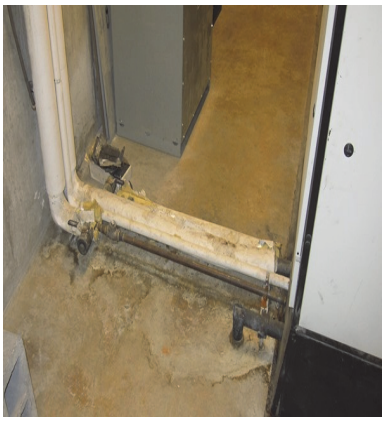


Exhibit D1.2

faucets, etc. were observed to be in good working order.

- Plumbing installed over electrical equipment/components has the required metal drip pan and associated drain line. Reference Plumbing Images: Exhibit D1.6 (page 15).
- Access doors to shutoff valves in public restrooms should remain locked during operating hours in an effort to avoid vandalism to concealed piping, valves, etc.
- Water pressure, temperatures and drainage to plumbing fixtures exposed to the outside elements could not be observed due to ambient temperature (20 deg. F) at time of site visit. All exposed restrooms were winterized at the time of site observation.
- Domestic water booster pump skid is in good condition. Piping is insulated and tagged with direction of flow properly indicated. Roof drainage system was observed to be generally clean and unobstructed.

Plumbing Images:

Exhibit D1.3

Exhibit D1.4

Exhibit D1.5

2. Heating and Air Conditioning

Description:

- Air-handling equipment.
- Distribution ductwork and VAV boxes.
- Heating water piping and equipment.
- Exhaust / Transfer fans.
- Chiller and condensing unit.

- **Observation/Comments:**
  - Variable Air Volume (VAV) Terminal Units
    - Deficiencies
      - ❖ Control panels – On more than one observation, the control panel to the VAV box was open and exposed. Reference HVAC Images: Exhibit D2.1 (page 15).
    - System Maintenance Checks Observed by

Engineer
- ❖ Equipment tagged.
- ❖ Accessible for maintenance.
- ❖ Ductwork complete.
- ❖ Insulation complete.
- ❖ Electrical components in place.
- ❖ Controls components in place.

- Fan Powered Terminal Units
  - Deficiencies
    - ❖ Filters – On more than one observation the filters were dirty and past due for replacement. It is suggested to replace filters every 3 to 6 months depending on equipment use. Reference HVAC Images: Exhibit D2.2 (right).
  - System Maintenance Checks Observed by Engineer
    - ❖ Equipment tagged.
    - ❖ Accessible for maintenance.
    - ❖ Filters clean.
    - ❖ Ductwork complete.
    - ❖ Insulation complete.
    - ❖ Electrical components in place.
    - ❖ Controls components in place.

- Air Handling Units
  - Deficiencies
    - ❖ None Observed.
  - System Maintenance Checks Observed by Engineer
    - ❖ Equipment tagged.
    - ❖ Maintenance access acceptable for unit and components.
    - ❖ Piping complete, properly supported, insulated and labeled.
    - ❖ Piping system pressure and temperature clearly identified.
    - ❖ Isolation, balancing and control valves installed and operable.

Plumbing Images:

Exhibit D1.6

HVAC Images:

Exhibit D2.1

Exhibit D2.2

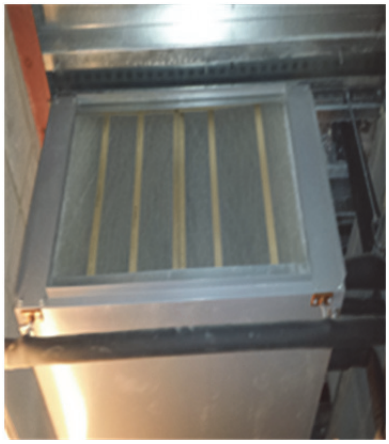


Exhibit D2.3

- ❖ Fans and motors are properly aligned and lubricated.
- ❖ Belt tension and condition were visually inspected for cracks or breaks.
- ❖ Filters clean.
- ❖ Controls components in place.
- ❖ Power disconnects installed and labeled. All safeties operable.
- ❖ Variable Frequency Drive (VFD) operational.

- Computer Room Air Conditioning Unit (CRAC)
  - Deficiencies
    - ❖ Condensate leaking through casing onto floor. This comment was previously reported during the 2014 Arrowhead assessment report. Reference Mechanical Images: Exhibit D2.3 (page 15).
  - System Maintenance Checks Observed by Engineer
    - ❖ Equipment tagged.
    - ❖ Accessible for maintenance.
    - ❖ Ductwork complete.
    - ❖ Piping and insulation complete.
    - ❖ Fans and motors were observed to be properly aligned and lubricated.
    - ❖ Belt tension and condition were visually inspected for cracks or breaks.
    - ❖ Electrical components in place.
    - ❖ Controls components in place.

- Condensing Units
  - Deficiencies
    - ❖ None observed.
  - System Maintenance Checks Observed by Engineer
    - ❖ Equipment tagged.
    - ❖ Clean outdoor condenser coils.

HVAC Images:

Exhibit D2.4

Exhibit D2.5

Exhibit D2.6

- Electric Unit Heaters
  - Deficiencies
    - ❖ None observed.
  - System Maintenance Checks Observed by Engineer
    - ❖ Equipment tagged.
    - ❖ Listened for excessive noise or vibrations from fan.
    - ❖ Reference HVAC Images: Exhibit D2.4 (page 16).

- Motorized Dampers
  - Deficiencies
    - ❖ None observed.
  - System Maintenance Checks Observed by Engineer
    - ❖ Check damper action is smooth over full travel.
    - ❖ Check position of damper blades at full open and close positions.
    - ❖ Check linkage and bearings for slack or wear.

- Due to the ambient conditions present at the time of the site visit, (20° F) various equipment was not operational and unable to be observed.
  - Chillers
    - ❖ Equipment tagged.
    - ❖ Check for excessive noise and vibration.
    - ❖ Check for excessive temperatures and pressures.
  - Roof Top Units – Direct Expansion (DX)
    - ❖ Equipment tagged.
    - ❖ Maintenance access acceptable for unit and components.
    - ❖ Fans and motors were observed to be properly aligned and lubricated.

Electrical Images:

Exhibit D3.1

Exhibit D3.2

Exhibit D3.3

- ❖ Belt tension and condition were visually inspected for cracks or breaks.
- ❖ Filters clean.
- ❖ Power disconnects installed and labeled.
- ❖ Reference HVAC Images: Exhibit D2.5 and D2.6 (page 16) for observed condition.

3. Electrical

Description:

- The stadium is fed from (7) 3,000A, (2) 1,600A, and (2) 4,000A 480Y/277V 3 phase, 4 wire main switchgear with integral 13.2kV to 480V transformers. The switchgear is located throughout the Service level, Plaza level, and in the chiller area.
- A main 1,600A 480Y/277V, 3 phase, 4 wire switchgear are used for emergency power and are connected to a 1000KW on-site generator.
- Branch circuit panel boards are located throughout the stadium, utilizing circuit breakers for overcurrent protection.
- The telecommunications system is fed from an underground vault is run to the Main Communications room on the Service level.
- Fiber is run throughout the stadium to various telecommunications rooms, and copper cabling is run to data outlets via cable tray.

Observation/Comments:

- The overall electrical system was observed to be in satisfactory condition.
- Switchgears and panelboards in observed electrical closets were blocked by stadium furniture, equipment and other obstructions.
- Racks or other obstructions in front entrance and exit doors which does not comply with the 2014 National Electrical Codes, article 110.26.

Electrical Images:

Exhibit D3.4

Exhibit D3.5

Exhibit D3.6

See Electrical Images: Exhibits D3.1 through D3.3 (page 17), D3.4 and D3.5 (page 18).

- Most panel boards and transformers observed were labeled and included type-written, laminated panel board schedule with the exception of a panelboard in the electrical room E125A. Panelboard doesn't have a nameplate identifying the panelboard name. A transformer in the Kitchen and Commissary electrical closet E129B does not have a label identifying the name of the transformer. A two-section panelboard B3AH2B in electrical room T-125B was observed to have conflicting panelboard schedules. Panelboards were labeled the same name with no reference to the panelboard section number. Branch circuits numbering on the schedule did not match numbering in panelboard. See Electrical Images: Exhibits D3.6 (page 18), D3.7 and D3.8 (right).
- Most emergency panels were labeled with red placards, making it easy to identify quickly in an emergency situation.
- Most wiring devices and conduit fittings were installed with coverplates with the exception of a few locations in Elec room T125, T125B and Telecomm room T127 as shown in Electrical Images: Exhibit D3.9 (right).
- Conduit and fittings were observed in Water room 126D to not be installed with bushings on the end of the conduit and coverplate on the LB fitting.
- Boiler room M127 was observed to have non-GFCI duplex receptacles located within 6ft of water-held equipment. See Electrical Images: Exhibits D3.10 and D3.11 (page 20).
- Fire-barrier sealant looks to be in satisfactory condition and is located around penetrations.

Electrical Images:

Exhibit D3.7

Exhibit D3.8

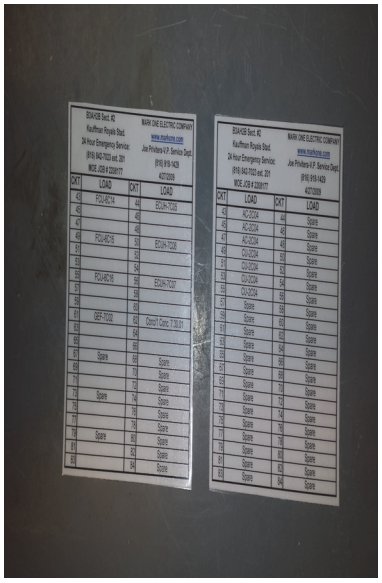


Exhibit D3.9

- Telecommunications rooms were observed to be organized and all cabling is secured to cable tray and racks labeled.
- Grounding conductors were observed to not be terminated on ground bus bar in Telecommunications room T140. See Electrical Images: Exhibit D3.12 (page 20)
- An observed strobe light is damaged in corridor 02.20.02 on service level on first base quadrant.

Electrical Images:

Exhibit D3.10

Exhibit D3.11

Exhibit D3.12

IV. BMcD Recommendations - Summary

A. Site:

1. Flatwork

- Perform routine maintenance to seal and repair minor cracking observed along walkways and concourses. Refer to Exhibit A1.1 (page 4).
- Replace any missing, damaged, or otherwise unsatisfactory joint sealant and/or backer rod required for concrete joints. Refer to Exhibit A1.2 (page 4).
- Monitor faulting slabs in walkways for progression of the faulting. If faulting becomes more severe, repair or replacement of concrete may be necessary to protect pedestrian safety and provide a full ADA compliant route. Refer to Exhibit A1.3 (page 4).
- Secure the trench drain as necessary to prevent it from being accidentally or intentionally dislodged by pedestrians or small vehicle traffic. Refer to Exhibit A1.4 (page 4).

2. Landscaping and Appurtenances:

- Consider regrading the narrow grass area next to the electrical equipment pad northeast of the stadium to provide positive drainage away from both the adjacent structure and the concrete equipment pad. Refer to Exhibit A2.2 (page 5).
- Repair and reset the damaged storm water inlet structure. Refer to Exhibit A2.3 (page 5).
- Backfill under and around the utility pad with appropriate backfill material as necessary. Refer to Exhibit A2.4 (page 5).

B. Frame & Envelope:

1. Substructure

- The majority of all structural elements were observed to be in satisfactory condition. Continue routine maintenance as required.

2. Superstructure

- <u>The following comments pertain to elements that may pose potential safety concerns and should be addressed as soon as possible.</u>
  - Concrete anchors at the ceiling of the Broadcast Press Level corridor were observed to be pulling out of the concrete. Analysis by a qualified structural engineer is recommended prior to the 2015 season to verify that no structural failures have occurred and to ensure that the structural system is performing as designed. Refer to Exhibit B2.4 (page 7).
  - Guard rails are generally in satisfactory condition. However, corrosion and concrete spalling were observed just outside of the Dugout Suite B. Consider reinforcing guard rail and patching concrete surrounding railing base to avoid additional damage and/or guard rail failure. Refer to Exhibit B2.5 (page 8).

C. Interior Elements:

1. Ceilings

- Gypsum board ceilings were observed to be in satisfactory condition, in general. However, at the Stadium Club Dining room excessive leaking through the roof has caused damage to the paint/drywall adjacent to the curtain wall system. Consider acquiring analysis and solution by a roofing consultant to resolve moisture infiltration. Repair of drywall and paint is necessary when the moisture problem has been resolved. Refer to Exhibit C3.1 (page 12).
- Observed acoustic ceiling tile is in good condition, in general. Several back of house spaces, including kitchens and pantry areas, contained warped, drooping, or stained ceiling tiles. Consider replacing ceiling tile at such locations in the near future. Refer to Exhibit C3.2 (page 12).

D. Plumbing, HVAC and Electrical:

1. Plumbing

- In general, all mechanical and plumbing systems have been well maintained and were observed to be in satisfactory condition.
- All VAV box control panels must be checked for exposed components.
- Plumbing piping insulation in various areas of the facility are degrading and in need of repair. Refer to Exhibits D1.1 and D1.2 (page 13) and D1.3 (page 14).
- Several pipe hanger insulation shields were observed to be missing. These shields will need to be replaced to prevent insulation damage. Refer to Exhibit D1.4 (page 14).

2. HVAC

- It is suggested to replace filters at air handling units every 3 to 6 months depending on equipment use. Dirty filters and equipment casing were observed in several locations. Refer to Exhibit D2.2 (page 15).
- The Computer Room Air Conditioning Unit (computer room) was observed to have condensate leaking through casing onto floor. Maintenance must be performed to avoid significant water collection around the unit. Refer to Exhibit D2.3 (page 15).

3. Electrical

- In general, all electrical elements were observed to be in satisfactory condition.
- Ensure that all electrical panels are kept clear of debris and obstructions. Several rooms, mostly in food service areas, have racks or other obstructions in front of panel boards and exit doors, violating the 2014 National Electrical Code requirements for maintaining clearances in front of panelboards as stated in article 110.26. Refer to Exhibits D3.1 through D3.5 (pages 17and 18).
- Ensure that all panelboards are labeled identifying panelboard name. Refer to Exhibit D3.6 (page 18).
- Ensure that coverplates are provided on wiring devices, conduit boxes and fittings. Refer to Exhibit D3.9 (page 19).
- Ensure that panelboard schedules are tailored to the panelboard name, numbering and load description. Refer to Exhibit D3.8 (page 19).

- Replace existing duplex receptacles in Boiler room M127 with GFCI duplex receptacles in locations within 6ft of equipment containing liquids as required by 2014 national Electrical Code, article 210.8(B)(6). Refer to Exhibits D3.10 and D3.11 (page 20).
- Terminate grounding electrode conductors on grounding bus bar as in accordance with 2014 National Electrical Code, article 250.64 (C). Refer to Exhibit 3.12 (page 20).
- It is recommended to replace damage strobe light in corridor 02.20.02 so as to resume intent of functionality within corridor.