Spring Creek Horse Palace Feasibility Study

Elko, Nevada
October 14, 2016

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INTRODUCTION

The Spring Creek Homeowner's Associate in July of 2016 commissioned Lombard-Conrad Architects to perform an existing facility analysis of the Spring Creek Horse Palace. The focus of this analysis is to examine the existing condition of architecture systems, building structure, mechanical and electrical systems and site conditions adjacent to the building. The existing cueing area, cafe/kitchen, bar administrative offices, spectator mezzanine, announcer/official viewing stands/booths, restrooms and support spaces (and related systems) were not included.

The Building Evaluation Team consists of:

Nate Turner
Lombard-Conrad Architects | Principal

Byron Smith
Lombard-Conrad Architects | Managing Architect

Riley Mahaffey
Lochsa Engineers | Structural Engineer

Mike Wisdom
Engineering Inc. | Mechanical Engineer

Geoff Johnson
Eidam & Associates | Electrical Engineer

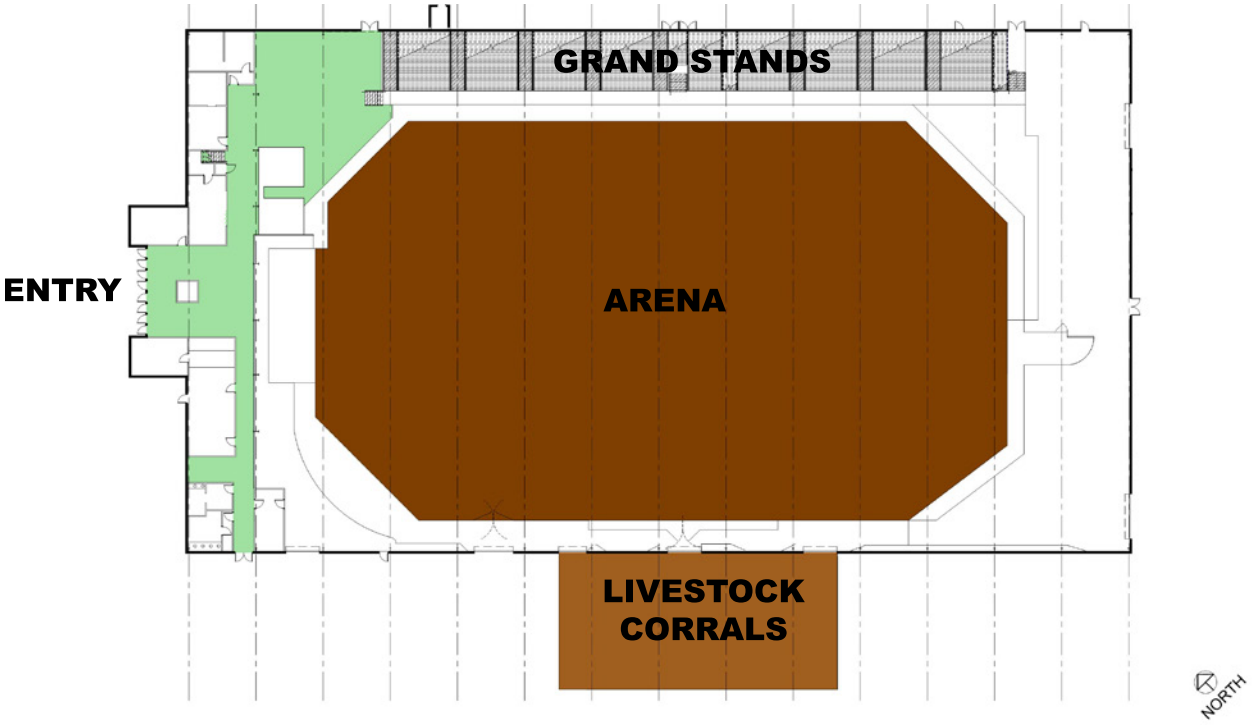
Nitin Bhakta and Tom Hannam
Summit Engineers

On Site Building Evaluations

This phase included a review of the facility including a visual, physical condition analysis and site analysis limited to the area adjacent to the building.

The physical condition analysis was conducted through non-destructive, visual analysis.

This analysis provides information on the physical condition of individual building systems and the overall condition of the building to assist the board in identifying priorities for repair and renovation, as well as providing a basis of budget estimates. The Association desires to use this facility year round for a variety of functions and events. As such, the focus of this evaluation and report is to provide a list of required improvements to prevent additional deterioration of the facility and to enable year round, multi-purpose usage.



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SECTION 1

Executive Summary

The Spring Creek Horse Palace is located at 670 Bronco Drive in Spring Creek, Nevada. The Horse Palace, constructed in 1972, is a 335-foot by 185-foot by 24-foot pre-engineered metal building and also includes a 20-foot by 60-foot by 15-foot main entry, patron cueing and administration spaces. The building consists of dirt floor arena, spectator grandstands and mezzanine, cafe/kitchen, bar, announcer and rodeo official viewing areas, administrative offices, patron cueing entry and support spaces.

Public access is through controlled entry via the patron cueing area on the northwest side of the facility. Parking is provided on the northwest and northeast sides of the facility. Livestock corrals/pens are located on the southwest side and provide direct access into the arena.

This facility has hosted several events including rodeo and equestrian; motocross, archery shoots and concerts. Association members regularly use this facility for equestrian training and practice.

The Homeowner's Association desires to better utilize the Horse Palace as a truly multi-purpose facility year-round.

Usage of the facility during inclement weather is hampered by the condition of the building shell and HVAC systems. Maintenance of the building has been inadequate due to limited funding availability and allocation of funding necessary.

The evaluations, analysis and recommendations presented in this report are made based on a visual, non-destructive inspection of the facility conducted on August 25, 2016 by the architectural and engineering team and review of available original construction documents. Some components of the building are not visible or readily accessible; therefore it is possible that conditions other than those listed in this report may exist.

This report does not include evaluation of the cafe/kitchen, bar, mezzanine spectator area, announcer/rodeo official viewing stands/booths, office areas, restrooms and support spaces or fencing. ADA analysis is limited to exterior doors and related floors/concrete stoops.

SECTION 2

FACILITY ANALYSIS

SITE ANALYSIS

Summit Engineering performed a site walk through on August 25, 2016 on the Spring Creek Horse Palace facility located in Spring Creek, Nevada. The purpose of this walkthrough was to identify the site conditions (drainage, ADA and access) that need to be brought up to current standards and prioritize the items that need to be addressed in order to suggest cost effective solutions.

EXISTING CONDITIONS

The existing site sits on a 141.75 acre site, the site access to the main entrance is paved and the rest of the parking lot surrounding the building and site is native earth. There is no real delineation of parking space of any kind and no ADA parking spaces are currently available for the site. Existing grading and access in an around the building perimeter needs to be improved to provide positive drainage away from the building.

The grades around the perimeter of the exiting building need to be regraded. Currently the grade up against the building is to high. This grade along the building face need to be lowered 6" to 8" the sloped away from the building at a min grade of 3% to keep surface groundwater from entering and pooling up against the building. If water continues to pool up against the building it could lead to foundation deterioration, heaving or even settlement of the building foundation and slab.

There are no drainage infrastructures in place to channel runoff away from the existing parking lot. The existing native earth parking lot needs to be regraded to provide positive drainage towards existing flowlines and ditches. New construction such as pipes, ditches, detention basins and catch basins need to be installed in order to help improve current drainage conditions.

Site Access

Walking around the building, it does appear that at most of the site exits, there are existing concrete pads in front of the doorways for pedestrian access. These concrete stoops show signs of deterioration and all of them seem to have settled well below the finish floor of the existing building. At this time they are a tripping hazard and would not serve to provide access to a person in a wheel chair. Many of the concrete pads are undersized and do not meet the current ADA requirements. All of the concrete access pads at the doorway exits should be removed and replaced along with the type 2 base under the concrete pads.

Site ADA Requirements

Currently for this existing site parking, there are no ADA parking stalls that are delineated for such use. For a facility of this size that sits approximately 1,500 people, accessible parking spaces must be located on the shortest accessible route of travel to an accessible facility entrance. Where buildings have multiple accessible entrances with adjacent parking, the accessible

parking spaces can be dispersed and located closest to the accessible entrances. When accessible parking spaces are added in an existing parking lot, locate the spaces on the most level ground closest to the accessible entrance. An accessible route must always be provided from the accessible parking to the accessible entrance. An accessible route never has curbs or stairs, must be at least 5- feet wide, and has a firm, stable, slip resistant surface (asphalt or concrete). The slope along the accessible route should not be greater than 1:12 in the direction of travel.

Looking at the existing site access and the interior layout of the existing building, it seems that placing these ADA parking stalls at the Northwest and Southwest corners of the existing building would be an ideal. In addition, a small group of ADA parking

stalls can also be place just west of the main entrance into the building with sidewalk and a stripped crosswalk with associated signage. Please reference attached drawing indication where these ADA stalls would be constructed.

Accessible Spaces for Cars and Van-Accessible Parking

Accessible parking spaces for cars must have a 60-inch-wide access aisle located adjacent to the designated parking space. The access aisle is just wide enough to permit a person using a wheelchair to enter or exit the car. These parking spaces are identified with a sign and located on level ground.

Van-accessible parking spaces are the same as accessible parking spaces for cars except for three features needed for vans: One out of every eight accessible parking spaces, but always at least one, must be van-accessible.

SITE DRAINAGE REQUIREMENTS

There are two things to think about in keeping a site dry: water coming off the roof; and rain soaking into everything else that's at site level or higher. Consequently there are two drainage systems one for gutters, and one to keep the immediate ground level area clear.

Roof Drainage

Ground water flows on or below the surface; it rises and lowers depending on rainfall and can be controlled with subsurface drains. For the existing building, surface runoff comes off the roof and other impermeable surfaces. A system of gutters, leaders, and drains then collect and direct this water away from the adjacent building grade that prevent ponding in low-lying areas on the site. This water then collected via underground pipes and is directed to a suitable spot away from the building foundation and parking area. The existing outlet for this water is near the Southwest corner of the building near the access road. This existing collection pipe will need to be examined to ensure that the pipe has not rusted and that no water is penetrating into the ground near the building foundation or slab. A backhoe with a small bucket can pothole at several locations near the drainage pipe to examine it more closely for signs of rust and pipe integrity.

Surface Drainage

The existing parking lot is entirely composed of native earth, the only asphalt pavement that exists is along the main front entrance of the building to the west. The existing parking lot in some places does implement drainage swales that channel water away from the building and divert t to a suitable off-site drainage location. In order to achieve proper drainage on gravel parking lot it is important to have the gravel surface sloping away from the building at a minimum slope of 3% to 5%. From a visual analysis of the existing parking facility, there are some areas that drain well while other may need to have the proper slope graded out to channel water away from the existing building.

In order to provide proper slope on the existing parking lot a detailed topographical survey will need to be completed and analyzed by a licensed civil engineer. Once a deign is completed this work will have to be bid out to a grading contractor who can mobilize a grader and a dozer to cut the material to the proper grade.

In addition, drainage swales and storm drain pipes may be needed to channel water away from the site to a suitable location. Based on current county standards there may be a possibility that retention/detention basins may also need to be implemented to control storm water runoff from the site. A detailed site survey will need to be completed in order to determine the locations of these retention/detention ponds.

Erosion Control

It's important to control surface water during site clearing and foundation excavation to prevent soil erosion, which can clog streams and damage aquatic ecosystems. Implement an erosion-control plan before construction begins. Most plans will incorporate vegetated buffer zones and erosion-control measures like hay bales, silt fencing, or wattles. The Environmental Protection Agency also suggests staging construction during the driest part of the year when possible, and clearing only the areas required for construction.

Snow fencing, solid fencing, and hay bales are all effective at reducing wind erosion. Periodically wetting the soil is also helpful. Use reclaimed topsoil to get grass and plants growing again at the earliest opportunity to minimize both water and wind erosion. You can prevent heavy equipment and vehicles from damaging newly planted areas by cordoning them off with temporary fencing.

ARCHITECTURAL ANALYSIS

BUILDING SUMMARY

The Spring Creek Horse Palace is a 335-foot by 185-foot by 24-foot pre-engineered metal building and a 20-foot by 60-foot by 15-foot "bump-out" consisting of patron cuing/entry and ticketing booth, and administrative offices. Cafe/kitchen, bar, spectator mezzanine, restrooms and support spaces are located on the northwest side of the arena. The dirt floor arena is bordered by, holding pens/corrals/chutes, on the northeast, southeast and southwest sides of the arena with the spectator grand stand located along the northeast side of the arena. Natural lighting is provided utilizing a series of plastic composite skylight panels. Adequacy of natural lighting is insufficient for uses other than daily practice/training session.

EXTERIOR BUILDING CONDITION

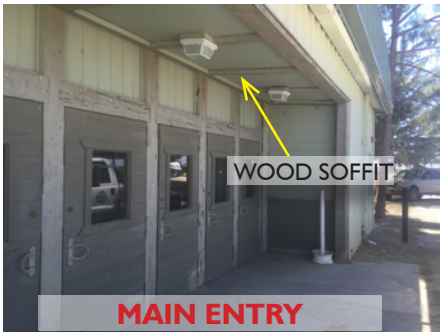
Walls

The building exterior walls consist of raised profile metal panels. The main facility entry is recessed and includes wood framing with painted T1-11 wood siding. All are uninsulated and there is evidence that metal wall panels were furnished without a finish and field painted. Main building walls on the northeast side have a seven-foot-high dark green base with a lighter green color on panels above, spearted by unsealed flashing. The wall panels are damaged from impacts and have multiple holes throughout from a variety of causes ie, equipment supports, impacts from equipment and livestock; bullets?

Metal wall panels extend from the foundation stem wall/floor slab to the roof eaves above. The adjacent grade is too high in relation to the interior floor slab and in many locations has piled against the walls both inside and outside of the building. This condition exposes the walls to extended periods of moisture, which has caused rusting and deterioration. Fading/peeling paint has also contributed to this condition. Numerous areas inside the building where soil has accumulated against the siding appear to be from displacement of soil from the Arena floor as well as wind driven soil from the exterior through gaps and loose panels. Many panels have missing screw attachments and have come loose from the wall girts.

Walls are topped with a fascia structure constructed of the same raised profile metal panels as the walls, supported by a galvanized tube steel frame attached to the roof. This support framework is in fair to good condition; however, a number of fasteners are rusting. Some repairs have been made to the fascia, including corners. These repairs utilized unfinished galvanized material.

Where the top of wall panels abut the roof panels, there is an open gap between the wall and roof. Moisture migration at this condition is limited due to the adjacent eave extension, gutter and fascia structure; however air movement is unimpeded.




NORTHEAST WALL


NORTHEAST CORNER

NORTHEAST CORNER @ BASE

NORTHEAST CORNER @ BASE

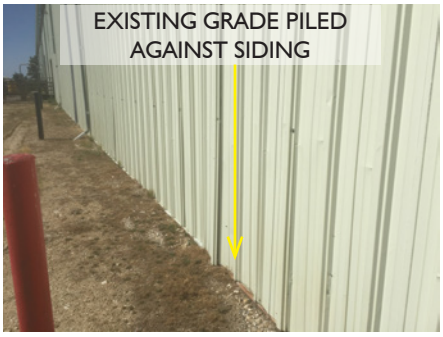

NORTHEAST WALL


NORTHEAST WALL


SOUTHWEST WALL

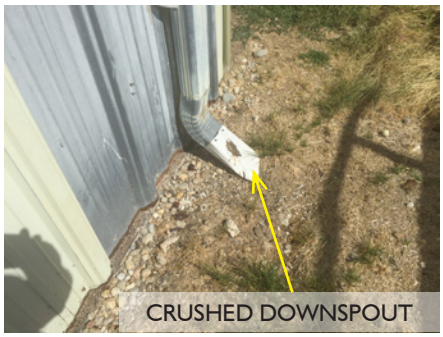

SOUTHWEST WALL


UNSEALED WALL PENETRATIONS


EXISTING GRADE PILED AGAINST SIDING

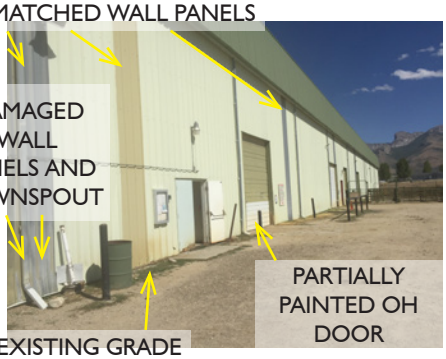

DAMAGED WALL PANELS


DAMAGED SIDING AT OVERHEAD DOOR
EXISTING GRADE SET TOO HIGH


CRUSHED DOWNSPOUT


EXISTING GRADE SET TOO HIGH


DAMAGED/POORLY MAINTAINED WALL PANELS


MISMATCHED WALL PANELS
DAMAGED WALL PANELS AND DOWNSPOUT
PARTIALLY PAINTED OH DOOR
EXISTING GRADE SET TOO HIGH


WALL PANEL DAMAGE FROM FORMERLY MOUNTED EQUIPMENT SUPPORT


WALL PANEL DAMAGE FROM FORMERLY MOUNTED EQUIPMENT SUPPORT


WALL PANEL DAMAGE FROM FORMERLY MOUNTED EQUIPMENT SUPPORT


SOUTHWEST WALL


APPROACH DRIVE FROM WEST


MAIN BUILDING ENTRY

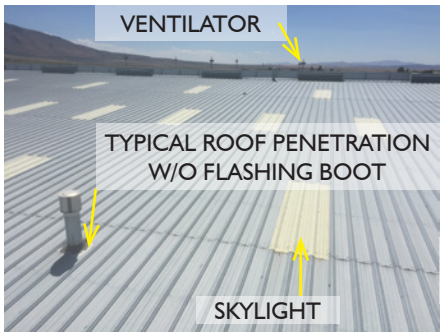

TYPICAL WALL, DOOR AND STOOP CONDITION

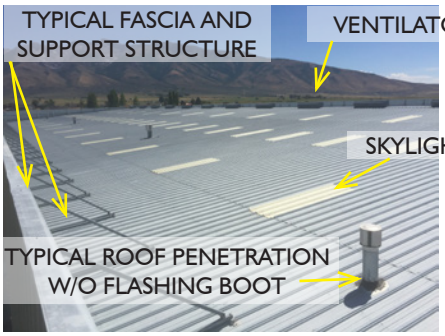
Roof

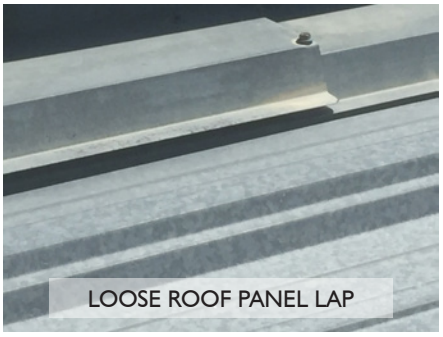
The roof is constructed of raised profile galvanized metal panels supported by the steel superstructure. A series of plastic composite skylights are distributed throughout and are set flush with the roof panels. A ridge in the center of the roof runs north/south with the low slope (1:12) extending to sheet metal gutters on the east and west sides of the building. The above referenced fascia extends above the roof eave. Set at the ridge are a series of roof ventilators and there are vents through the roof for unit heaters/HVAC equipment.

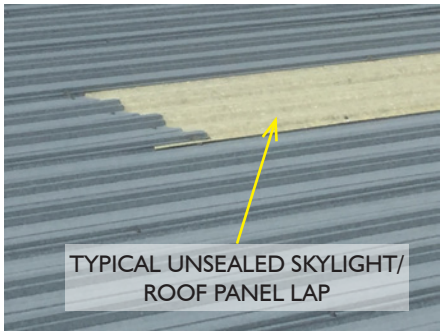
The roof panels are in fair condition. Panel lengths were limited when the building was constructed and therefore, to make each roof rn from the ridge to the eaves are comprised of four panels/three seams to provide full coverage. The laps are vulnerable to wind driven rain and snow accumulations. Panel fasteners are in fair condition and some are loose, allowing panels to raise up from the roof purlins. The underside of the ridge cover over the roof panels have been filled with spray foam, indicating a previous leak problem. Roof penetrations rely on sealant instead of standard flashing boots. Plastic composite skylights are in poor condition due to age and ultra violet degradation. The ridge also contains a series of manually controlled roof ventilators (refer to mechanical analysis and recommendations for additional information).

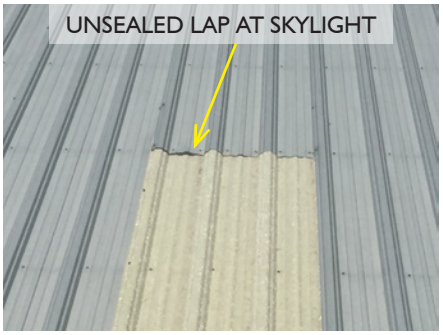

TYPICAL FASCIA AND SUPPORT STRUCTURE

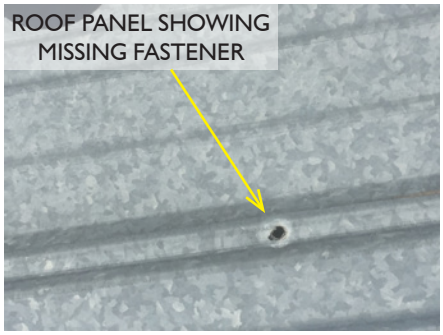

VENTILATOR
TYPICAL ROOF PENETRATION W/O FLASHING BOOT
SKYLIGHT


TYPICAL FASCIA AND SUPPORT STRUCTURE
VENTILATOR
SKYLIGHT
TYPICAL ROOF PENETRATION W/O FLASHING BOOT









Gutters and Downspouts

Gutters and downspouts are in fair to poor condition. There is no visible evidence of leakage. Downspouts are tied into a sub-surface drainage system (refer to site analysis). Some joint fasteners are coming loose. Gutter and downspout joints rely on sealant. Some downspouts are crushed at the base of the walls. There are numerous locations where the paint is fading/peeling or otherwise failing.

Exterior Doors and Openings

Main Entry: The main patron/spectator entry doors are constructed of wood planks set in heavy timber frames. Hinges used are galvanized gate hinges Door hardware is not ADA or code compliant. Wall infill between the heavy timber frames is comprised of painted T1-11 siding on wood framing (see previous exterior walls section). We recommend removal of these doors, heavy timber frames and wall infill and replacing with new metal framed walls sheathed with insulated pre-finished metal panels to match the remaining building siding and the doors be replaced with insulated hollow metal doors and frames. A painted wood composite board is used for the soffit (refer to Photos on page 9). Although we believe this project should be classified as "maintenance," thereby not requiring design to meet current codes and standards, a code analysis of the facility should be done to determined the proper hardware to be used and should complying with current ADA and building code exiting requirements. Maintenance/upgrade projects normally require a percentage of the project budget be spent on ADA upgrades.

Spectator Egress Doors: In addition to the aforementioned entry doors, spectator egress is located behind the grand stand on the northeast side of the facility and utilizes painted hollow metal frames and doors. Doors are arranged in pairs. The door hardware is not ADA or code compliant for current egress requirements and is in poor condition. Doors and frames are heavily rusted, damaged from various impacts, the paint is peeling and otherwise failing. All of these doors and frames are in poor condition. In addition, many concrete stoops are over 1-inch below the adjacent interior concrete slab (non ADA compliant) and are heavily damaged and spalling. It is recommended that these doors and frames be removed and replaced with new painted, insulated hollow metal doors and frames. ADA and Building Code compliant hardware should be installed. Concrete stoops should be removed and replaced with ADA compliant stoops.

Overhead Doors: Overhead doors of varying heights are located on the southeast and southwest sides of the building. These doors are utilized for moving equipment, materials and livestock into and out of the building. The overhead doors are painted white or varying shades of green and are heavily damaged and rusting. Paint has peeled, faded, flaked or otherwise failed. Door opening frames are heavily damaged and rusted.

These doors and frames should be removed and replaced with new industrial grade insulated overhead doors and frames. Bollards should be installed to prevent future damage to door frames and tracks.

Kitchen/Cafe Door: This door is a hollow metal door set in a wood clad frame. We could not determined the frame type with visual observation. The concrete stoop is set too low to comply with ADA requirements. It is recommended that this door and frame be removed and replaced with a new insulated hollow metal door and frame with ADA compliant hardware. The concrete stoop should be removed and replaced to comply with ADA requirements.

Miscellaneous:

Wall Penetrations: Numerous wall penetrations for mechanical equipment are not flashed and sealed properly. It is recommended that these openings be flashed and sealed when the siding is repaired or replaced and sealed.


TYPICAL DAMAGED MAN DOORS

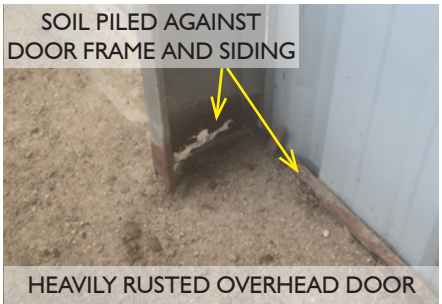

TYPICAL CONDITION OF OVERHEAD DOORS

DAMAGED OVERHEAD DOORS AT CORRALS

TYPICAL OVERHEAD DOOR CONDITION AT CORRALS

KITCHEN DOOR

TYPICAL MAN DOOR AND CONCRETE STOOP



HEAVILY RUSTED OVERHEAD DOOR OPENING FRAME

DAMAGED OVERHEAD DOOR AT CORRALS

RUST EXTENDS TO ALL SIDES OF MAN DOORS

Interior

The building interior is primarily composed of a dirt floor arena surrounded by tube steel fence panels. Primary spectator seating is located on the northeast side of the arena in an elevated, tiered grandstand. This seating is not ADA accessible.

The main building entry on the northwest side of the arena filters through cueing lines, past a ticket booth. The northwest floor area utilizes a concrete slab on grade floor. Spectators can then access mezzanine seating via a staircase, or continue around to the north to the grandstands. Livestock and others accessing the performance arena utilize overhead doors or a pair of doors on the southwest side of the arena.

The arena includes elevated announcer/official booths with full view of the arena.

Dirt, primarily from the arena floor (also possibly from wind driven dirt through gaps and openings in the exterior walls), has accumulated along the base of the exterior walls. This has contributed to the deterioration of the base of the wall panels. Dirt has also accumulated on the structural roof and wall supports.


GRAND STAND ACCESS

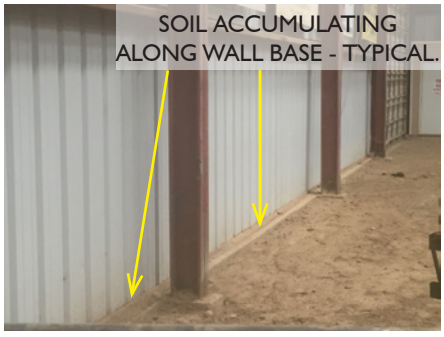

INTERIOR VIEW OF ARENA FROM NORTH


TYPICAL INTERIOR SIDING CONDITION AT WALL BASE

RUSTED BASE SUPPORT/SIDING PULLING AWAY FROM STEM WALL


CONCRETE SLAB POURED AGAINST METAL SIDING - INTERIOR CONDITION


TYPICAL INTERIOR SIDING CONDITION AT WALL BASE

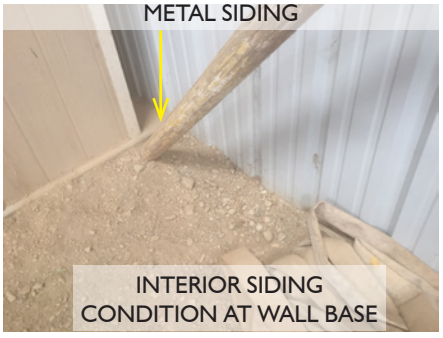



TYPICAL INTERIOR SIDING CONDITION AT WALL BASE

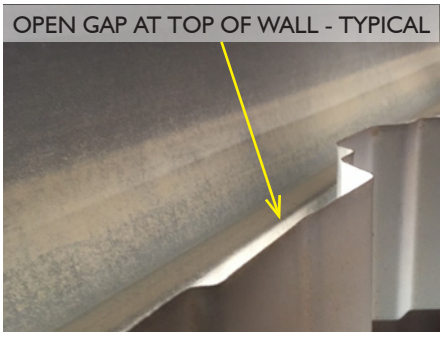

TYPICAL INTERIOR SIDING CONDITION AT WALL BASE

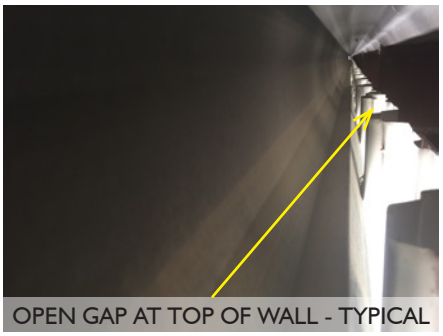

TYPICAL INTERIOR SIDING/COLUMN CONDITION AT WALL BASE


TYPICAL INTERIOR SIDING/COLUMN DOOR CONDITION AT WALL BASE

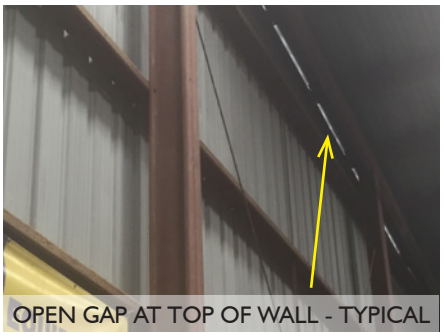


INTERIOR SIDING CONDITION AT WALL BASE




OPEN GAP AT TOP OF WALL - TYPICAL

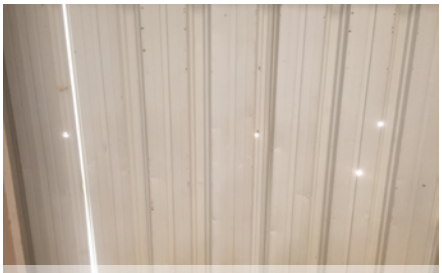

SIDING AND BASE SUPPORT PULLING AWAY FROM STEM WALL


OPEN GAP AT TOP OF WALL - TYPICAL


BASE CONDITION AT INTERIOR WALL


LOOSE WALL PANELS


HOLES IN SIDING



HOLES IN SIDING, LOOSE PANELS

Accessibility

Although it was not included in the scope of this report, we noted that this facility is not compliant with the American with Disabilities Act (ADA) in numerous areas:

- Main Entry (doors, hardware, cueing aisles, ticketing)
- Emergency Spectator Egress (doors, hardware, concrete stoops, stairs from grandstands)
- Grandstands for Spectator Seating (currently require access via stairs)
- Mezzanine Spectator Seating
- Restrooms
- Cafe Entry, Serving/Ordering Lines, Cashier, Seating
- Bar Entry, Cashier, Seating
- ADA Parking (none provided).

STRUCTURAL ANALYSIS

INTRODUCTION

The following report summarizes the structural findings following our field investigation of the aforementioned facility, located in Spring Creek, Nevada on August 26, 2016. See Figures 1 – 27 for additional information.

This report will comment on: 1) the structural condition of the existing visible structural elements 2) will identify the areas or structural elements that may require structural repairs and 3) will identify the areas or structural elements that may require structural upgrades in order to update the identified items to current code requirements (i.e. seismic restraint, current live loads, etc.).

OVERALL

The building is a single story structure. Figure 1.

The building is a pre-manufactured metal building with steel plate girder moment frames. Figure 10-11.

The roof framing consists of steel plate girder moment frames and steel purlins. Figures 10-12. The roofing material utilized is metal panels. Figure 2.

The exterior walls consist steel wind girts and non-bearing metal panels. Figures 10 – 11, 16.

The floor system throughout the arena consists of unfinished flooring. Figures 10 – 11. Concrete slab on grade is utilized at the entrance. Figure 23.

The foundation system consists of cast in place concrete stem wall along the perimeter along with isolated footings column locations. Figures 23 and 28.

ROOF

The existing framing and roofing appear to be performing as designed, supporting current dead and geographic appropriate roof live/snow loads. The existing metal roof panels should be inspected to ensure there is no water intrusion at panel joints and penetrations. Figures 3-5, 13, and 15-17.

A number of roof beams and purlins appear to be experiencing prolonged exposure to moisture/water. Figures 10, 12-16, and 18.

The flanges of multiple roof purlins are deformed. Figure 15.

It is Lochsa's recommendation that all roof panel joints and penetrations be properly sealed to prevent water intrusion. It is also recommended that steel roof beams and purlins showing signs of deterioration or rusting be cleaned down to the base metal by the use of scrubbing or pickling and repainted to prevent further deterioration and extend the life of the structural system. Roof purlins that have deformed flanges should be monitored for additional deformation. The purlins appear to be maintaining their structurally integrity but may be repaired if desired.

EXTERIOR WALLS

The exterior walls in various locations throughout the building have experienced prolonged exposure to moisture/water. Figures 7 – 9, and 27.

Exterior wall panels on the northeast corner of the building are no longer flush with the stem wall. Figures 7, 8, 21, and 22.

The exterior slab at the southwest side of the building is experiencing deterioration/spalling. Figure 9. It is assumed that this was caused by prolonged exposure to moisture due to snow piling against the building. It is recommended that this area be repaired to prevent further deterioration.

Exterior wall panels should be inspected to ensure there is no water intrusion at panel joints and penetrations. Figures 6 and 19-21.

Doors should be inspected so ensure there is no water intrusion due to a lack of seal being formed. Figures 23-26.

The main building columns appear to be experiencing prolonged exposure to moisture. Figures 16, 22, and 28.

It is Lochsa's recommendation that any wall panels or door jambs experiencing deterioration or rusting be repaired or replaced. Wall panels on the northeast side of the building should be replaced to be flush with the stem walls as originally intended. It is also recommended that all panel joints, penetrations, and doors be properly sealed to prevent the potential of additional water intrusion. Steel columns showing signs of deterioration or rusting are recommended to be cleaned down to the base metal by the use of scrubbing or pickling and repainted to prevent further deterioration and extend the life of the structural system.

INTERIOR STRUCTURAL ITEMS

The interior mezzanine appears to be performing as designed. There does not appear to be any structural deficiencies, therefore Lochsa does not recommend any structural modifications to the mezzanine as it may not meet the current minimum code requirements.

FOUNDATION SYSTEM

All areas appear to be behaving properly for the current loads. No significant cracks or structural deficiencies were detected in this area. It appears that the mechanical slab on the northeast corner of the building was added after the adjacent panel was no longer aligned with the stem wall.

Removal of the mechanical slab is not necessary, but should be modified to accommodate the proper replacement of the wall panels. It is Lochsa's recommendation that the adjacent panels are removed and the mechanical slab is saw cut as necessary to allow for the new panels to be placed as originally intended.

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

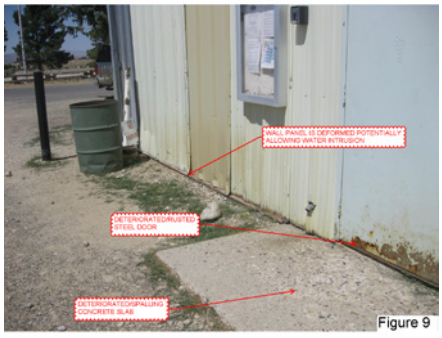


Figure 9

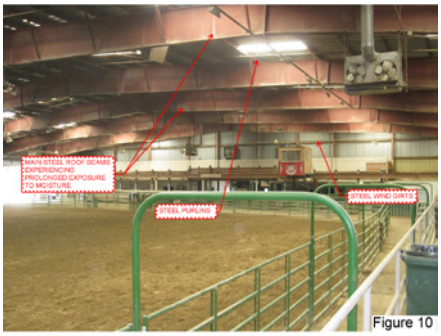


Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

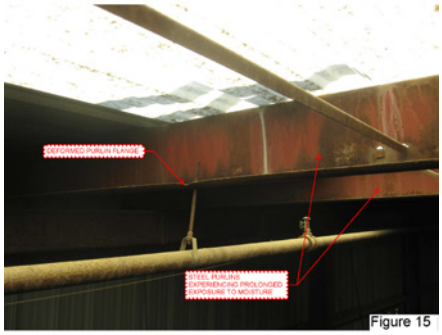


Figure 15

Figure 16

Figure 17

Figure 18

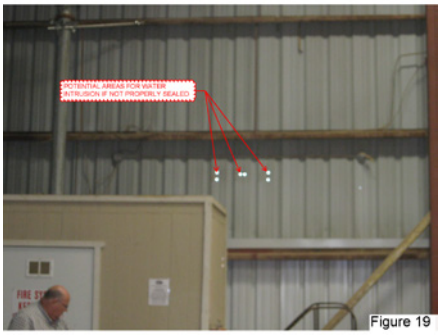


Figure 19

Figure 20

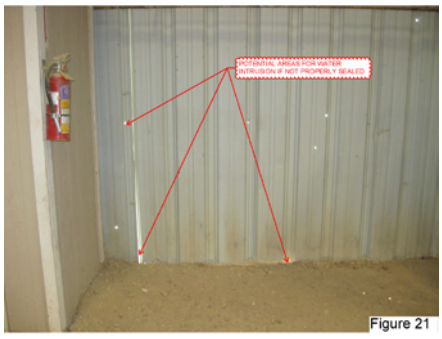


Figure 21

Figure 22

Figure 23

Figure 24

Figure 25

Figure 26

Figure 27

Figure 28

MECHANICAL ANALYSIS

HVAC

Ventilation – The arena has two (2) large propeller fans located above the public entrances to the arena. There are 2 motorized intakes on the opposite side of the building that are interlocked with the propeller fans. Control is manual and the fans draw air through the facility when they are turned on. There is no preheat or precooling of this air. Fans and intakes are original equipment.

There are four (4) ceiling hung industrial circulating fans on the bleacher side of the arena that circulate the air from the arena into the bleachers. These are hung on chains and are not seismically braced.

There are manual ridge vents located at the center of the roof. These are manually operated and need to be gone through and lubricated and adjusted to confirm they seal when closed. These can continue to be operated for venting.

HEAT

The arena floor has ten (10) high capacity dual fan LP fired unit heaters that are positioned to create a circular air pattern within the arena area. Unit heaters are indirect fired with flues piped through the roof. The bleacher area is heated with ten (10) high intensity ceramic LP direct fired infrared heaters. These are not vented to the outside. Products of combustion are released to the air and rise up to the roof deck and condense on the surface causing dripping on the spectators.

Controls

There was an automatic control system for the heat but it has been disconnected and heaters are operated manually. Several are not operable.

FIRE PROTECTION

The facility is fire sprinkled with two (2) dry pipe risers located one on each side of the facility. Each riser is dry with an air compressor supplying air to pressurize the piping. Piping is hung from the structure with heat responsive sprinklers. Each riser has a wall mounted FDC for fire department use.

Each riser is piped the length of the building supplying branch piping to the sprinklers. The mains have been replaced recently due to corrosion and the system seems to be holding air pressure.

LP SYSTEM

LP is piped underground to the building from a multi-tank LP farm located in the parking lot. A pressure regulating valve at the building reduces the LP pressure for the heaters. Piping within the building is black steel and shows signs of rusting on the exterior. Piping should be planned for replacement.

Discussion with the Homeowners Association indicates there are several issues mechanically you would like addressed:

1. Roof dripping above spectators
2. Lack of heated ventilation air during motorized events
3. Inadequate heat in winter
4. No cooling in summertime
5. Dust from dirt arena
6. Lack of ability to quantify energy usage by individuals using arena
7. Lack of controls for HVAC
8. Difficulty in obtaining parts for service and repair

NOTE: All mechanical recommendations assume the facility is insulated as the amount of energy used will be greatly reduced and comfort level greatly improved.

ELECTRICAL SYSTEMS ANALYSIS

SUMMARY

On behalf of the Spring Creek Homeowner's Association, an observational tour was conducted of the existing Spring Creek Horse Palace on August 24, 2016 to observe and generally evaluate the architectural, structural, mechanical, and electrical systems of the facility which was designed in 1972 and constructed in the years following. The electrical systems associated with this facility were generally reviewed to assess age, operational condition, efficiency, distribution, and overall system capacities. The review encompassed the following systems:

- Electrical distribution systems
- Lighting systems
- Lighting Control systems
- Fire alarm systems
- Low-voltage systems including telecommunications, paging and audio/visual systems.

The observational tour was conducted to review the electrical systems and infrastructure associated with the Arena area only within the building; no observations were made with regards to electrical infrastructure within the concessions, office, and restroom portions of the facility, though some observational notes may reference these areas of the facility with respect to how they are served, equipment and systems contained within these areas, etc. In addition, electrical observations were conducted on the site property as related to electrical systems contained on the site including exterior lighting systems, generators, serving utility locations, etc., with respect to how these systems are related to the electrical systems within the Arena and their operation.

In general, the electrical systems serving and located throughout the arena appear to be consistent with the original design document with additions and modifications made to accommodate current operational needs. Most of the electrical distribution equipment appears to be of similar age to the building. Electrical distribution equipment in general, was observed to be in an adequate operable state with respect to the age of the equipment and, aside from age considerations, should not be considered to be in a state of disrepair.

POWER DISTRIBUTION SYSTEMS

The power distribution system serving the facility was observed to have the following characteristics:

- System Voltage: 208Y/120V, 3-phase, 4-wire
- Rated Ampacity: 800 Amps
- Serving Transformer: 150 KVA, pad-mounted, adjacent to main electrical equipment.
- Recorded Demand: 88 KW (main service meter)
- On-Site Generator: 163KVA/130KW, diesel fired

Main Panel Observations: The main panel for the facility was observed to be located on the exterior of the arena building north side. The main panel was intended, based upon the original design documents, to be configured with an 800A main breaker with (2) branch feeders to branch panels within the facility. The main service was either modified during construction or after construction to be configured as a multi-main configuration. Our observations indicate that there are (4) main protection devices; (1) 800A switch for arena lighting loads, (1) 200A switch for arena power loads, (1) 100A switch for the bar panel (with a separate meter at the panel), and (1) 100A switch for the "hall" panel (with separate meter at the panel). In addition to the observed main overcurrent protection devices, additional circuit breakers were observed to be housed within the main panel. Five (5) additional breakers were observed in a separate section of the main panel with loads identified on one of the breakers as "bay lights" (100A). These additional breakers were observed to be bussed directly to the equipment serviced by the generator and based upon this configuration, these breakers/loads are only capable of operation when the generator is operational. The generator is connected to the main panel bus system through a double-throw manual switch. The main panel appears to be original to the facility, and appears to have been modified for the current configuration. It was observed that working clearance about the main panel may not be compliant with National Electric Code requirements.

Branch Panel Observations: Branch panels throughout the facility were observed overall to be in generally acceptable condition, though additions, modifications, and alterations were evident on all panelboards. Some of the branch distribution equipment is original to the installation and may be limited for expansion or future alterations based upon the age of the equipment.

Generator Observations: The on-site generator was observed to be located at the north end of the property across an open area used for parking. It is housed in a wood-framed shed with exhaust flues and intake louvers for combustion/exhaust. The generator is diesel-fired and its' fuel source is a diesel tank located outside of the generator structure surrounded by a fence. The generator equipment was observed to be in reasonably good condition and appears to be maintained. The fuel tank serving the generator is equipped with a filling station that appears to allow the dispensing of fuel to other vehicles/sources. The generator does not appear to be configured for automatic operation nor does it appear to be used as a backup and/or emergency source of power for the facility. It is connected to the electrical system for the arena in such a way as to supplement the capacity of the arena power system.

LIGHTING SYSTEMS

Lighting technologies implemented throughout the arena of the facility were observed to be a combination of Quartz (incandescent) and metal halide. The primary wattages utilized are a mixture of 400W, 500W, and 1,500W fixtures. Lighting measurements were not taken as observations were conducted during daylight hours and the horizontal sky-lights within the roof structure were observed to provide the primary lighting during the walkthrough. The luminaires, in general, appear to be original to the facility and were observed to be in generally good condition. The lighting system was observed to be well maintained and detailed record documents were present that indicate replacement lamp specifications for each luminaire type.

Quartz lighting sources were observed to be rail mounted throughout the arena area with fixtures aimed at strategic locations on the arena floor for both general and focused event-style illumination. Metal halide sources were observed to be utilized primarily in downlights hung from the roof structure at the short ends of the arena and at specific locations over the arena floor. It appears that the placement of several of the sources may be related to specific events held in the arena.

Automatic emergency lighting required for occupant egress capabilities throughout the arena area were not noticeable during the observational tour.

LIGHTING CONTROLS

Lighting systems throughout the arena area were observed to be manually controlled with wall mounted switches that operate contactors that control multiple lighting branch circuits. Manual controls for the arena lighting were observed to be located at two (2) primary locations – one at the electrical panelboards under the north bleacher seating area and one at the west end of the bleacher seating area. Zones of lighting control were observed primarily as a means to operate certain portions of the lighting based upon event requirements. It was observed that only a portion of the lighting system is capable of being operated from the "normal" power source (utility). The lighting loads were observed to be split such that the remainder of the arena lighting can only operate when the on-site generator is operational.

No automatic lighting controls were observed in the arena, and no daylighting controls were observed in the arena.

FIRE ALARM SYSTEMS

The entire structure, including the arena, restrooms, offices, and concessions, is served by an addressable fire alarm system. This system was observed to be a FireLite MS-9050UD series fire alarm system. System design documentation reviewed at the site indicates that this system was designed and implemented in or around the year 2011. The system was observed to include the following operational characteristics:

- Manual pull stations located at the exits from the facility and at the fire alarm control panel.
- Fire sprinkler system monitoring for the (2) fire protection risers within the facility.
- Horn and strobe (audio/visual) notification appliances throughout the facility.

The fire alarm control panel was observed to be monitored remotely through (2) phone lines connected to a security (intrusion detection) alarm system automatic dialer. It was observed that exits from the arena area identified the maximum occupancy of the facility to be 999 persons. At that occupant load, the installed fire alarm system appears to comply with the installation allowances for systems associated with "Assembly" type occupancies. However, in accordance with the International Fire Code, any additional occupants allowed, either by re-evaluation of the maximum occupancy or by increasing seating capacity within the facility, would require that the fire alarm system be upgraded/modified to include automatic voice evacuation systems rather than the audible horns currently in operation within the facility.

In general, the fire alarm system currently in use is, based upon the maximum posted occupant load, to be considered in good working order. The fire alarm system in place is reasonable new to the facility and should, with routine maintenance and care, be adequate for the facility for several years to come.

Telecommunications And Other Low Voltage Systems

Telecommunications service to the facility was observed to consist of copper lines from the serving utility connected to the building on the north side of the arena.

Security systems were observed in the facility, consisting of motion sensors, glass-break sensors, and door position sensors. The security system is connected to a remote monitoring service through phone lines and an automatic dialer.

SECTION 3

FINDINGS AND CONCLUSIONS

SITE/CIVIL

SITE ACCESS

Concrete stoops show signs of deterioration and all of them seem to have settled well below the finish floor of the existing building. At this time they are a tripping hazard and would not serve to provide access to a person in a wheel chair. Many of the concrete pads are undersized and do not meet the current ADA requirements. All of the concrete access pads at the doorway exits should be removed and replaced along with the type 2 base under the concrete pads.

SITE ADA REQUIREMENTS

Currently, there are no parking stalls striped or otherwise identified on the site. ADA parking stalls should be identified. ADA parking stalls at the Northwest and Southwest corners of the existing building would be an ideal. In addition, a small group of ADA parking stalls can also be place just west of the main entrance into the building with sidewalk and a stripped crosswalk with associated signage. Please reference the drawing at the end of this section indicating where these ADA stalls would be constructed. A complete building code and ADA assessment would need to be done to determine the actual number of spaces required.

ACCESSIBLE SPACES FOR CARS AND VAN-ACCESSIBLE PARKING

Van-accessible parking spaces are the same as accessible parking spaces for cars except for three features needed for vans: One out of every eight accessible parking spaces, but always at least one, must be van-accessible.

- A wider access aisle (96") to accommodate a wheelchair lift.
- Vertical clearance to accommodate van height at the van parking space, the adjacent access aisle, and on the vehicular route to and from the van-accessible space.
- An additional sign that identifies the parking spaces as "van accessible."
- Sign with the international symbol of accessibility mounted high enough so it can be seen while a vehicle is parked in the space. If the accessible route is located in front of the space, install wheel stops to keep vehicles from reducing width below 36 inches.
- Sign with "van accessible" and the international symbol of accessibility mounted high enough so the sign can be seen when a vehicle is parked in the space.
- ADA Parking area striping with Wheelchair symbols and parking aisle cross striping.

ROOF DRAINAGE

Roof drainage water from the gutters/downspouts is collected via underground pipes and is directed to a suitable spot away from the building foundation and parking area. The existing outlet for this water is near the Southwest corner of the building near the access road. This existing collection pipe will need to be examined to ensure that the pipe has not rusted and that no water is penetrating into the ground near the building foundation or slab. A backhoe with a small bucket can pothole at several locations near the drainage pipe to examine it more closely for signs of rust and pipe integrity.

SURFACE DRAINAGE

In order to provide proper slope on the existing parking lot a detailed topographical survey will need to be completed and analyzed by a licensed civil engineer. Once a design is completed this work will have to be bid out to a grading contractor who can mobilize a grader and a dozer to cut the material to the proper grade.

In addition, drainage swales and storm drain pipes may be needed to channel water away from the site to a suitable location. Based on current county standards there may be a possibility that retention/detention basins may also need to be implemented to control storm water runoff from the site. A detailed site survey will need to be completed in order to determine the locations of these retention/detention ponds.

EROSION CONTROL

Snow fencing, solid fencing, and hay bales are all effective at reducing wind erosion. Periodically wetting the soil is also helpful. Use reclaimed topsoil to get grass and plants growing again at the earliest opportunity to minimize both water and wind erosion. You can prevent heavy equipment and vehicles from damaging newly planted areas by cordoning them off with temporary fencing.

Erosion mats made from natural fiber are a good option for stabilizing slopes or stream beds after planting. The material eventually breaks down, but not before roots have taken hold to prevent erosion.

ARCHITECTURAL

METAL WALL AND ROOF PANELS

Overall, the building is in poor to fair condition. At a minimum, it is recommended that the following items are addressed to prevent further degradation and deterioration of the building envelope (refer to Site/Civil, Structural, Mechanical, and Electrical sections for additional items that should be included).

Building issues noted in the Architectural Analysis should be addressed by one of the following options:

Option 1

1. Reattach all loose wall panels. Replace all damaged and rusted panels. Replace all fasteners that have aged, dry, cracked gaskets. Re-establish finish grades around the building below the bottom of the wall panels (refer to site analysis). Seal all joints.
2. Reattach all loose roof panels. Replace all damaged panels. Remove and reinstall ridge vents and install new flashings to replace spray from under ridge cap. Replace all fasteners that have aged, dry, cracked gaskets. Seal all joints.
3. Seal around existing skylight panels, between all wall and roof panels and flashings.
4. Repair gutters and downspouts where damaged or where otherwise unsound.
5. Install new flashing boots around roof penetrations.
6. Reseal fascia support structure fasteners.
7. Prep and paint all wall panels and fascia, including T1-11 siding at entry.
8. Install new entry doors and frames.
9. Replace all hollow metal doors and door frames.
10. Replace all overhead doors and frames.
11. Re-establish finish grade around building (refer to Site/Civil).

To meet the goals and objectives of the Association to have a multipurpose facility that can be utilized year round, one of the following options is recommended (refer to Site/Civil, Structural, Mechanical, and Electrical sections for additional items that should be included).

Option 2

1. Reattach all loose wall panels. Replace all damaged and rusted panels. Seal all joints. Replace all fasteners that have aged, dry, cracked gaskets. Re-establish finish grades around the building below the bottom of the wall panels (refer to site analysis).
2. Reattach all loose roof panels. Replace all damaged panels. Remove and reinstall ridge vents and install new flashings to replace spray from under ridge cap. Replace all fasteners that have aged, dry, cracked gaskets. Seal all joints.
3. Replace all plastic composite skylights with new plastic composite skylights or with new insulated skylights.
4. Develop closure detail at top of walls and seal top of wall.
5. Repair gutters and downspouts where damaged or where otherwise unsound.
6. Seal around all wall/roof penetrations, between wall and roof panels and flashings.
7. Install new flashing boots around roof penetrations.

8. Reseal fascia support structure fasteners.
9. Install new scrim faced batt insulation at interior of wall panels - R-19 minimum at walls; R-30 minimum at roof.
10. Prep and paint all wall panels and fascia, including T1-11 siding at entry.
11. Install a plywood wainscot a minimum of 4-foot 0-inch high at the interior surface of exterior walls to protect new insulation and wall panels.
12. Replace all doors/door frames.
13. Re-establish finish grade around building (refer to Civil).

Option 3

1. Remove all existing wall panels, roof panels, fascia and ridge vents.
2. Remove existing T1-11 siding and heavy timber framers at building entry.
3. Remove existing gutters and downspouts.
4. Re-establish finish grades around building below wall panels.
5. Install new insulated, pre-finished metal roof and wall panels.
6. Reinstall roof vents.
7. Install new boots around roof penetrations.
8. Install new pre-finished metal panel fascia/fascia support structure.
9. Install new sheet metal gutters and downspouts.
10. Install new wall framework for new entry system at main building entry.
11. Install new pre-finished metal panels at entry.
12. Install new scrim faced R-30 minimum batt insulation at underside of roofing, new rigid insulation (polyisocyanurate or polystyrene) at inside face of all exterior walls.

WAINSCOTING

To help protect wall panels from future damage, we recommend installing a plywood wainscot at the interior face of the southwest and southeast walls.

DOORS

Exterior Doors and frames are in poor condition. We recommend the removal and replacement of all exterior doors and frames: Entry doors and frames, egress doors and frames and overhead doors and frames.

FASCIA

The building fascia is in fair condition. This element can be addressed in one of the following ways.

1. Replace existing damaged panels, prep and paint.
2. Replace all panels with new prefinished panels.
3. Remove and do not reinstall/replace.

STRUCTURAL

CONCLUSIONS

Based on our review of the available construction documents and our observation of the visible structural elements, with the exception of items identified in the Findings section of this report as needing repair or further investigation, no significant structural deficiencies or significant signs of distress were observed. The main structural system appears to be performing adequately for the current building use.

If the future occupancy does not change significantly, there does not appear to be a need for structural upgrading of the existing main building structural framing to meet current code requirements.

LIMITATIONS:

The evaluation and recommendations presented are made based on a visual, non-destructive inspection of the facility. Many structural members and connections were not readily accessible for viewing; therefore it is possible that structural deficiencies, other than those listed above may exist.

MECHANICAL

ROOF DRIPPING ABOVE SPECTATORS:

The existing infrared heaters are direct fired and the products of combustion are condensing on the roof and structure. Insulation and a vapor barrier will reduce this but the heaters should be replaced with sealed units with flue piped to the exterior to get the products of combustion out of the building. The existing heaters while still operating are approaching their useful life.

LACK OF HEATED VENTILATION AIR DURING MOTORIZED EVENTS:

During motorized events the fumes from vehicles make the air in the arena bad. During the winter when the ventilation fans are turned on, the cold air from outside makes the arena cold. LP fired ground mounted makeup units can be provided to temper the air used to ventilate the space. Air will be ducted from units located on the exterior of the building at grade and air ducted into the arena via sheet metal ducting. Smaller exhaust fans on variable frequency drives are recommended to allow for small events without over ventilating the arena. First and foremost, insulating the walls and roof will greatly improve the indoor environment and reduce the amount of energy required to heat and cool the facility.

INADEQUATE HEAT IN WINTER:

Insulating the roof and walls will decrease the amount of heat required. New gas unit heaters can be designed and sized based on the reduced load and heating comfort will be maintained.

NO COOLING IN SUMMERTIME:

There are two (2) options for cooling of the arena.

Option 1 will be to provide evaporative coolers with duct distribution to spectator area. New units would be located ground mounted on the north end of the building.

Option 2 provide packaged refrigerated DX pad mounted units to cool the arena with ducted distribution to spectator area. Units would be located ground mounted on the north end of the building.

DUST FROM DIRT ARENA:

If the dirt arena is to remain, pre-filters and final filters will be specified to protect the AHUs. However control of dust in the air cannot be accomplished easily. Electronic or filtered air cleaners suspended over the arena are ongoing maintenance costs that make this option extremely expensive and such systems are relatively ineffective. For this reason, we would not recommend these types of systems. Diligent watering of the arena appears the best way to reduce airborne dust. New HVAC equipment needs to have good filtration to protect the equipment

LACK OF CONTROLS:

If more sophisticated control is desired than the basic standalone control provided with items 1 through 5, a DDC control system can be added. This would allow programmed system control with web based access from remote PC for monitoring, scheduling and control of the building HVAC and lighting. System would control the following:

- Bleacher heating
- Arena heaters
- Arena ventilation
- Arena cooling
- Arena lighting

LACK OF ABILITY TO QUANTIFY ENERGY USAGE BY INDIVIDUAL USERS:

Each item above has included in the pricing basic system standalone type controls. To allow energy usage monitoring, Item 6 would have to be done first then an energy monitor module would be required to implement energy monitoring of the HVAC equipment and lighting. A card reader can be used to program specific setups and register of user. Nominal fees can be assessed for usage but actual metering for sale of energy cannot be done as it is against PUC rules.

DIFFICULTY OF OBTAINING PARTS AND SERVICE FOR REPAIR:

Since all of the mechanical systems are original and past their useful life, replacement of existing equipment and systems with new will provide systems that should not require as much maintenance. Until systems are replaced existing equipment will remain a service and repair problem due to age and condition.

ELECTRICAL

POWER DISTRIBUTION SYSTEMS

The observations described for the power distribution systems in Section 1 summarize the general observations of each pertinent component of the power distribution system on a per-unit basis, and in general, indicate that each component is in generally acceptable working order. However, as a system in total, it is recommended that significant improvements to the electrical systems be considered in order to allow for more flexibility for large load events, the potential for added HVAC loads, and to allow the system to adequately serve the facility without the need for on-site supplemental power capacity. Although the system appears to be in operating condition and is generally understood by the operators of the facility, the operation of the system – specifically in reference to the supplemental generator power – can be considered complicated and appears to require persons knowledgeable in how the system was constructed in order to allow for safe operation/integration of the two sources. The age of the equipment may pose risks to the facility as time passes due to unavailability of replacement or retrofit parts.

There does not appear to be sufficient infrastructure fed through the facility that would allow for road-show connections for concerts and/or events. As such, it is recommended that additional infrastructure be planned in any upgrades to the system to facilitate efficient connections to the temporary equipment that is generally associated with traveling events and shows.

The recorded demand for this facility falls well below the maximum rated capacity of the electrical system, which may seem to indicate that the system is capable of expansion for road-show loads and potential HVAC improvements. However, it does not appear that the facility has been used in full capacity for some time and the recorded demand may only be considerate of "nominal" uses for the facility. Furthermore, the physical arrangement of the electrical distribution equipment does not appear to be conducive to the efficient connection of additional loads without significant reconfiguration or modification. Based upon the age of the equipment, it can be assumed that the replacement of equipment may be less expensive than the alteration of the equipment in place.

It is not recommended that the current configuration of the system be utilized in any improvements that may occur. It is strongly recommended that modifications to the system include configuration of the on-site generator to act as a standby source and not be relied upon to increase the system capacity.

LIGHTING SYSTEMS

Significant efficiencies may be gained by retrofitting the existing lighting with new, energy-efficient sources. As an example, a 1,500W quartz 'T3' lamp is rated to produce 32,250 lumens, consume 1,500 watts, and has a rated life of approximately 2,000 hours. By comparison, an equivalent LED (Light Emitting Diode) source producing the same usable lumens consumes approximately 170 watts and has a rated life of 100,000 hours. In terms of energy savings, the LED source consumes 12% of the energy required by the quartz source, which is an energy savings of 88%. In addition, the quartz lamp will be replaced at least 50 times over the life of the LED source, resulting in maintenance cost reductions. Other benefits of utilizing energy-efficient sources such as LED include dimming capabilities, instant-on striking, and high color rendering without color shifting.

Based upon a very preliminary estimate, a complete retrofit of the lighting system to LED technologies would realize an estimated reduction in usage by approximately 122 KW (300 amps) on the electrical distribution system. This reduction may assist in allowing the existing electrical distribution system to accommodate other loads discussed in this report such as additional cooling loads and heating loads as an example.

Other energy efficient technologies such as fluorescent lamps would also create beneficial energy use reductions, though we would not estimate the reductions in energy usage or maintenance costs to be at the same level as LED technologies summarized above.

Rebates to off-set some of the capital investments in energy efficient technologies may be available from the serving utility company, but have not been evaluated in the pricing estimates summarized in Section 3.

Automatic emergency lighting systems must be implemented throughout the arena facility in order to provide adequate artificial illumination for occupant egress in the event of a power loss. These systems shall be capable of providing 1 footcandle (fc) of illumination uniformly along the entire path of egress throughout the facility.

LIGHTING CONTROLS

It is recommended that an automatic lighting control system be implemented throughout the arena to increase controllability of the lighting system. Lighting control upgrades would generally be required as a part of any energy efficiency upgrades related to the lighting systems as described above, based upon governing requirements of the International Energy Conservation Code. Utilizing automatic controls may provide for more efficiency of use, allow users/occupants customized control for the activities being performed, and assist in energy reduction measures. Automatic lighting control systems would generally include the following basic operational functions:

- Programmable timers that would allow for the lighting systems to be swept on/off based upon time of day and day-of-year settings.
- Manual controls that allow the user to operate lighting systems or portions thereof from accessible locations.

Additional lighting controls should be considered in relation to the skylights within the facility. Areas surrounding skylights and windows are defined by the energy code as "daylight zones" and current versions of the energy code require that additional controls be utilized in daylighting zones to allow for either manual or automatic adjustment of artificial lighting operation based upon the available daylight within a space. For a facility being anticipated to be used on a daily basis by the homeowner's, automatic daylight sensors may provide additional energy efficiency measures during daytime hours for lighting systems in near proximity to the skylights.

Fire Alarm Systems

Reconsideration of the occupant load within the facility to any quantity of occupants 1,000 or greater will require that the fire alarm notification system be replaced in its' entirety with a new voice evacuation system. It is not recommended that additional occupants be allowed in the facility above the stated and posted maximum levels.

Telecommunications and Other Low Voltage Systems

The telecommunications infrastructure within the facility is limited based upon the nature of the facility, but should be considered for upgrades to include wireless network connections throughout the arena.


Horse Palace
EX. ASPHALT ACCES
5' SIDEWALK
112.00
60.00
20.00
90.00
PROPOSED 5' WIDE CONCRETE SIDEWALK
ASPHALT OR CONCRETE SURFACE
PROPOSED LOCATION OF ADA PARKING WITH AISLES AND SIGNS
10' CROSS HATCHED REFLECTIVE STRIPING FOR PEDESTRIAN CROSSWALK W/ CROSSING SIGNS
EXISTING OUTLET FOR STORMWATER FROM ROOF AND SOUTH PARKING LOT
EXISTING STORMDRAIN PIPE OUTLET
EXISTING FLOWLINE FROM PARKING LOT
POSITIVE SLOPE AWAY FROM BUILDING 3% ~ 5%
PROPOSED FLOWLINE
POSITIVE SLOPE INTO FLOWLINE
EXISTING STOOPS, RAMPS AND/OR SIDE OF BUILDING NEEDS TO BE REMOVED AND REPLACED TYP.
EXISTING TANKS
N
SCALE
HORIZ: NONE
VERT: NONE
JOB NO:
REV.
DATE
DESCRIPTION
BY
APP'D
SHEET 1 OF 1
DESIGNED BY:
DRAWN BY: ACAD14
CHECKED BY:
SUMMIT ENGINEERING CORPORATION
1150 LAMOILLE HWY., ELKO, NV, 89801
PHONE: (775) 738-9058 FAX: (775) 738-8267
email: Nihl@summitnv.com
EXISTING SITE PLAN
SPRING CREEK HORSE PALACE
ELKO
ELKO COUNTY
NEVADA

SECTION 4

OPINION OF PROBABLE COST- SPRING CREEK HORSE PALACE

Facility Analysis

3-Oct-16

Spring Creek Association 16023.01

DIVISION	QTY	UNIT PRICE	TOTAL
CIVIL/SITE			
Repair Concrete at Site Entrances Remove existing concrete, re-establish grade, install base and new concrete slab	1 ls	$ 15,500	$ 15,500
Accessible (ADA) Parking Paving, striping, signage	1 ls	$ 40,000	$ 40,000
Surface Drainage Lower grade around building	1 ls	$ 45,500	$ 45,500
Erosion Control	1 ls	$ 4,500	$ 4,500
Design Contingency 20%			$ 21,100
Contractor O&H 15%			$ 18,990
CIVIL/SITE WORK TOTAL			**$ 145,590**
STRUCTURAL			
Replace Damaged Structural Members Assumes 5% of Wall Girts	1 ls	$ 3,150	$ 3,150
Prep and Paint Steel Assumes 25% of Roof Beams and 30% of Wall Girts and Columns	1 ls	$ 116,900	$ 116,900
Sawcut concrete and remove at interior Mechanical Room	1 ls	$ 1,050	$ 1,050
Design Contingency 20%			$ 24,220
Contractor O&H 15%			$ 21,798
STRUCTURAL TOTAL			**$ 167,118**
ARCHITECTURAL			
Wall and Roof Panels, Skylights and Insulation			
Option One- Regrade, Repair/ Replace, Seal and Paint Existing Wall and Roof Panels			
Clean/ remove dirt piled against siding- int	1 ls	$ 2,500	$ 2,500
Repair/replace and seal wall and roof panels; prepand paint siding and fascia. (Assumes 30% of panels to be replaced.)	1 ls	$ 450,000	$ 450,000
Replace Skylights with new Translucent Panels	112 ea	$ 250	$ 28,000
Install and Seal Flashings at all Wall Penetrations	1 ls	$ 25,000	$ 25,000
Repair/ Replace Gutters and Downspouts	1 ls	$ 12,500	$ 12,500
Design Contingency 20%			$ 103,600
Contractor O&H 15%			$ 93,240
Subtotal Option One			**$ 714,840**

DIVISION	QTY	UNIT PRICE	TOTAL
Option Two- All items included in Option One above plus install new scrim faced batt insulation.			
Option One Subtotal	1 ls	$ 518,000	$ 518,000
Install new R-19 Batt Insulation- Walls; Install new R-30 Batt Insulation- Roof	1 ls	$ 100,000	$ 100,000
Design Contingency 20%			$ 308,436
Contractor O&H 15%			$ 277,592
Subtotal Option Two			**$ 1,204,028**
Option Three Remove and Replace Existing Wall and Roof Panels with PreFinished Panels and Rigid Insulation - Walls, Batt Insulation - Roof.			
Remove existing wall and roof panels and install new insulated panels	1 ls	$ 950,000	$ 950,000
Install and Seal Flashgs at all Wall Penet.	1 ls	$ 25,000	$ 25,000
Install New PreFin. Gutters and Dwnspts.	1 ls	$ 18,500	$ 18,500
Design Contingency 20%			$ 198,700
Contractor O&H 15%			$ 178,830
Subtotal Option Three			**$ 1,371,030**
Option Four			
Remove and Replace Exist'g Wood Siding/ Soffit and HT Frame at Entry with PreFinished Insulated Panels at Main Entry	1 ls	$ 25,000	$ 25,000
Design Contingency 20%			$ 5,000
Contractor O&H 15%			$ 4,500
Subtotal Option Four			**$ 34,500**
Option Fiver Install New Plywood Wainscot at SW and SE Walls			
Install New Plywood Wainscot	1 ls	$ 9,000	$ 9,000
Design Contingency 20%			$ 1,800
Contractor O&H 15%			$ 1,620
Subtotal Option Five			**$ 12,420**
Doors and Frames			
Remove and Replace Entry Doors, Hdwr	8 ea	$ 3,500	$ 28,000
Remove and ReplaceMandoors, Hdwr and Frames	8 pr	$ 5,000	$ 40,000
Remove Overhead Doors and Frames	7 ea	$ 795	$ 5,565
Replace OH Doors 16' x 14' and frames	2 ea	$ 8,755	$ 17,510
Replace OH Doors 14' x 14' and frames	1 ea	$ 6,800	$ 6,800
Replace OH Doors 12' x 14'	2 ea	$ 6,500	$ 13,000
Replace Overhead Doors 12' x 12'	1 ea	$ 4,775	$ 4,775
Replace Overhead Doors 10' x 14'	1 ea	$ 4,500	$ 4,500
Install New Bollards at OH Doors	14 ea	$ 950	$ 13,300
Design Contingency 20%			$ 26,690
Contractor O&H 15%			$ 24,021
Subtotal Doors and Frames			**$ 184,161**

DIVISION	QTY	UNIT PRICE	TOTAL
MECHANICAL			
Item One Sealed, Vented Infrared Htrs. at Grdstands	1 ls	$ 72,450	$ 72,450
Item Two 8 Propeller circulation fans 1/2hp each 4 End wall propeller fans 10hp each 4 Motorized intakes 120v each Heated Makeup air unit with duct – 15hp, 4,000 Mbh	1 ls	$ 194,670	$ 194,670
Item Three 8 LP Gas Heaters	1 ls	$ 71,300	$ 71,300
Item Four Cooling			
Option A Evap Cooling	1 ls	$ 80,500	$ 80,500
Option B DX Cooling	1 ls	$ 198,950	$ 198,950
Subtotal Mechanical			
Items One, Two and Three			$ 338,420
Design Contingency 20%			$ 67,684
Contractor O&H 15%			$ 60,916
Subtotal Items One, Two and Three			**$ 467,020**
Items One, Two,Three and Four A			$ 418,920
Design Contingency 20%			$ 83,784
Contractor O&H 15%			$ 75,406
Subtotal Items One, Two, Three and Four A			**$ 578,110**
Items One, Two, Three and Four B			$ 610,109
Design Contingency 20%			$ 122,022
Contractor O&H 15%			$ 109,820
Subtotal Items One, Two and Three			**$ 841,951**
Item Six Lack of Controls	1 ls	$ 81,900	$ 81,900
Design Contingency 20%			$ 107,474
Contractor O&H 15%			$ 28,406
Subtotal Item Six			**$ 217,780**
Item Seven: Quantify Energy Use	1 ls	$ 27,300	$ 27,300
Design Contingency 20%			$ 42,543
Contractor O&H 15%			$ 10,476
Subtotal Items Seven			**$ 80,320**

DIVISION	QTY	UNIT PRICE	TOTAL
ELECTRICAL			
Power Distribution Systems			
Main Electrical Service Upgrade Includes the replacement of the existing main panel with new of increased capacity to accommodate road-show capacity (200A estimate) and HVAC capacity (400A), automatic transfer switch to interface generator with the utility service, and utility company costs (estimated) to increase transformer capacity.	1 ls	$ 75,000	$ 75,000
Branch Panelboard Replacement Includes the replacement of nine (9) branch panelboards throughout the facility with new equipment, circuit breakers, and feeders to main panel with branch circuits reconnected.	1 ls	$ 63,000	$ 63,000
Lighting Systems			
LED Lighting Equipment Retrofit Includes one-for-one replacement of arena luminaires with flood-style LED of equivalent lumens. Does not include utility rebates that may be applicable.	1 ls	$ 70,000	$ 70,000
Emergency Lighting Installation Includes the installation of emergency lighting equipment and branch circuits.	1 ls	$ 26,000	$ 26,000
Lighting Controls			
Automatic Lighting Control System	1 ls	$ 15,000	$ 15,000
Includes the installation of a relay-based networkable low-voltage lighting control system with integral astronomical timeclock, relays, low-voltage control stations and integration into power distribution system.			
Automatic Daylight Control Includes the installation of localized daylight control sensors at each skylight for automatic dimming of general lighting systems. Note that this cost option assumes a retrofit of the existing lighting technologies as the existing lighting systems in use generally are not capable of dimming (metal halide sources).	1 ls	$ 14,000	$ 14,000
Design Contingency 20%			$ 52,600
Contractor O&H 15%			$ 47,340
ELECTRICAL TOTAL			**$ 362,940**