

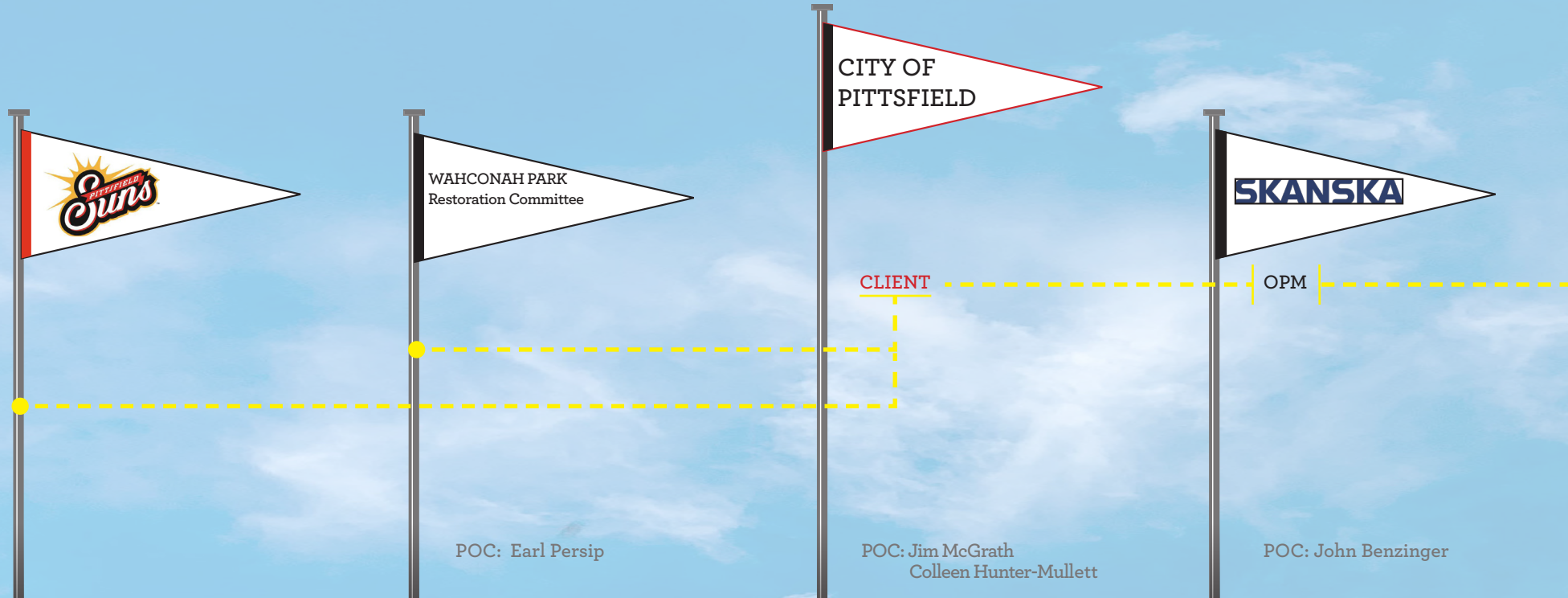
CITY OF  
PITTSFIELD



**WAHCONAH PARK REHABILITATION  
FEASIBILITY STUDY**



# PROJECT TEAM



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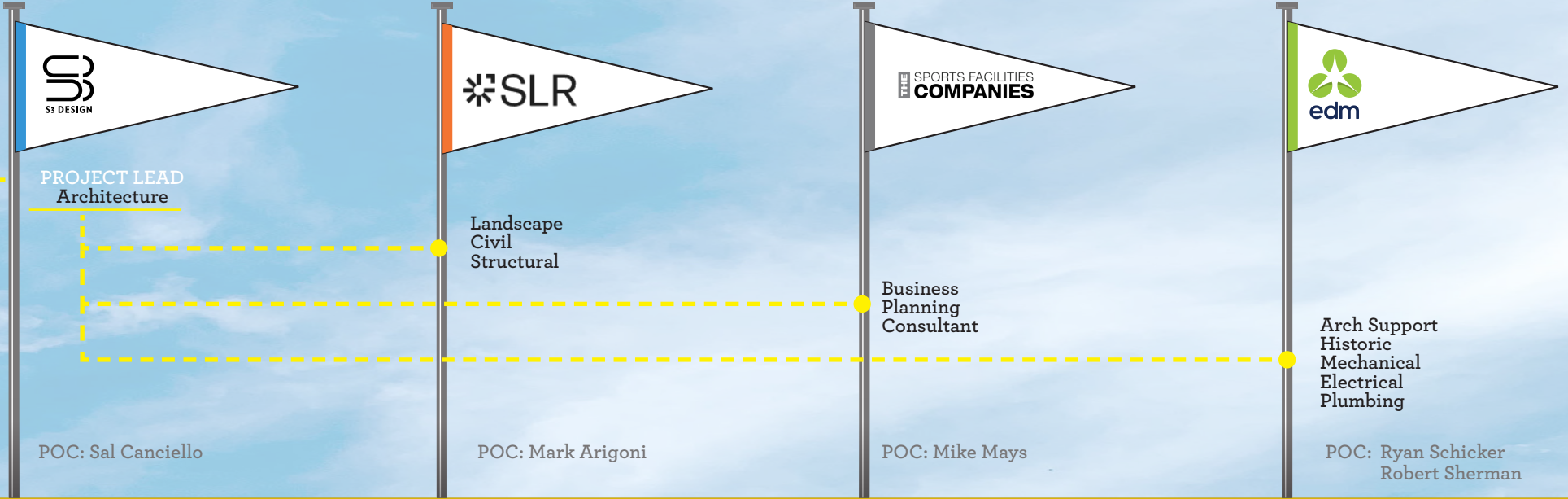
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# INTRODUCTION

‘Just a Little Bit of Heaven’ was the headline of the July 1990 Sports Illustrated article extolling the virtues of Wahconah Park. The article is only one of the many accounts of the park’s rich history and cultural significance for Pittsfield, baseball, and our nostalgia for a simpler time that the park represents. An essential aspect of our approach to the rehabilitation is the development of solutions that preserve the park’s historic charm while updating its facilities to position it for future success.

Throughout the process of the study, the significance of the Wahconah Park project has been expressed within the Restoration Committee, the Pittsfield Suns, and the Community. The Design Team learned about the features and experiences that were important to maintain in the design options explored.

The goal of the study is to provide a clear course of direction to reactivate the ballpark as an anchor to the City of Pittsfield for generations come. In determining direction, the Design Team was tasked with developing a comprehensive design solution for the stadium and site that addresses the following priorities:

- Rebuild the grandstand/bleachers
- Mitigate parking lot and site flooding
- Maintain / enhance historic character and intimate game-day experience
- Upgrade the facility to meet the current program needs and maximize accessibility.

This study is a culmination of researched history, site observations, Committee & Community workshops, as well as the development of design concepts with cost estimates to provide Wahconah Park with the blueprints to re-imagine that “Just a little bit of heaven” feeling.



# HISTORY

In the heart of Pittsfield, Massachusetts, lies the venerable Wahconah Park, a historic baseball field and grandstand. Nestled amidst the picturesque Berkshire hills, located along the West Branch of the Housatonic River, at 143 Wahconah Street, Pittsfield, Massachusetts, this hallowed ground has witnessed the great American pastime since its inception in 1892.

Wahconah Park has seen numerous alterations and adjustments through its history. Notably, the current Grandstand, a structure crafted from concrete and steel and crowned with a metal shed roof, was erected in 1950 and is the fourth built on the site. The park can accommodate approximately 2,000 spectators on its wood bleachers and has been the home of various minor league baseball teams. The park is uniquely oriented toward the setting sun, one of the only professional parks in the country to face this direction. It also plays host to numerous local events and has been the site of significant special events throughout its history.

The passage of time has taken its toll on this historic landmark. The existing grandstand, which has hosted countless fans and memorable games, has been declared unsafe for occupancy. The structural and architectural elements have succumbed to time, demanding repairs and restoration efforts to ensure the continued existence of this cherished relic of America's baseball heritage.

In 2005, Wahconah Park received the distinction of being certified as a National Historic Place, primarily recognized for its integral role as a recreational and cultural hub. The contributing resources

encompassing this historical designation are the Grandstand, Bleachers, Ballfields, Parking Area, and the Parks Department Recreational Facilities. Its areas of significance are its contribution to Architecture and to Entertainment and Recreation, as the park has long served as a centerpiece for community engagement and leisure, most notably through the sport of baseball.

Wahconah Park's renown within the realm of historical preservation and professional circles extends beyond its structural attributes. It is celebrated for its intimate atmosphere, distinctive character, and its ability to transport visitors to bygone eras—a living testament to the past. Within the scope of the renovation project, the Grandstand, Bleachers, and Parking Area will undergo changes allowing the park's enduring significance to continue, both as a repository of the historical narrative of baseball and a vibrant venue for entertainment and recreation.

The renovation will encompass essential structural enhancements to align with modern standards. New concession stands, restrooms, and accessible seating areas will be thoughtfully integrated, designed to pay homage to the stadium's original architectural aesthetics and echo the original form of the grandstand. The seating arrangements will be a harmonious blend of tradition and modernity, seamlessly melding the timeless appeal of wooden benches with the comfort and durability of contemporary materials.

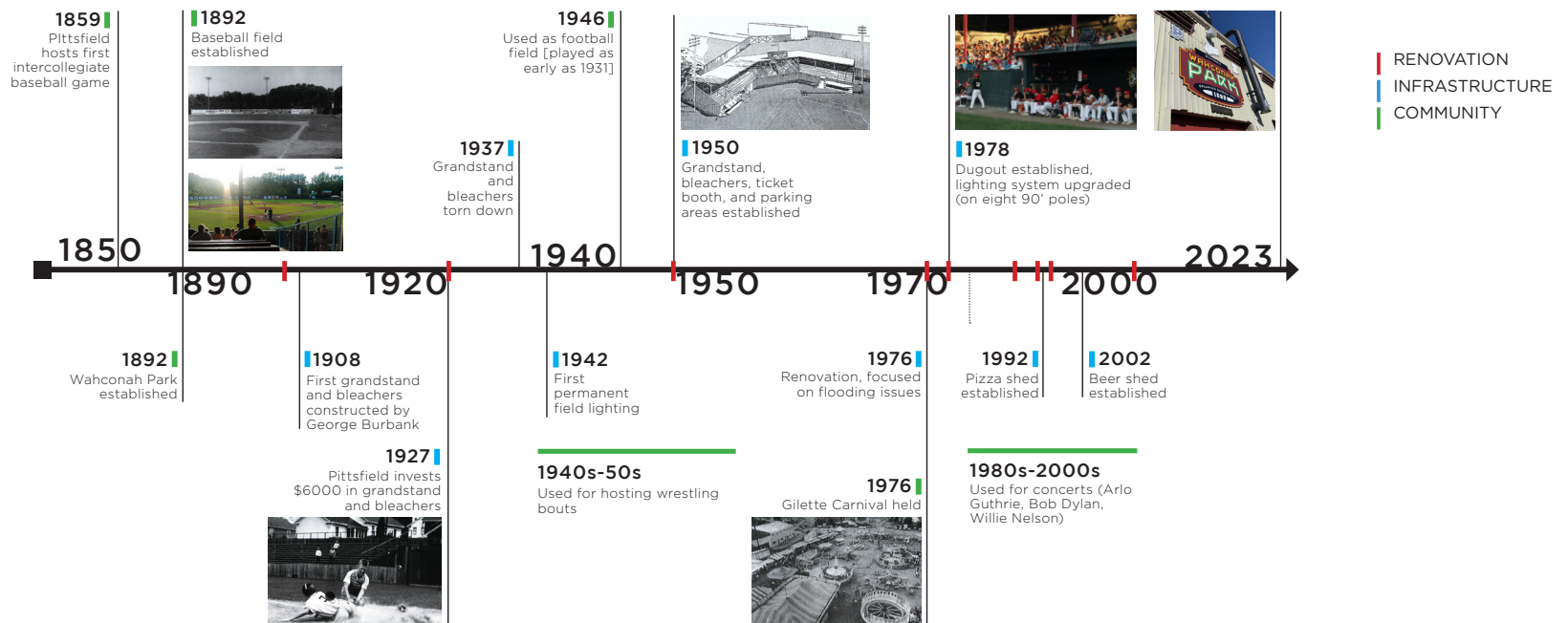




The most significant architectural elements, the exposed steel structure, the sloping shed roof and the intimate scale of the project will remain faithful to the original design while new elements are brought in to provide a fabric for future generations.

The ball field, which is the centerpiece of the Historic Significance, will remain in its orientation toward the setting sun, a unique attribute that contributes to the park's allure. During summertime games, a "sun delay" is imposed, often between early innings, to allow the sun to drift low enough in the sky to not blind the batter. This has created a local tradition unique to this field, a third or fourth inning stretch, where fans will spend time catching up with friends and refilling their drinks or grabbing a snack. Though this renovation may seem like an opportunity to change what is seemingly a flaw to the orientation of the field, the community, including players and fans alike, have unanimously agreed that this is one of the most cherished factors in the history of the field and that preserving the orientation is critical to the future of the park. This is no more clearly shown than with the current club, the Pittsfield Suns, celebrating this event in their very name.

Throughout the course of this renovation, the overarching objective has remained unwavering: to safeguard the essence that defines Wahconah Park, enabling it to continue serving as a cornerstone of the Pittsfield community. The park has hosted wrestling bouts, boxing championships, concerts featuring Bob Dylan and Willie Nelson, countless community celebrations, fairs and festivals, all while continuing its baseball tradition. This cherished ballpark, nestled beneath the shadow of the majestic Berkshire hills, shall continue to stand as a symbol of unbroken history, a testament to the community's resolute commitment to its roots. Far from diminishing its historic allure, the renovation shall, instead, secure the park's legacy, ensuring that it remains a place where the community is woven together, echoing through the generations yet to come.







# FACILITY + SITE ASSESSMENT

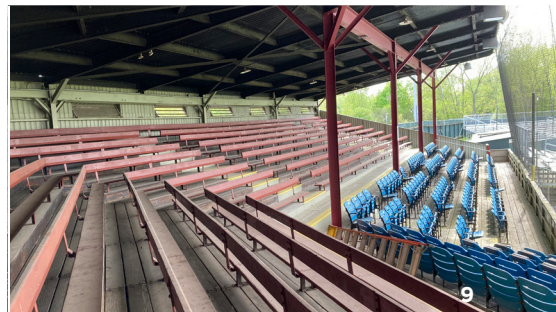
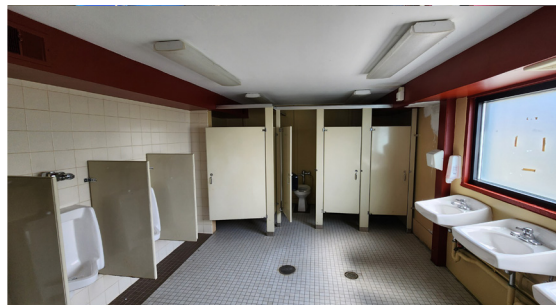
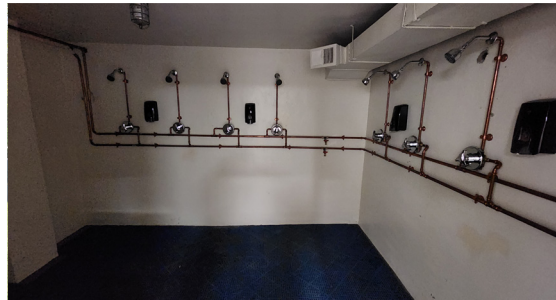
The catalyst for the renovation project was the closing of the grandstand seating in 2022 due to structural integrity issues. With a deeper dive into the facility through observation, research, structural and soil analysis, the Design Team developed a greater understanding of the ballpark and what opportunities were available to not only solve the immediate issues, but to take advantage of this “once in a generation” opportunity to position the ballpark for the next hundred years. The site analysis brought forth interesting discoveries:

- *The existing timber pile foundations can be reused with modifications.*
- *The roof needs to be replaced and requires structural reinforcing*
- *The restroom count is far below the code requirements.*
- *The playing surface has a layer of hard compact silt/clay, which prevents water on the field from properly draining.*
- *New footings would require deep piles given the soil conditions*
- *Observation of current flooding and historical aerial photography led to a determination of the flood elevation resulting from standard rainfall events.*

# 2

\*The detailed reports can be found in Section 9 Appendix of this document.







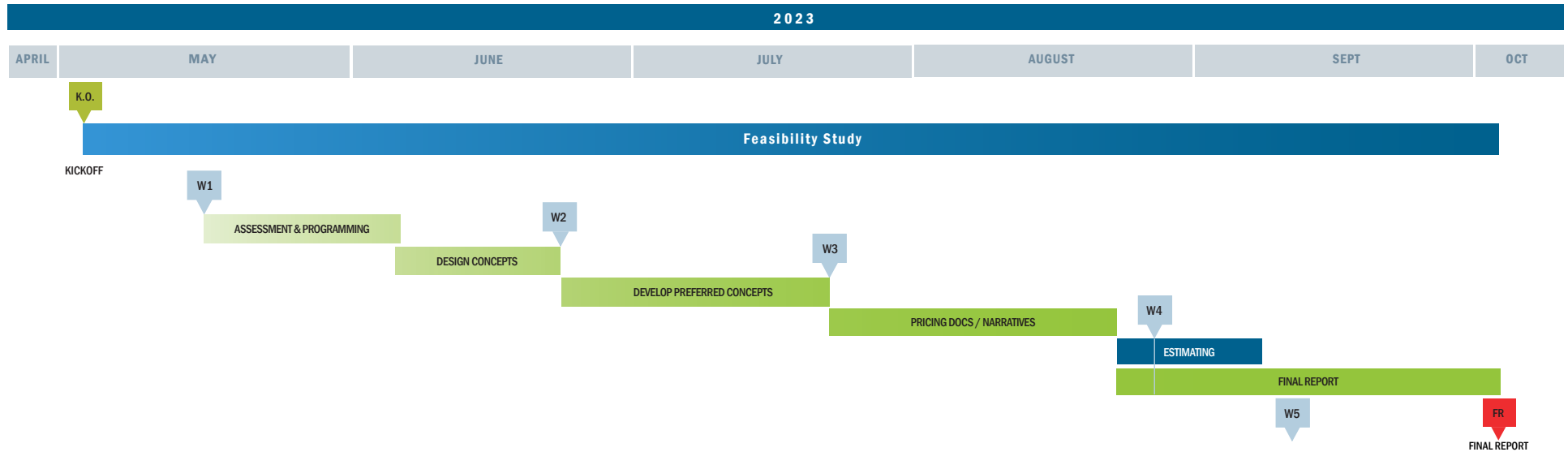
An aerial, grayscale photograph of a baseball stadium. The field is visible in the lower half, and the seating bowl is in the upper half. A large, white number '3' is centered over the field, set against a dark green square background.

3

PROCESS



# FEASIBILITY SCHEDULE



The feasibility study kicked off on May 5, 2023. The process began with reviewing existing conditions, previous studies, and understanding the flood plain challenges as well as the historic nature of the facility.

A series of workshops were held with the Restoration Committee as well as the local community to review progress of the design team. Workshops 1 - 3 were held in person in Pittsfield, with the 4th Workshop being a virtual meeting with the Restoration Committee.

The culmination of this process is to have this final document as a road map for the Restoration Committee to provide their recommendation to the community.

This feasibility report also includes budget pricing of the two options and can be found as an Appendix to this report.

# WORKSHOPS

## 1 MAY 15, 2023

Workshop 1 began with the Restoration Committee and Design Team walking the site together to discuss the overall challenges of the project, while allowing the Design Team to take a deeper dive into viewing the existing facility.

The follow-up meeting discussed the Design Team's guiding principles for the defining the success of the project. Those principles include flood management, honoring history, and meeting the program and desired capacity for events.

The group reviewed high level program elements as it relates to the Suns baseball team as well as the community, and any shared program.

Seating capacity was analyzed compared to similar leagues and ballparks, and where Wahconah Park fell within the league averages.

## 2 JUNE 15, 2023

The Design Team showed the results of testing the idea of rotating the field for a more ideal sun orientation. It was determined and agreed upon with the Committee that it was in the best interest of the project to keep the current orientation.

Initial concepts were revealed and included a mix of minimal renovation, and larger building additions. The initial program was developed and shared with the Committee.

The Design Team spoke with the Community for the first time in this process. The purpose of this forum was to introduce the project, the team, and the challenges being investigated. The Community was very engaged in conversation about the Park and elements that are sacred and elements that need improvement.

## 3 JULY 20, 2023

Workshop 3 took a deeper dive into the Design Team's approach at resolving the flooding in the parking lot, and presented a rendered plan of the site concept.

The Wahconah Park options were narrowed down to 2 options and presented in a more formal design. There is a Renovation Option, rebuilding mostly what is there and upgrading for code, and there is the Elevated Option which builds above the flood plain and includes an upper concourse.

Initial massing concept renderings were presented to give a sense of character and materiality.

Playing surface as a future phase was discussed with data and cost analysis between natural grass and artificial turf.

## 4 AUGUST 24, 2023

A virtual workshop 4 took place Aug 24. Updates were made by the Design Team in regards to the soil conditions from the test pits, as well as the structural borings.

Both ballpark concepts were further developed and rendering views for final feasibility graphics were discussed as a group.

Program updates included gross square footage of conditioned and open air space.

The presentation wrapped up with some cost performance data on natural grass and turf playing surfaces.

## 5 SEPTEMBER 28, 2023

This workshop reviewed the budget estimate and resulted in the Committee approving the recommendation for the Elevated Option at the \$30M budget price.



# 4

# PROGRAM

## SUMMARY

Starting in May, we conducted a site tour, several meetings with The Suns, The Restoration Committee, and the community. Through these meetings, our goal was to evaluate the existing conditions, assess what the site can accommodate, and gain insight into the future vision for Wahconah Park from the stakeholders.

Based on this feedback, market research of similar facilities, and the project team's design, construction, and operational experience, we collaborated with the design team to develop a program that would support the needs of a baseball team tenant while also aligning with the vision that was expressed by the committee and community. Some of the program elements evaluated were seating capacity, food and beverage size, team amenities (locker rooms, training area, offices), and an area for the history of Wahconah Park to be celebrated.

## BASEBALL

### Locker rooms

- Home Locker
- Visitor Lockers
- Official's Lockers
- Women's Lockers
- Weight Room

### Sun Delay

- Mitigate
- Celebrate
- Both?

### Seating Types

- Chair
  - Bench
  - Cafe
  - Grass
- ### Business
- Offices
  - Pro Shop

### Playing Surface

- Baseball
- Community Sports Use
- Historic Considerations
- Other Events

### Spectator Experience

- Concourse
- History
- Restrooms

### Concessions

- Traditional (Menu)
- Food Truck
- Beer Garden

## COMMUNITY

### Events (non Sports)

- Outside-Stadium
- On-field



# PROGRAM

PROGRAM	EXISTING			NOTES
	QTY	SF/UNIT	TOTAL SQFT	
<b>HOME BASEBALL CLUBHOUSE</b>				
STORAGE			150	
LOCKERS			670	
RESTROOMS			150	
SHOWERS			110	
LAUNDRY			133	
OFFICE			49	
OFFICE SHOWER/RR				
SPORTS MEDICINE			150	
STRENGTH + CONDITIONING				
ALL GENDER LOCKER CH RM				
SHOWER / RR				
<b>TOTAL</b>			<b>1,412</b>	

PROGRAM
150
700
155
155
120
100
100
150
700
100
120
<b>2,550</b>

RENOVATE OPTION	ELEVATED OPTION
0	308
1050	804
160	130
112	127
100	195
95	95
0	80
205	360
0	615
125	93
108	80
<b>1,955</b>	<b>2,887</b>

NOTES
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<b>OFFICIALS LOCKERS</b>				
LOCKERS			40	
SHOWER / RESTROOMS			40	
<b>TOTAL</b>			<b>80</b>	

100
120
<b>220</b>

115	118
100	100
<b>215</b>	<b>218</b>

<b>VISITOR BASEBALL CLUBHOUSE</b>				
LOCKERS			508	
RESTROOMS			43	
SHOWERS			111	
OFFICE			133	
ALL GENDER LOCKER CH ROOM				
SHOWER / RR				
<b>TOTAL</b>			<b>795</b>	

700
155
155
-
100
120
<b>1,230</b>

400	725
108	152
70	130
46	0
180	155
80	88
<b>884</b>	<b>1,250</b>

<b>PUBLIC RESTROOMS</b>				
MEN'S RESTROOM	5 URINALS	4 TOILETS		*DOES NOT MEET PLUMBING CODE
WOMEN'S RESTROOM		8 TOILETS		
FAMILY RESTROOM				


6 T, 5 U	13 T, 8 U
22 TOILETS	23 TOILETS
	2 RR'S

MEETS CODE FOR FIXED SEATING CAPACITY
MEETS CODE FOR FIXED SEATING CAPACITY

<b>STORAGE</b>				
FIELD STORAGE			200	
MAINTENANCE			100	
GENERAL STORAGE			200	
<b>TOTAL</b>			<b>500</b>	

400
*Will vary 750-1250
200
<b>1350-1850</b>

1000	1000
100	220
165	260
<b>1,265</b>	<b>1,480</b>

SITE
SITE
SITE



PROGRAM	EXISTING			
	QTY	SF/UNIT	TOTAL SQFT	NOTES
<b>CONCESSIONS / RETAIL</b>				
FOOD CONCESSIONS	2	220	440	
CONCESSIONS STORAGE	2	150	300	
BEER CONCESSIONS	2	130	260	CURRENTLY IN SHED
BEER STORAGE	2	70	140	CURRENTLY IN SHED
SPIRIT SHOP			160	CURRENTLY IN SHED
SPIRIT SHOP STORAGE	0		-	
<b>TOTAL</b>			<b>1,300</b>	
<b>TICKET BOOTH / SECURITY</b>				
			<b>50</b>	
<b>UTILITY / MECHANICAL</b>				
<b>HALL OF FAME / HISTORY WALL</b>				
			-	
<b>SUNS OFFICE SUITE</b>				
			256	CURRENTLY IN TRAILER
OFFICE			-	
MEETING / VIP ROOM			-	
OPEN OFFICE AREA			-	
<b>TOTAL</b>			<b>256</b>	
<b>PRESS BOX</b>				
			250	ON ROOF, NON- ACCESSIBLE
<b>SEATING CAPACITY (FIXED)</b>				
			1,160	
<b>GROSS SQ FEET - SEATING</b>				
			9,465	
<b>GROSS SQ FEET - BUILDING</b>				
			6,680	
<b>TOTAL GROSS SQ FEET</b>				
			<b>16,145</b>	
<b>GROSS SQ FEET CALCS</b>				
INTERIOR CONDITIONED SPACE				
OPEN AIR				
STAIR (OPEN)				
GRANDSTAND				

PROGRAM	RENOVATE OPTION	ELEVATED OPTION	NOTES
850	537	1054	
150	242	367	
(2*200) 400	200		INCLUDED IN CONCESSIONS SF
150	SITE	SITE	
100	BOOTH	BOOTH	
60			
<b>1,310</b>	<b>979</b>	<b>1,421</b>	
<b>100</b>	<b>278</b>	<b>250</b>	
	<b>250</b>	<b>475</b>	
	<b>680</b>	<b>330</b>	
240	280	220	
250	230	350	
250	0	0	
	<b>510</b>	<b>570</b>	
<b>200</b>	<b>260</b>	<b>365</b>	
	<b>1316</b>	<b>1348</b>	
	<b>11,055</b>	<b>10,400</b>	
	<b>13,000</b>	<b>30,365</b>	
	<b>25,141</b>	<b>40,765</b>	
	9,166	13,572	
	4,920	15,793	
	-	1,000	
	11,055	10,400	



**Parking:** The proposed designed and engineered improvements to the driveway and parking areas will create a less flood prone and more functional, environmentally sensitive, and attractive area for visitors to the facility. The main driveway will be realigned to create a better traffic flow into the facility, creating a dedicated drop-off/pick-up lane, maintenance access, bus access and bus parking area, and three separate areas of parking. The main parking area will be paved and formally striped for approximately 143 vehicles. This parking area will be pulled away from the wetland/floodplain and reconstructed at a slightly higher elevation allowing for expansion of the existing wetland and creation of a floodplain storage area. The secondary overflow parking area will be constructed of compacted gravel and have vehicular capacity of approximately 87 vehicles and allowable bus parking for up to 9 buses. The third area of overflow parking will be a reinforced grass parking field off the entry drive having the capacity to park an additional 60 vehicles. It is the intent of the parking areas to have easy access to the main driveway, as well as additional exits onto Wahconah Street through existing City owned right of way or easements. These additional access points will be gated and only used when larger events required additional parking.

**Circulation / Fan Experience:** From entering the property from the road, driveway, parking, and walking to the stadium, it is the intent to create excitement and nostalgia. Decorative signage, sight lighting, decorative fencing, baseball themed pavement patterns, shade trees and landscaping, benches and picnic table, monuments, and sculptures, will all create a sense of anticipation to interact with all aspects of the park facility, day and night. Walking from the parking area, into the facility, spectators will enter through a large gate with decorative masonry piers and an overhead steel structure, complimenting the architecture of the proposed renovated/new grandstand. The front plaza space pavement will be baseball themed, surrounded by decorative fence and shade trees, creating an area for congregation, mingling, and visiting sponsors tents, reading historical signage panels, or grabbing a team program.

**Storm water / flood plain:** The engineering design for the improvement to the oftentimes flooded parking will include the excavation and expansion of the existing wetlands and floodplain. While the dimensions of the renovated parking lot will be smaller than the existing, the proposed parking lot will be higher in elevation, paved, and line striped for functionality. The lower portion of existing flooded parking will be 'given back' to the floodplain of the river by excavating approximately 75,000 SF of area. This excavation will not only keep many of the routine flooding events out of the parking lot, but it will also provide the compensatory floodplain storage required to elevate the new parking areas and construct the grandstand improvements. The drainage improvements will consist of several low impact development (LID) to convey and treat storm water run-off, including vegetated bio-infiltration swales, and sediment forebays. In conjunction with the reconstruction of the parking area, several hundred feet of the failing existing underground Wahconah Street drainage discharge will be daylighted and pulled away from the river's edge, becoming part of the wetland and compensatory mitigation project.

**Field improvements (the minimal to maintain the natural grass):** Although a myriad of field drainage systems have been installed within the baseball field over the past 50 plus years, it appears that the field still does not drain properly. While some of the drainage improvements associated with the parking lot and Wahconah Street drainage daylighting project will help to convey water from the site, we are proposing that a new under-drainage system be installed to increase the playability of the natural grass field after rain events. It is also our recommendation that the field either be re-sodded or be over-seed including layer of supplemental sand/compost/loam layer spread and leveled into the field to fix the planarity of the outfield grass.

**SITE**

**5**











# 6

## CONCEPTS

### FIELD ORIENTATION STUDIES

Through the workshop process, the Design Team investigated the Sun Delay and the orientation of the field to conform to Major League Baseball's Rule 1.04 standard. The outcome of the field orientation studies are presented in this section.

Based on this analysis, the Renovation Committee determined that it was not advantageous to rotate the field.

### INITIAL CONCEPTS

With options for rotating the field eliminated, the Design Team presented four initial concept options for the grandstand renovations that maintained the current field's location and orientation.

### OPTIONS SELECTED FOR FURTHER STUDY

Upon review of the options with the Restoration Committee, it was determined that Option 1 and Option 4 would be developed further and priced as part of this study.



# FIELD ORIENTATION STUDIES

## SUMMARY

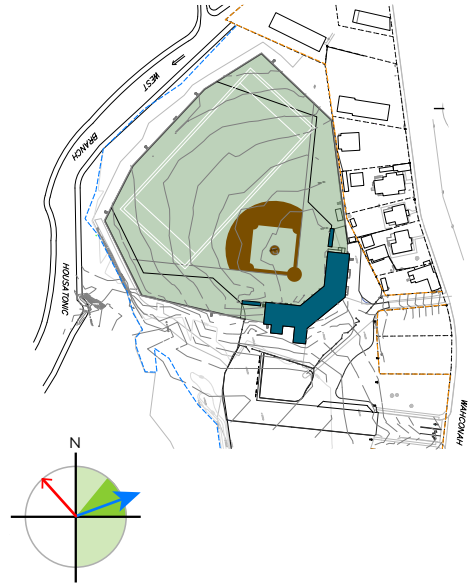
Part of Workshop 2 was the investigation into the possibility of rotating the field to a more ideal orientation, described in Major League Baseball's Rule 1.04:

*Major League Baseball clearly states in rule 1.04 "THE PLAYING FIELD: It is desirable that the line from home base through the pitchers plate to second base shall run East Northeast."*

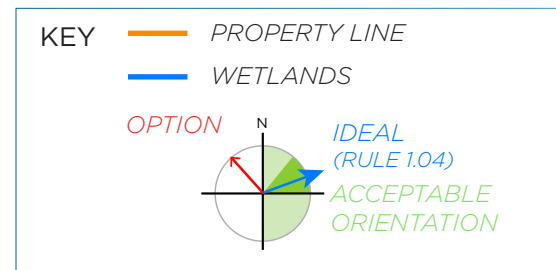
The current field orientation faces Northwest, which was not an issue during its early days of hosting day games. However, after lights were installed in the 1940's, games were pushed into the evenings for a better attendance. Due to this shift in game time, the batter would be staring at the setting sun and a fastball at the same time.

This visibility challenge for the batter made way for the "Sun Delay" which ranges from 15 to 30 minutes. The public opinion on the Sun Delay is a positive one, where spectators feel it gives the ballpark a historic quirk, and also serves as a 2nd 7th inning stretch. Some concern on the player side relates to warmed up pitchers having to pause throwing for up to 30min.

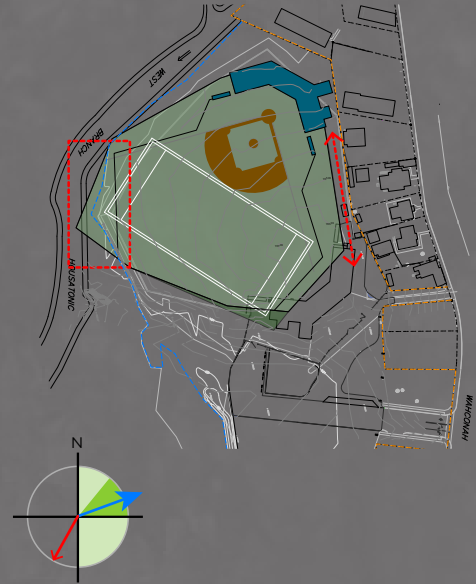
## EXISTING ORIENTATION



While the field is not ideally oriented in regards to the sun, it does offer a welcoming approach onto the property from Wahconah Street. The back of the grandstands can be seen from the main road and maintains a presence as spectators move from their vehicles to the ballpark.



## ROTATE OPTION 1



Rotating the field and facing home-plate southwest of the site will not help the issue of the sun, as it is still not in the ideal "green zone". The outfield encroaches the wetlands area and would require re-dimensioning the right field area.

In addition, the main circulation from the parking lot to the grandstands would be along the residential property line. The approach to the site from Wahconah Street is not ideal as there is not sense of arrival to the stadium being tucked away from the parking lot.

## ROTATE OPTION 2

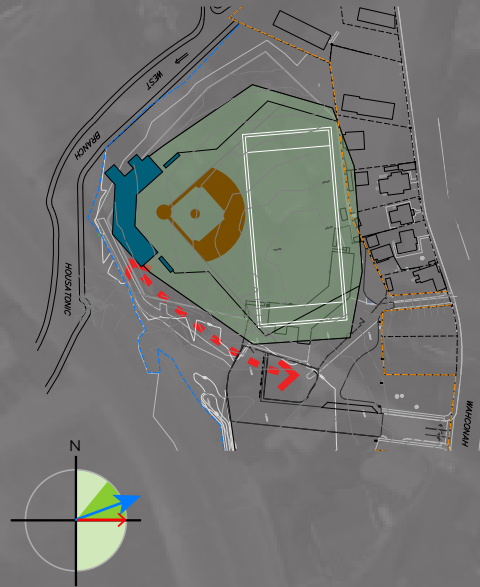


Option 2 attempts to locate the grandstands and field within the ideal orientation range. This location creates a few challenges; The grandstand is geographically furthest from the parking lot and makes it difficult to get spectators to the grandstands without walking extended distances.

The right field area of the outfield would require additional site work as the grading begins to step down in this area.

One highlight of this option is the approach from Wahconah St would allow views into the field towards the grandstands.

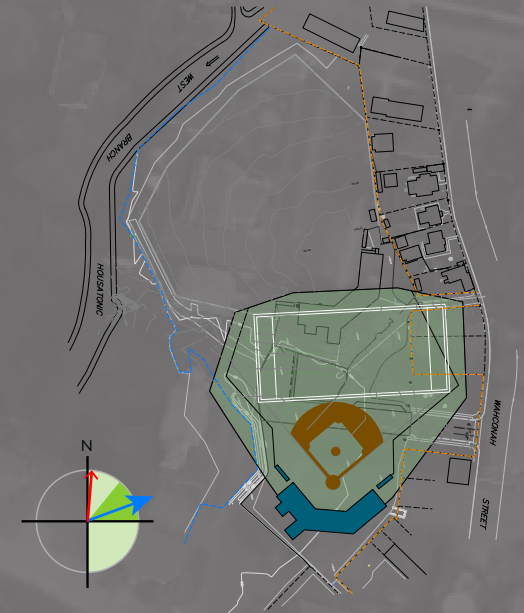
## ROTATE OPTION 3



The Design Team studied the "most ideal" scenario for the field's orientation in the above option. While promoting a similar approach from Wahconah St as Option 2, the proximity of the grandstands to the wetlands are problematic for an area that tends to flood. The connection between parking and grandstands is improved, though it takes spectators on the edge of the wetlands.

Current outfield dimensions would need to be reduced to avoid the residential property line. Additional netting would likely be required to protect neighboring residences.

## ROTATE OPTION 4



The final rotated option moves the field to the very southern part of the site and faces north. This placement is complicated with access required for parking that would likely require procurement of additional properties.

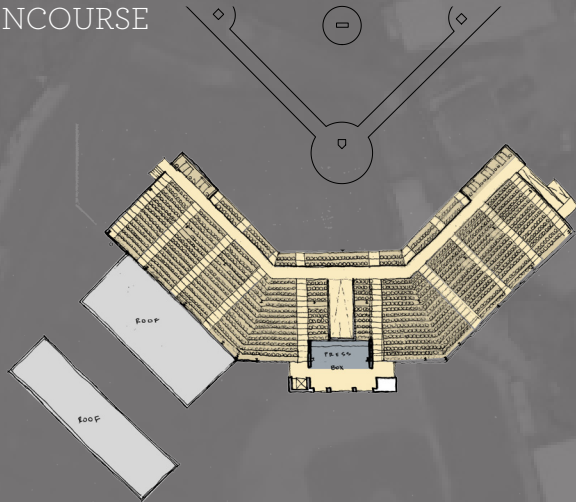
As the Design Team reviewed rotating options, the consensus amongst the Committee and Design Team was that rotating the field was not feasible unless it could fit within the existing site and face the ideal orientation. Any additional measures taken to acquire property, etc. would not be in the best interest of the project moving forward.



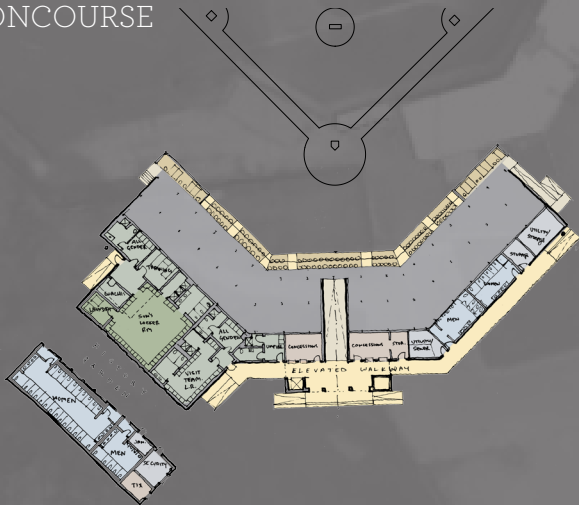
# INITIAL CONCEPTS

## OPTION 1\*

UPPER CONCOURSE

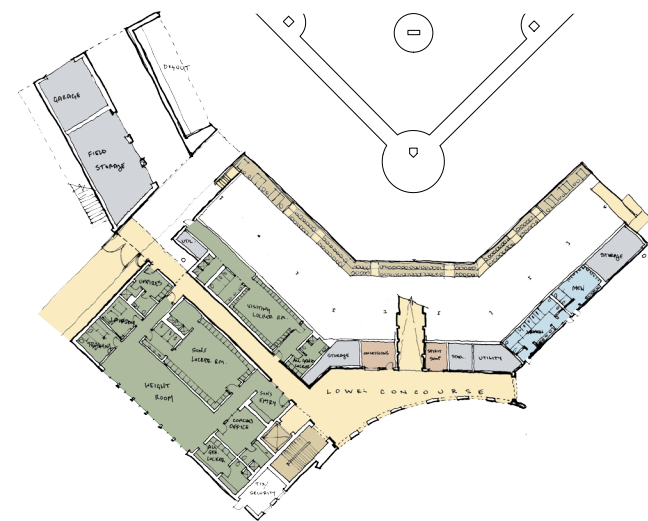
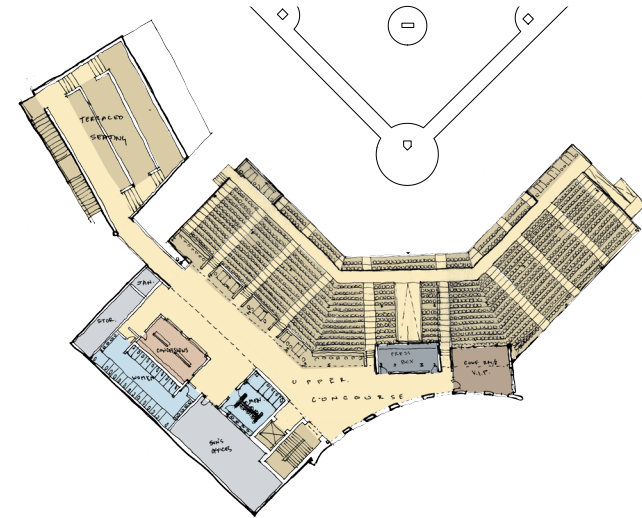


LOWER CONCOURSE



*Option 1: Rebuild and upgrade program in same configuration as current ballpark. Provide additional code required restrooms in a standalone building. The goal of this design is to maintain the existing roof and bring facility to code.*

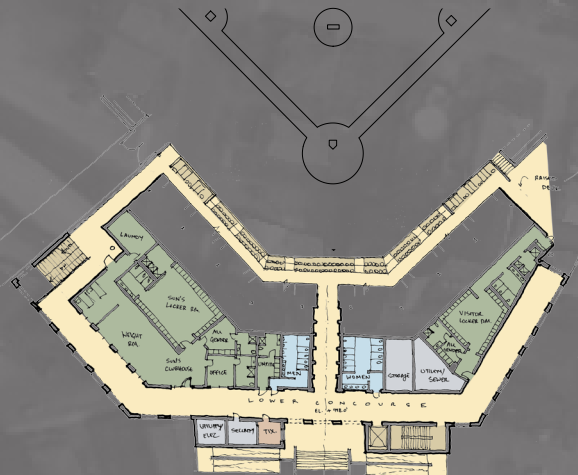
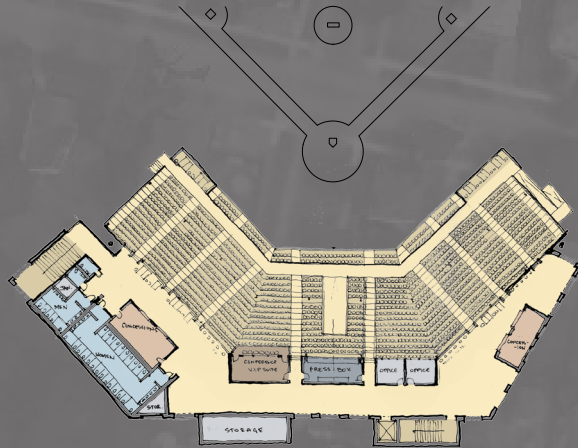
## OPTION 2



*Option 2: Also maintains existing roof and rebuilds program under the grandstands. This option consolidates additional program into one volume. Additional terrace seating structure over field storage.*

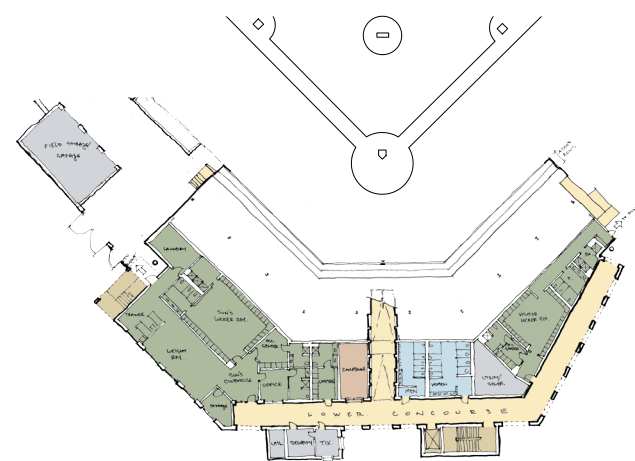
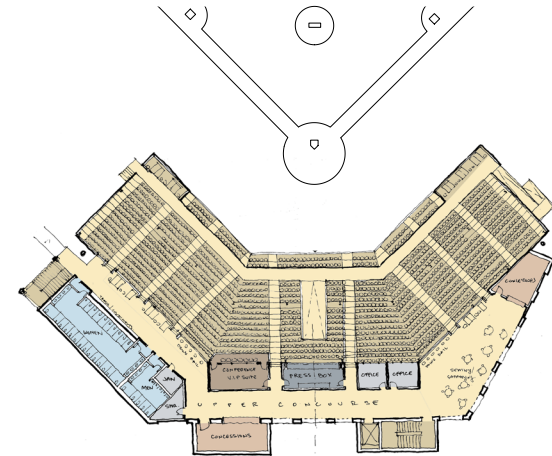
\* = Preferred Options

### OPTION 3



Option 3: By replacing the roof at a higher elevation in the same place, Option 3 opens the possibility of an upper level concourse, while retaining the character of the existing roof. Team lockers are located closer to their respective dugouts.

### OPTION 3B\*



Option 4: While the organization of Option 4 is very similar to Option 3, there is a significant difference between the two. Option 4's lower concourse would be elevated above the 100 year flood plain. None of the program spaces would require flood-specific construction methods.



# RENOVATION OPTION

## *Preserving the Roof*

### SUMMARY

The Renovation Option is a design response to maintaining the existing roof structure for historic purposes. Keeping the roof structure does require significant repairs to the bases of the structural columns, and extensive remediation of lead paint. Historically, and practically, this is the only element of the existing structure that can be reasonably retained. This is due to other elements of the building not resonating as historic features. The cladding of the building is not original and contains hazardous materials (asbestos).

The grandstand's structural deficiencies require a complete demolition and reconstruction, however an analysis of the pile foundations has determined that the new grandstand can be configured to re-use much of the existing foundation system.

The existing conditions analysis also determined that extent of renovation needed to existing interior spaces under the bleachers and the locker room additions would be so extensive that the only viable option is demolition and reconstruction as well.

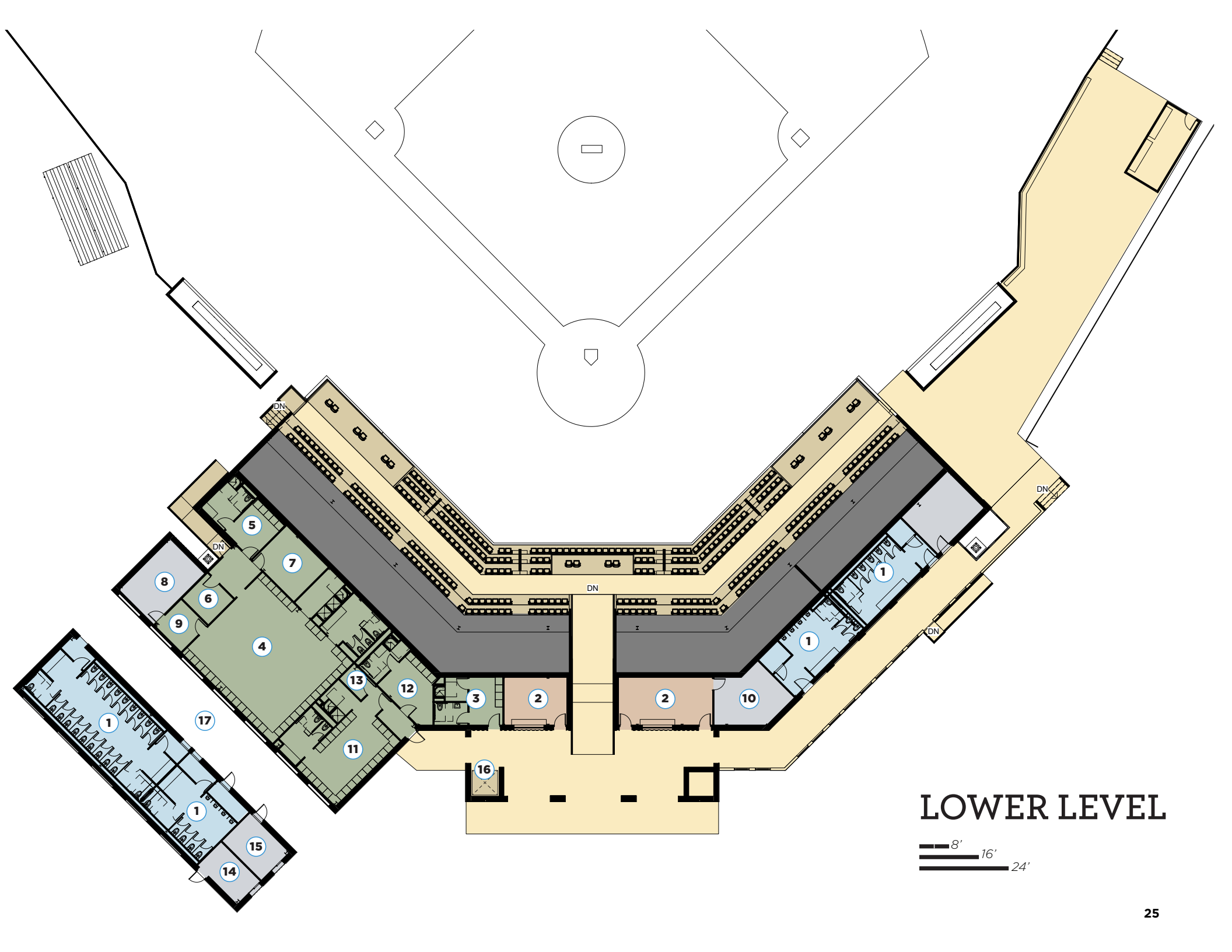
While completely reconfigured to meet the program needs and current building code, the rebuilt interior support spaces follow the existing footprint as much as possible to utilize as much of the existing foundation as practical.

One of the key upgrades of this option is the addition of the restroom building on the southwestern corner of the entry. While much larger than the existing restrooms, the fixture count is based on the Massachusetts building code for the capacity and occupancy of the stadium. In order to knit the building into the ballpark, this standalone building forms one side of a open-air pavilion that would showcase the history of Wahconah Park.

The challenge in the Renovation Option is that it would be rebuilt with the floor level of habitable spaces below the 100-year flood plain elevation. This will require the design and construction to be flood resistant, and include measures to allow for the passive flooding of the interior spaces.

#### KEY

- 1 PUBLIC RESTROOMS
- 2 CONCESSIONS
- 3 OFFICIALS LOCKER ROOM
- 4 SUNS LOCKER ROOM
- 5 GENDER INCLUSIVE HOME LOCKER ROOM
- 6 COACH'S OFFICE
- 7 SPORTS MEDICINE
- 8 STORAGE
- 9 LAUNDRY
- 10 UTILITY
- 11 VISITORS LOCKER ROOM
- 12 GENDER INCLUSIVE VISITOR LOCKER ROOM
- 13 COACH'S OFFICE
- 14 TICKETS
- 15 SECURITY
- 16 LIFT TO PRESS BOX
- 17 HISTORY PAVILION

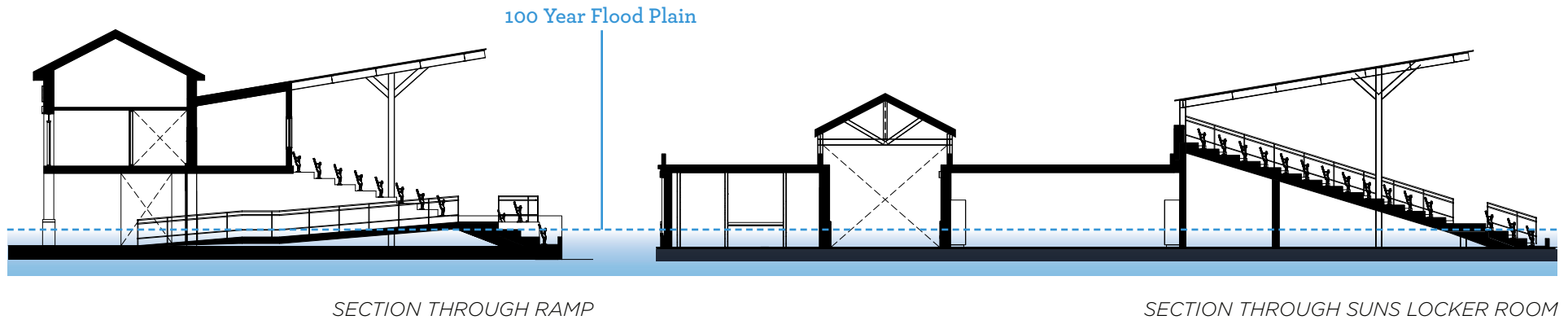


# LOWER LEVEL





## SECTION DIAGRAMS



## RENOVATION OPTION STATS

1,316 Fixed Seats

Existing roof location retained

Build smallest footprint to meet program and current code requirements

Accessible Press Box and Suns Offices

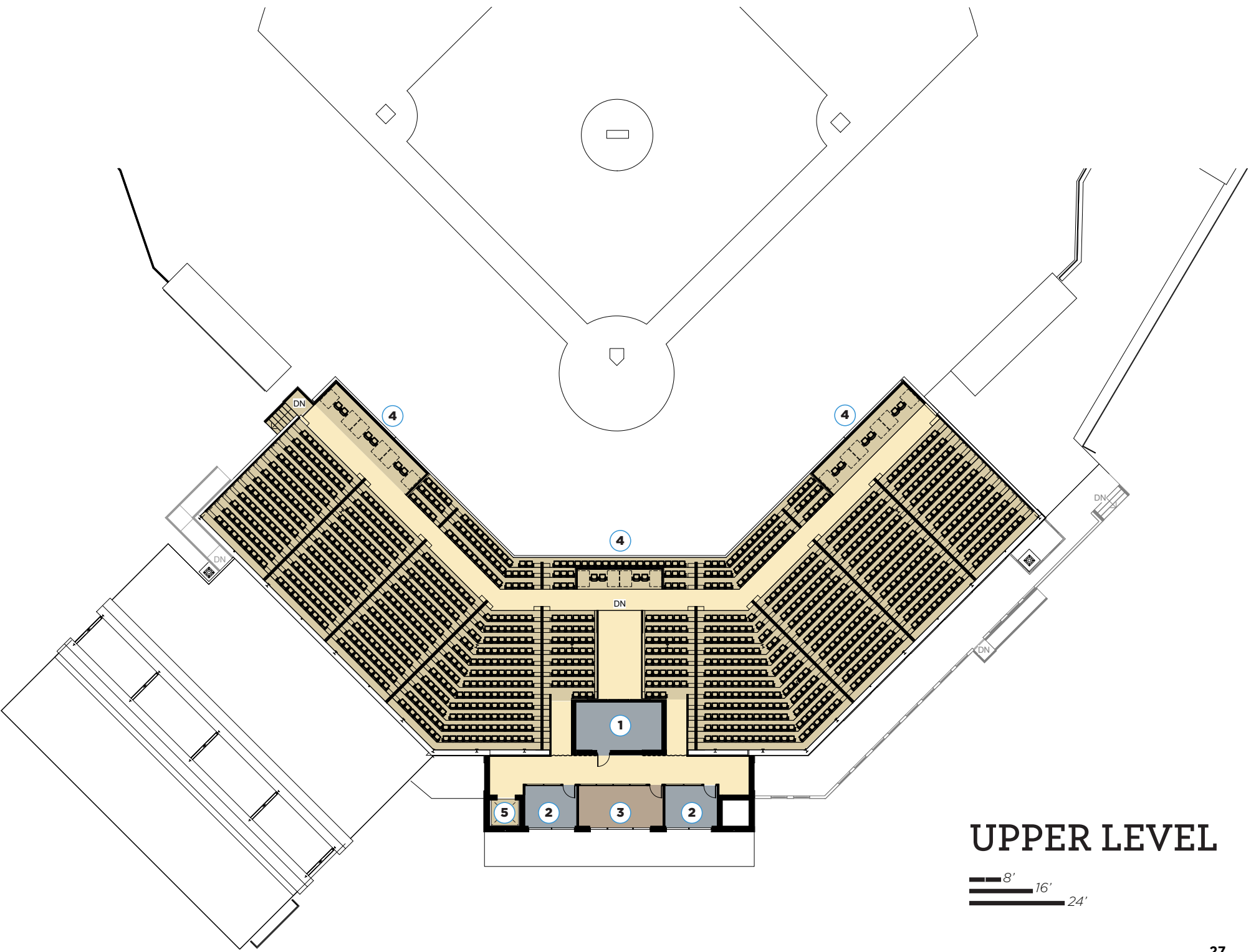
Accessible Lower Concourse

9,166 GSF Interior Conditioned Space

Total GSF: 25,141 GSF

### KEY

- 1 PRESS BOX
- 2 SUNS OFFICE
- 3 CONFERENCE ROOM
- 4 ADA SEATING
- 5 LIFT TO PRESS BOX LEVEL

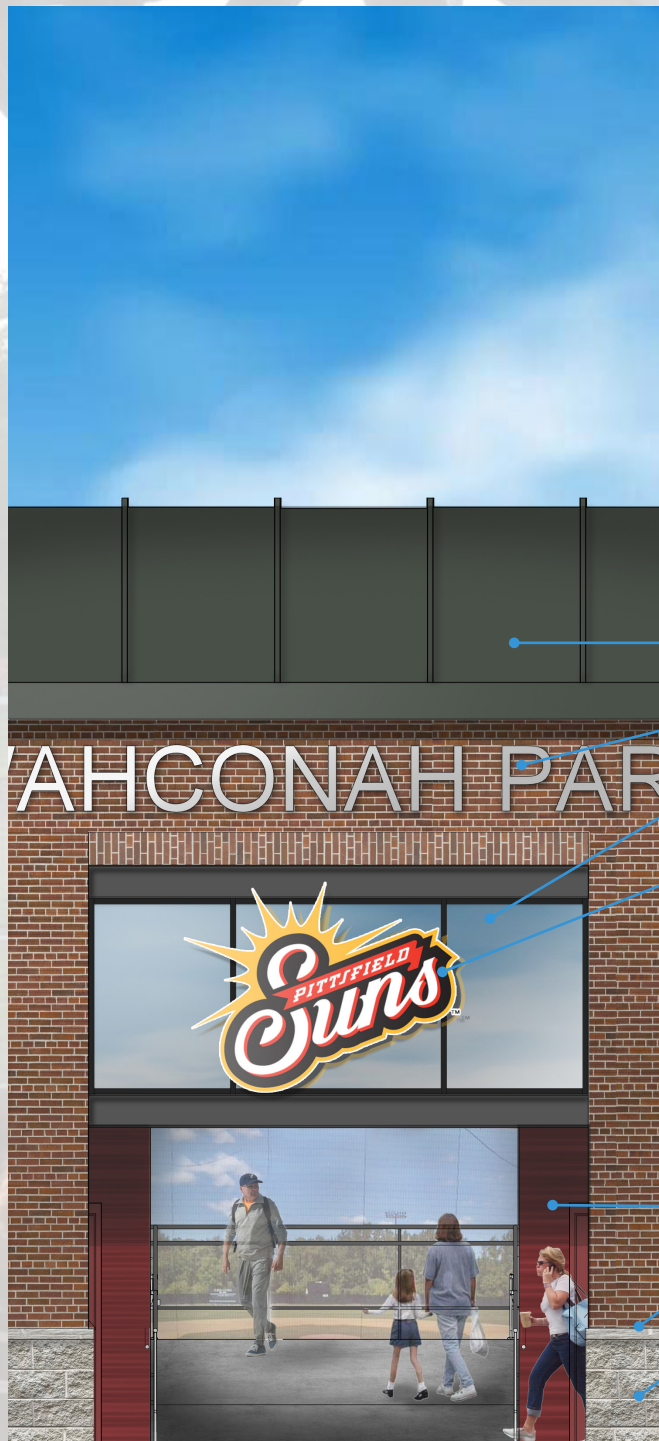


# UPPER LEVEL





## EXTERIOR ELEVATION STUDIES



METAL ROOF (AT ENTRY BUILDING)

BACKLIT PIN LETTERING

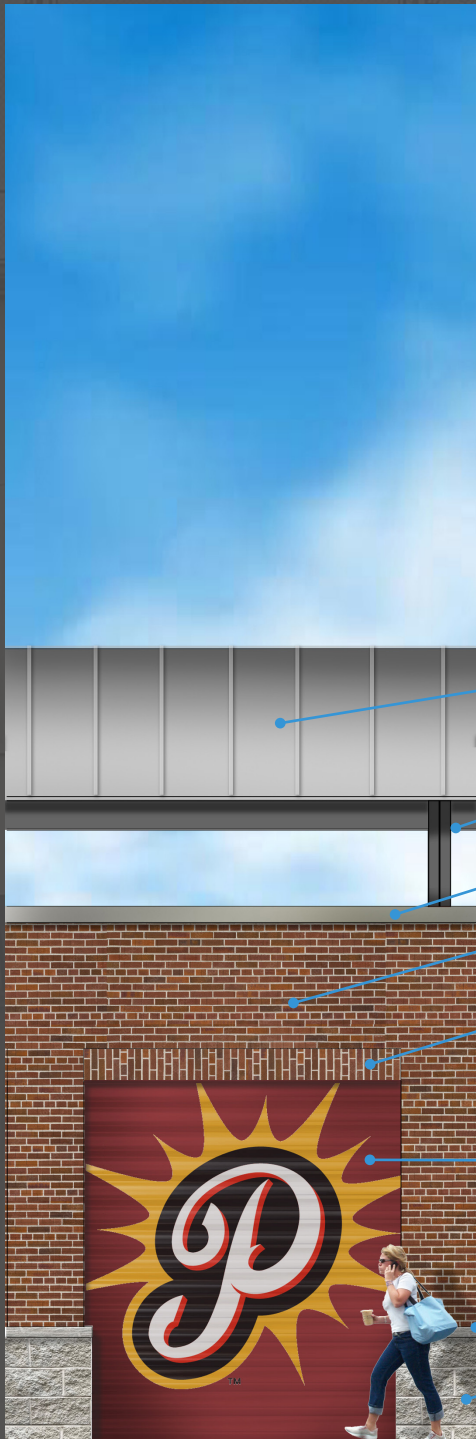
SUNS 3D SIGN MOUNTED TO MULLIONS

GLAZING

CORRUGATED METAL WALL (BEYOND)

6" SPLIT FACE STONE CAD

SPLIT FACE BLOCK WALL



METAL ROOF (OVER SEATING)

ROOF STRUCTURE (STEEL)

METAL COPING AT TOP OF BRICK

BRICK PATTERN: AMERICAN BOND 5-COURSE

12" SOLIDER COURSE HEADER

CORRUGATED METAL WALL

6" SPLIT FACE STONE CAP

SPLIT FACE BLOCK WALL





## Aerial View

*Creating a new front porch allows the design to maintain and emphasize the familiar central entrance tunnel for fans approaching the ballpark. Located on the upper level of the porch is the new Press Box which has been relocated into an accessible area, along with the Pittsfield Suns' offices.*

*The Locker Room and Restroom buildings form an outdoor pavilion that fans can experience the history of the ballpark along the 3rd baseline.*

*The building is a blend of brick and corrugated metal. The corrugated metal is a nod to the current nature of the ballpark, while the brick evokes that historic baseball atmosphere found in baseball lore.*





## View From Field

*The design keeps the existing footprint of the original grandstand, though adds additional rows closer to home plate to enhance the proximity to the field, and provides the appropriate accessible seating that meets the spirit of the code.*

*The beer garden along the 1st base line is elevated slightly to give fans a better view of the ballgame while enjoying standing room and casual seating.*



## SUMMARY

The Renovation Option is more of a “rebuild” than a renovation, but provides familiarity to fans in re-imagining the ballpark in its current location and preserving the roof that delivers a historic character over the grandstands. Programmatically, the design includes enhancements to the fan experience through accessibility, dedicated areas for display of the history of the site, and upgraded amenities.



View From Plaza





WAHCONATT PARK

Pittfield  
Suns

Pittfield  
Suns

Suns



# ELEVATED OPTION

*Raising Program Above the Flood Plain*

## SUMMARY

The Elevated Option sets the lower concourse above the 100 year flood plain elevation, keeping all program spaces out of reasonable flood conditions. This creates a continuous accessible lower concourse loop around the grandstands. With the elevation change, the existing ramped central tunnel transforms into a level corridor that will be decorated with the rich history of Wahconah Park.

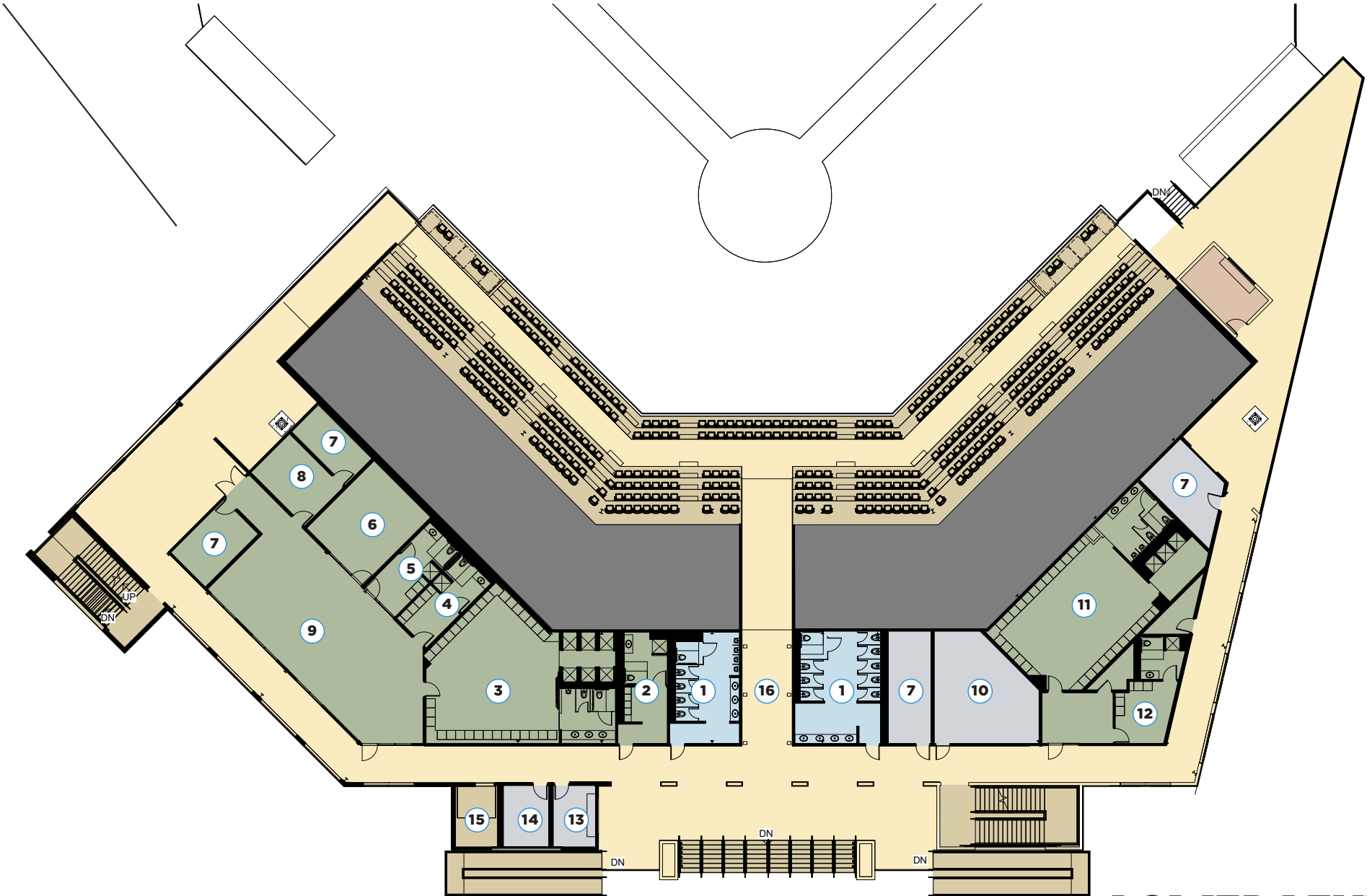
The support program on the lower level is situated behind the new grandstand seating vs underneath, which simplifies construction and provides an opportunity to support an upper concourse for additional fan amenities. To accomplish this, the existing roof structure is at a higher elevation, but utilize the existing footings and maintain the same character of the original. With a raised roof, fans can not only access their seats from the Upper Concourse, but have the ability to view the game from alternative seating, and while waiting for concessions.

The organization of the concept keeps the lower concourse more focused on the baseball teams. Each team locker room is located near their dugout for convenience, while the home team clubhouse has additional spaces allowing for a Strength + Conditioning space.

The upper concourse serves the spectators, the Press Box, and Suns' offices, all accessible via two covered stairways and an elevator. Program elements on this level include restrooms, concessions, and areas to set up spirit booths. Covered accessible seating and bar-height counter areas are mixed along the top of the seating bowl. The Press Box sits in line with home plate, with Suns' offices and a VIP suite located on each side.

### KEY

- 1 PUBLIC RESTROOMS
- 2 OFFICIALS LOCKER ROOM
- 3 SUNS LOCKER ROOM
- 4 GENDER INCLUSIVE HOME LOCKER ROOM
- 5 COACH'S OFFICE + RESTROOM/SHOWER
- 6 SPORTS MEDICINE
- 7 STORAGE
- 8 LAUNDRY
- 9 STRENGTH + CONDITIONING
- 10 UTILITY
- 11 VISITOR'S LOCKER ROOM
- 12 GENDER INCLUSIVE VISITOR LOCKER ROOM
- 13 TICKETS
- 14 SECURITY
- 15 ELEVATOR
- 16 HISTORY WALL
- 17 CONCESSIONS

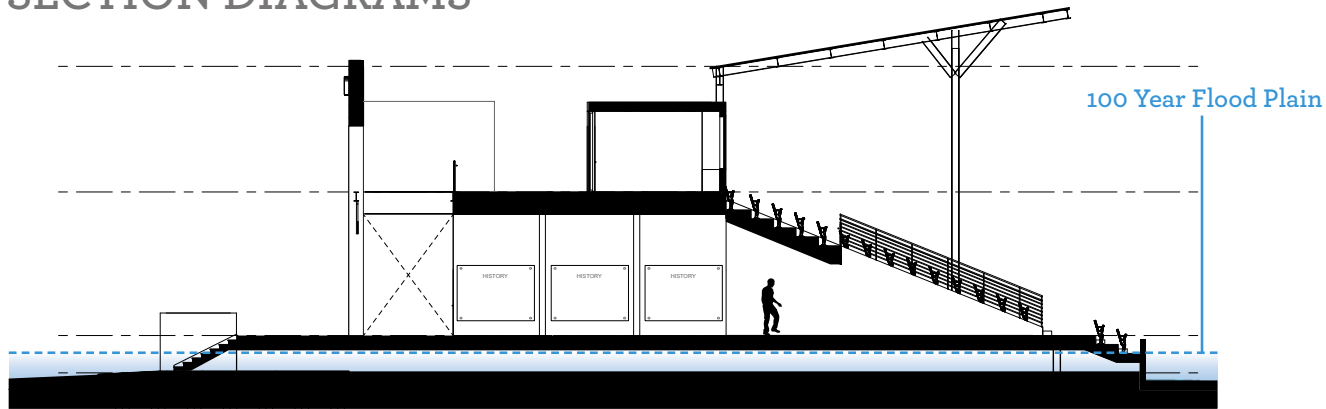


# LOWER LEVEL

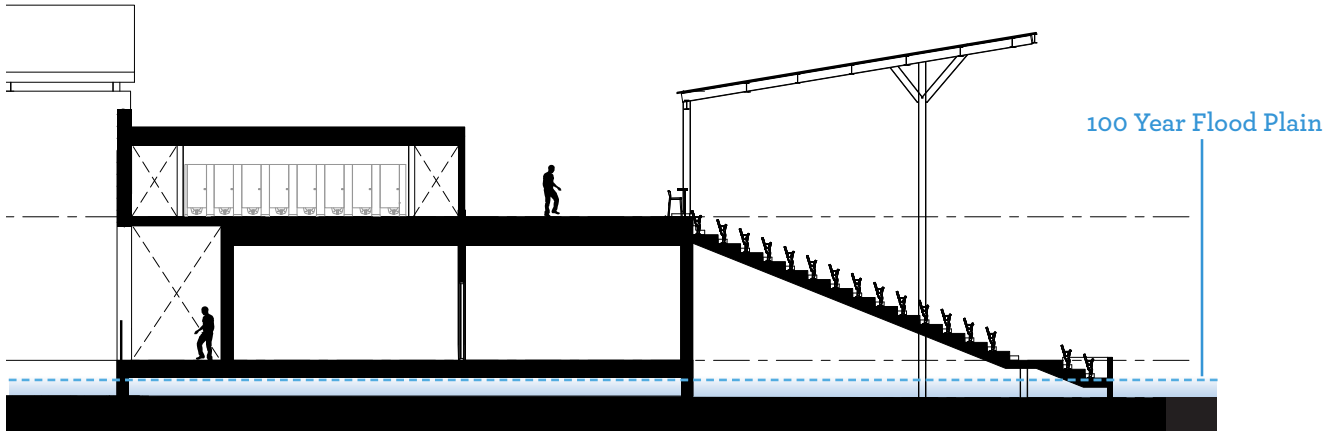




## SECTION DIAGRAMS



SECTION THROUGH TUNNEL



SECTION THROUGH SUNS LOCKER ROOM

### KEY

- 1 PUBLIC RESTROOMS
- 2 FAMILY RESTROOMS
- 3 CONCESSIONS
- 4 CONCESSIONS STORAGE
- 5 VIP / CONFERENCE ROOM
- 6 PRESS BOX
- 7 SUNS OFFICES
- 8 DRINK RAILS
- 9 ADA SEATING
- 10 UTILITY
- 11 STORAGE
- 12 ELEVATOR
- 13 SPIRIT SHOP

## ELEVATED OPTION STATS

1,350 Fixed Seats

All program built above flood plain

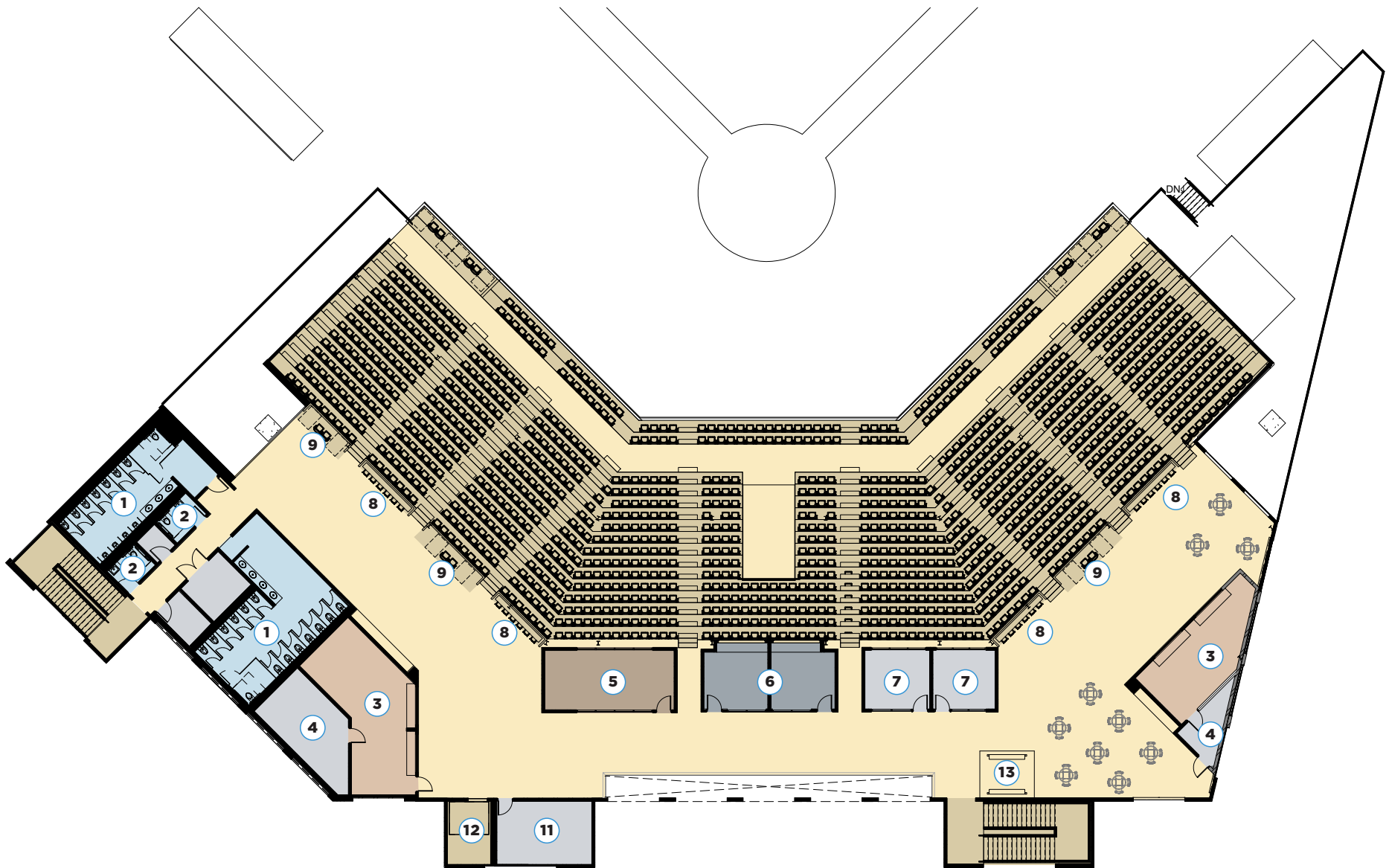
New raised roof, to mimic existing roof.

Upper concourse

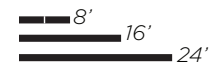
Fully accessible lower and upper concourse

13,572 GSF Interior Conditioned Space

Total GSF: 40,765 GSF



# UPPER LEVEL





## EXTERIOR ELEVATION STUDIES



METAL ROOF (AT ENTRY BUILDING)

BRICK PATTERN: AMERICAN BOND 5- COURSE

12" SOLIDER COURSE HEADER

STEEL PLATE JAMB AT BRICK OPENING

TUBE STEEL RAILING WITH METAL MESH PANEL

STEEL C-CHANNEL EDGE OF SLAB

DECORATIVE STEEL FILIGREE

CORRUGATED METAL WALL (BEYOND)

TUBE STEEL RAILING WITH METAL MESH PANEL INFILL

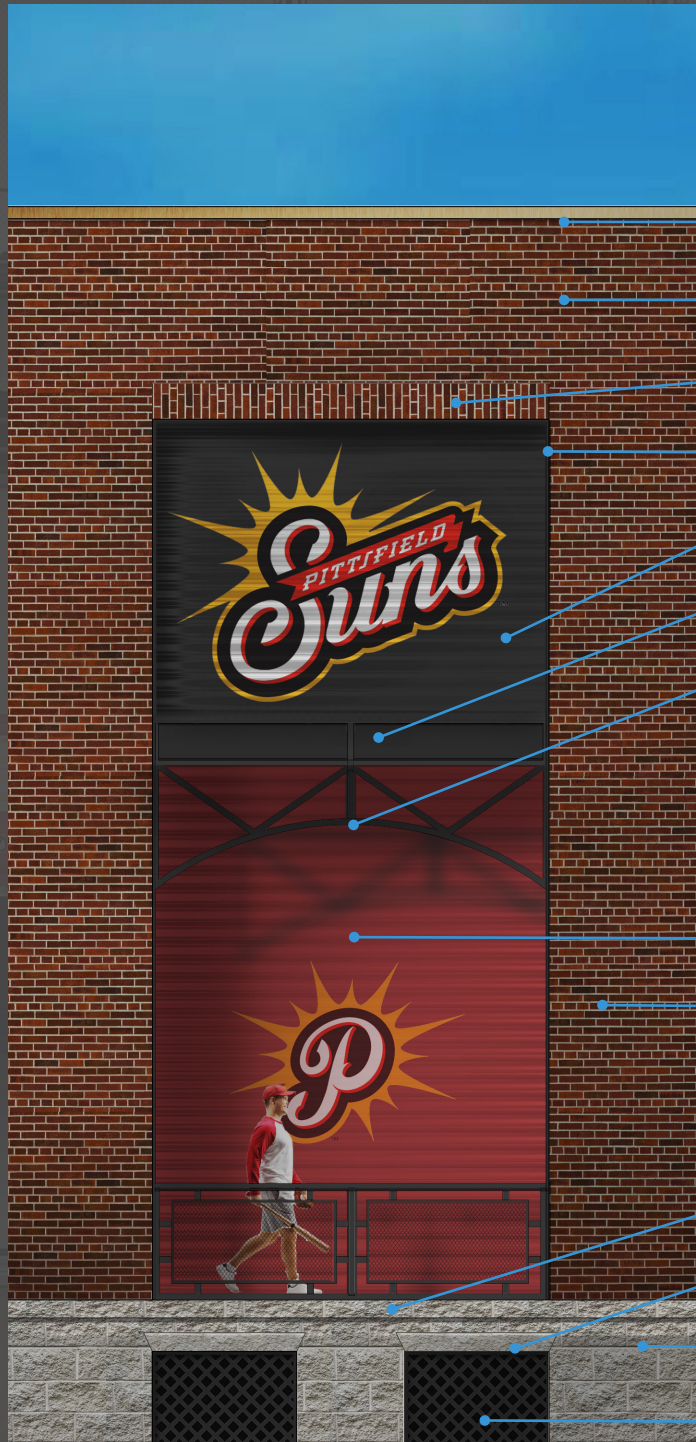
6" SPLIT FACE STONE CAP

STONE HEADER

SPLIT FACE BLOCK WALL

METAL GRATES FOR FLOOD CRAWLSPACE





METAL ROOF (AT ENTRY BUILDING)

BRICK PATTERN: AMERICAN BOND 5- COURSE

12" SOLIDER COURSE HEADER

STEEL PLATE JAMB AT BRICK OPENING

CORRUGATED METAL INFILL

STEEL C-CHANNEL EDGE OF SLAB

DECORATIVE STEEL FILIGREE

CORRUGATED METAL WALL (BEYOND)

TUBE STEEL RAILING WITH METAL MESH PANEL INFILL

6" SPLIT FACE STONE CAP

STONE HEADER

SPLIT FACE BLOCK WALL

METAL GRATES FOR FLOOD CRAWLSPACE





## Aerial View

*The new Wahconah Park proposal takes fans from an open plaza and brings them above the flood elevation onto the lower concourse. Adorned in brick, infilled with corrugated and decorative metal elements, the entry facade takes cues from historic ballparks in creating a sense of permanence and openness.*



## View From Field

*In order to bring fans closer to the game, and provide additional accessible seating, the seating bowl has been extended down towards the field.*

*The lower concourse connects to an elevated beer garden area that allows fans unobstructed sight-lines over the visiting team dugout.*



## View From Upper Concourse

*The upper concourse adds visibility to the game while spectators utilize the provided amenities. The mix of accessible seating at the lower concourse and upper concourse provides variety. Bar counter height encourages fans to move around the ball park and have a place to enjoy their concessions, and creates an informal social gathering area for families and the community to socialize where they still can be engaged in the activity on the field.*





## SUMMARY

The architecture of Elevated Option aims to create a historic character of a stadium that has been on this site as long as Wahconah Park has been hosting games. The nostalgic design conveys a sense of comfort and timelessness that Wahconah Park will be an active anchor for the north end of Pittsfield for years to come. From a practical perspective, having the building above the flood plain reduces flood damage to the interior spaces. Programmatically, the organization of the program on an upper and lower concourse provides an exceptional spectator experience that is fully accessible and allows the ballpark to adapt for non-baseball uses such as concerts, festivals, and community events.







WAHCONAH PARK

Pirates of the Sun





# PERFORMANCE

## 7

Field improvements, although set for a future phase, were evaluated for The Restoration Committee and community to consider. Specifically, pros and cons as well as cost considerations for fields comprised of natural grass and clay versus synthetic turf. We indicated the cost ranges for construction and yearly maintenance, as well as the utilization opportunities of associated with both playing surfaces. In addition, we provided insights and options that address many common questions/concerns that arise when considering the switch to a synthetic playing surface.

**(POTENTIAL FUTURE PHASE)**

# DESIRED CAPACITY

## COMPARABLE LEAGUE CAPACITY & ATTENDANCE

**2,980**

Average Capacity

**.09**

Seats Per Resident

**1,323**

Average Attendance

**3.30%**

Market Capture Rate

## WAHCONAH PARK (2022)

**4,500\***

Average Capacity

**.10**

Seats Per Resident

**824**

Average Attendance

**1.89%**

Market Capture Rate

\*Includes standing room and temporary bleachers

- Current capacity 10% higher than league average
- Current capture rate is 57% of average
- 3.3% capture rate = 1,440 attendance
- Optimal Fixed Capacity 2,000 with berms, group areas to accommodate larger crowds, groups, etc.



# COMPARISONS

BASED ON +/- 143,000 SQ FT SURFACE

## SURFACE & DRAINAGE

### NATURAL FIELD

**Cost range is \$286,000-\$1,144,000 (\$2-\$8 ft)**

*Some variables for natural playing fields:*

Grass type and quality

Clay type and composition (engineered vs native)

Drainage system (existing conditions-engineered sand and pipe system)

### SYNTHETIC FIELD

**Cost range is \$1,114,000-\$1,573,000 (\$8-\$11 ft)**

*Some variables for synthetic playing fields:*

Turf type and weight

Infill type (rubber, coated sand, virgin polymers i.e.: TPE and EPDM, and organic) Shock pad

Cooling agents

## MAINTENANCE (PER YEAR)

*\*EXCLUDES EQUIPMENT*

**Cost range is \$18,000-\$45,000**

*Some variables for natural playing fields:*

Consumable materials cost (topdressing, clay, field conditioner, herbicide, fertilizer, seed).

Labor (in house/outsourced, rate, and hours spent)

Irrigation costs (water, power, and repair/upkeep)

Striping frequency (batter's boxes and foul lines)

*\*\*As a note, the field will need to be re-sodded periodically based on use and other factors*

## UTILIZATION

**Available to be used no more than 700-800 hours per year.**

This is an average for a mid-level competitive field and accounts for weather, rest, winter season, and other occurrences.

**Cost range is \$3,000-\$10,000**

*Some variables for synthetic playing fields:*

Labor (in house/outsourced, rate, and hours spent)

Usage

Repairs

Infill replacement as needed

*\*\*As a note, the synthetic turf will need to be replaced periodically. This will typically happen between years 10 and 13. The average cost to replace the turf is 60% of the new installation price.*

**Average usage for a well programmed field is 2,800 hours per year**

Synthetic fields are available to be used as many hours as possible based on conditions.



### Outdoor Facility - Natural Grass

Revenue	Low	High
Outdoor Field Tournaments, Programs & Rentals	\$20,000	\$40,000
Supporting Revenue (F&B, Retail, Etc.) - Outdoor	\$5,000	\$22,500
Sponsorship (Outdoor)	\$5,000	\$7,500
<b>Total Revenue</b>	<b>\$30,000</b>	<b>\$70,000</b>
<i>Revenue per Field</i>	<i>\$30,000</i>	<i>\$70,000</i>
<b>Cost of Goods Sold</b>		
Outdoor Field Tournaments, Programs & Rentals	\$6,000	\$12,000
Supporting Revenue (F&B, Retail, Etc.) - Outdoor	\$2,750	\$12,375
Sponsorship (Outdoor)	\$1,500	\$2,250
<b>Total Cost of Goods Sold</b>	<b>\$10,250</b>	<b>\$26,625</b>
<b>Gross Margin</b>	<b>\$19,750</b>	<b>\$43,375</b>
<i>% of Revenue</i>	<i>66%</i>	<i>62%</i>
Facility Expenses	\$45,000	\$60,000
Operating Expense	\$4,800	\$5,600
Management Payroll	\$0	\$0
Payroll Taxes/Benefits/Bonus	\$0	\$0
<b>Total Operating Expenses</b>	<b>\$49,800</b>	<b>\$65,600</b>
<b>EBITDA</b>	<b>(\$30,050)</b>	<b>(\$22,225)</b>
<i>% of Revenue</i>	<i>-100%</i>	<i>-32%</i>

## Outdoor Facility - Synthetic Turf

Revenue	Low	High
Outdoor Field Tournaments, Programs & Rentals	\$25,000	\$80,000
Supporting Revenue (F&B, Retail, Etc.) - Outdoor	\$5,000	\$45,000
Sponsorship (Outdoor)	\$5,000	\$15,000
<b>Total Revenue</b>	<b>\$35,000</b>	<b>\$140,000</b>
<i>Revenue per Field</i>	<i>\$35,000</i>	<i>\$140,000</i>
<b>Cost of Goods Sold</b>		
Outdoor Field Tournaments, Programs & Rentals	\$7,500	\$24,000
Supporting Revenue (F&B, Retail, Etc.) - Outdoor	\$2,750	\$24,750
Sponsorship (Outdoor)	\$1,500	\$4,500
<b>Total Cost of Goods Sold</b>	<b>\$11,750</b>	<b>\$53,250</b>
<b>Gross Margin</b>	<b>\$23,250</b>	<b>\$86,750</b>
<i>% of Revenue</i>	<i>66%</i>	<i>62%</i>
Facility Expenses	\$15,000	\$20,000
Operating Expense	\$5,600	\$11,200
Management Payroll	\$0	\$0
Payroll Taxes/Benefits/Bonus	\$0	\$0
<b>Total Operating Expenses</b>	<b>\$20,600</b>	<b>\$31,200</b>
<b>EBITDA</b>	<b>\$2,650</b>	<b>\$55,550</b>
<i>% of Revenue</i>	<i>8%</i>	<i>40%</i>

\*All estimates for revenue, expenses, and EBITDA performance are based on SFC





# 8

# PRICING

The following page is a pricing summary of both Concept Options along with Site work. Refer to the attached Appendix for the full estimate breakdown.



AREA	RENOVATED OPTION	ELEVATED OPTION
<b>GRANDSTAND &amp; BUILDING CONSTRUCTION</b>	<b>\$13,917,337</b>	<b>\$17,686,518</b>
GENERAL CONDITIONS/REQS	\$1,800,000	\$1,800,000
DESIGN CONTINGENCY -- 8%	\$1,257,387	\$1,558,921
CONTRACTOR'S FEE - 3%	\$509,242	\$631,363
BOND & INSURANCE - 3%	\$524,519	\$650,304
ESCALATION - 4% (ASSUME SUMMER 2024 START)	\$720,339	\$893,084
<b>GRANDSTANDS &amp; BUILDING CONSTRUCTION TOTAL</b>	<b>\$18,728,824</b>	<b>\$23,220,191</b>
OWNER'S SOFT COSTS - 22% RENO, 20% ELEVATED	\$4,120,341	\$4,644,038
<b>GRANDSTANDS &amp; BUILDING PROJECT TOTAL</b>	<b>\$22,849,166</b>	<b>\$27,864,229</b>
<b>SITework - PARKING &amp; DRAINAGE</b>	<b>\$1,280,729</b>	<b>\$1,280,729</b>
GENERAL CONDITIONS/ REQS	\$360,000	\$360,000
DESIGN CONTINGENCY - 8%	\$131,258	\$131,258
CONTRACTOR'S FEE - 3%	\$53,160	\$53,160
BOND & INSURANCE - 3%	\$54,754	\$54,754
ESCALATION - 4% (ASSUME SUMMER 2024 START)	\$75,196	\$75,196
<b>SITework PARKING &amp; DRAINAGE CONSTRUCTION TOTAL</b>	<b>\$1,955,097</b>	<b>\$1,955,097</b>
OWNER'S SOFT COSTS - 22% RENO, 20% ELEVATED	\$430,121	\$391,019
<b>SITework PARKING &amp; DRAINAGE PROJECT TOTAL</b>	<b>\$2,385,218</b>	<b>\$2,346,116</b>
<b>TOTAL PROJECT COST</b>	<b>\$25,234,384</b>	<b>\$30,210,345</b>
<b>ADD ALTERNATE - REPLACE DRAINAGE PIPE WITH CULVERT PROJECT COST</b>	<b>\$1,345,315</b>	<b>\$1,324,900</b>
<b>ADD ALTERNATE - NEW HELICOPTER PAD - PROJECT COST</b>	<b>\$318,491</b>	<b>\$313,270</b>



# 9

## APPENDIX

- GEOTECH REPORT
- STRUCTURAL ANALYSIS REPORT
- CODE REVIEW
- COST ESTIMATE
- COPY OF DOCUMENTS FOR COST ESTIMATE

# Geotechnical Report



September 15, 2023

Mr. Salvatore Canciello, AIA, Principal  
S3 Design, Inc.  
150 Wood Road, Suite 100  
Braintree, MA 02184

SLR Project No.: 141.21483.00001

**RE: Geotechnical Engineering Report  
Wahconah Baseball Park Improvements  
105 Wahconah Street  
Pittsfield, Massachusetts**

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Dear Mr. Canciello,

SLR International Corporation (SLR) is pleased to submit our geotechnical engineering report for the proposed improvements at Wahconah Baseball Park located at 105 Wahconah Street in Pittsfield, Massachusetts. Refer to Figure 1 – Locus Plan in Appendix 1 for the general location of the project.

This report includes subsurface information and geotechnical and construction recommendations for the project. Our recommendations are based in part on guidance from the 2018 Massachusetts Building Code (9<sup>th</sup> Edition), which includes the 2015 International Building Code (IBC) and the 2018 Massachusetts Amendments. Design recommendations are based on Allowable Stress Design (ASD) Methods.

### **Purpose and Scope**

SLR observed subsurface explorations and performed a geotechnical engineering evaluation for the proposed improvements. Our scope of services included characterizing the subsurface conditions at the site, performing geotechnical engineering analyses, and providing geotechnical design and construction recommendations for the project.

### **Site Description and Proposed Construction**

The site is located at 105 Wahconah Street and is currently occupied by the existing baseball park with asphalt walkways, a gravel parking lot, and a grass parking lot. The site is bordered by wetlands and residential properties to the north, Wahconah Street and residential properties to the east, athletic fields and commercial properties to the south, and wetlands and the Branch of the Housatonic River to the west. Site grades slope slightly downward to the west towards the Branch of the Housatonic River from approximately Elevation (El.) 994± to El. 989.5±. We understand the parking area on the western side of the site is prone to flooding.

Based on our understanding, the project will consist of improving the existing baseball park. The improvements include renovating and extending the existing grandstands and adding an asphalt and gravel parking lot. We understand the flooding issues are outside the geotechnical engineering scope of work.

## Regional Geology

According to published surficial geology data (1:24,000 scale, Surficial Materials Map of the Pittsfield West Quadrangle, Massachusetts, Byron D. Stone and Mary L. DiGiacomo-Cohen, 2018), the subsurface material at the site is mapped as floodplain alluvium, which is described as “sand, gravel, silt, and some organic material, stratified and well sorted to poorly sorted, beneath flood plains of modern streams.”

According to published bedrock geology data (1:250,000 scale, Bedrock Geologic Map of Massachusetts, E-an Zen et al., 1983), the bedrock at the site is mapped as the Stockbridge Formation. The Stockbridge Formation is described as “massive to finely laminated steel-gray calcitic dolomite marble containing a prominent zone of white quartz nodules near top.”

## Subsurface Explorations

On August 8, 2023, SLR observed three borings (SLR-1 through SLR-3) that were performed to explore the subsurface conditions in areas of the stadium and proposed grandstands. The borings were performed by Seaboard Drilling, Inc. of Chicopee, Massachusetts, and the borings were located using a handheld Global Positioning System device. Their approximate locations are shown on Figure 2 – Subsurface Exploration Location Plan in Appendix 1.

Hollow-stem augers were used to advance the borings to between  $\pm 32.0$  and  $\pm 34.0$  feet below existing grades. Representative samples were obtained from the borings by split-barrel sampling procedures in general accordance with American Society for Testing and Materials (ASTM) Specification D-1586.

The split-barrel sampling procedure utilizes a standard 2-inch-outside-diameter (O.D.) split-barrel sampler that is driven into the bottom of the boring with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Resistance Value (N). The blows are indicated on the boring logs at their depth of occurrence and provide an indication of the consistency or relative density of the material. Groundwater levels were measured using a weighted tape in the open boreholes or inferred from the samples during drilling. Logs of the borings are included in Appendix 2. Soils were classified in the field in accordance with the Burmister Soil Classification system, which is included at the end of Appendix 2.

Existing geotechnical information from the site included three borings (TB-1 through TB-3) completed for the existing grandstands. The borings were made by Raymond Concrete Pile, Co. of Boston, Massachusetts, on May 20 and 21, 1946. The 1946 test borings were advanced to refusal depths ranging from  $125\pm$  to  $175\pm$  feet. Logs of these borings and a plan showing their approximate locations are included in Appendix 3.

## Subsurface Conditions

The generalized subsurface profile at the site as interpreted from the subsurface exploration data generally consists of asphalt (where encountered) over fill, over peat, over natural silts (where encountered) or natural granular soils (where encountered) to the depths explored. Below are more detailed descriptions of the subsurface materials encountered:

**Asphalt** was encountered at the surface in Borings SLR-2 and SLR-3, and it is approximately 5 inches thick.





**Fill** was encountered below the asphalt or at the surface in each boring. The fill extends to approximately  $\pm 5.5$  to  $\pm 16.0$  feet below existing grades and generally consists of very loose to medium dense, gray-black to brown-gray, fine to coarse sand, trace to some fine to coarse gravel, little to and silt, trace debris (e.g., organic matter).

**Peat** was encountered in each boring below the fill. Peat is defined as partially decomposed fibrous organic matter without living fibers. The peat ranges in depth from  $\pm 8.5$  to  $\pm 28.5$  feet below existing grades and in thickness from  $\pm 3.0$  to  $\pm 15.0$  feet. The peat generally consists of very loose to loose, gray-dark brown, peat, little to some fine sand, trace to little fine gravel.

**Natural Silts** were encountered below the peat in Borings SLR-1 and SLR-2 and extends to the depths explored. The natural silts are at least  $\pm 3.5$  to  $\pm 5.5$  feet thick and generally consist of very soft, gray-black, clayey silt, trace fine sand or very loose to loose, gray, silt.

**Natural Granular Soils** were encountered below the peat in Boring SLR-3 and is at least  $\pm 23.5$  feet thick. The natural granular soils generally consist of very loose to medium dense, gray-black to brown, fine to coarse sand, little to and fine to coarse gravel, trace to and silt.

**Groundwater** was encountered in each boring at approximately  $\pm 1.0$  to  $\pm 7.5$  feet below existing grades, or approximately El. 220.5 to El. 986.5 $\pm$ , respectively. However, groundwater levels will vary depending on factors such as season, precipitation, drought, construction activity, and other conditions, which may be different from those at the time of these observations.

### Implications of Subsurface Conditions

Based on the presence of the variable fill, loose compressible peat, and loose silt deposits encountered, we recommend the proposed grandstands be supported by deep foundations that consist of either timber piles or helical piles that derive their capacity in the natural sand and gravel with slab-on-grade construction. The foundations should be designed for the reactions of all group loads and load combinations, including vertical, lateral, flexural, and torsional effects. The deep foundations should be of sufficient size and penetrate to sufficient depth to provide an appropriate safety factor. Below are our minimum recommendations for deep foundations.

## Geotechnical Analyses and Recommendations

### Deep Foundations

**Driven Timber Piles** – The proposed grandstands can be supported by impact-driven southern yellow pine timber piles (ASTM D25) treated per the American Wood Protection Association recommendations for Use Category 4C. Piles should have a minimum butt and tip diameter of 14 inches and 9 inches, respectively, and be spaced a minimum of three butt diameters apart from center to center. Pile caps and grade beams will be required to span the structure walls between the pile cap locations.

We do not anticipate there will be appreciable downdrag loads (also referred to as negative skin friction) on the piles over time. We estimate that 50-foot-long timber piles will derive their capacity in the lower sand and gravel and support an approximate 20-kip allowable compression load.

Based on the design capacity, we recommend a minimum hammer energy ranging of 12,000 foot-pounds. The driving criteria should be determined by using a wave equation analysis once the pile-driving hammer and its accessories (ram, helmet, cushion, etc.) are selected. An ultimate capacity of 2.75 (factor of safety) multiplied by the allowable pile load should be used for the analyses.



The lateral capacity of timber piles should be determined based on a lateral pile capacity analysis once the design lateral loads have been determined. Lateral pile analysis is typically performed using software analysis such as Ensoft LPile™.

**Helical Piles** – The proposed grandstands can also be supported by helical piles that derive their capacity in the lower sand and gravel. Helical piles are a segmented deep foundation system with helical bearing plates attached to a central shaft. Load is transferred from the shaft to the soil through the helical bearing plates.

Helical piles can be designed to resist vertical design loads up to 200 kips, depending on the pile used and the subsurface conditions. Helical piles should be installed to the minimum required depth and minimum required torque to satisfy design requirements. We recommend a unit weight of 120 pounds per cubic foot for the lower sand and gravel with a friction angle of 35 degrees and a minimum safety factor of 3.0 for design. We estimate that 50-foot-long helical piles with three 10-inch-diameter helices spaced 30 inches apart will derive their capacity in the sand and gravel and support an approximate 15-kip allowable compression load. Helical piles are considered to be axial members with similar capacity in tension and compression. Helical piles are not considered lateral members, which may limit their application to this project unless lateral loads can be resisted by group effects of alternating tension and compression helical anchors.

Center-to-center spacing of helical piles should be the greater of five times the largest helix diameter. The first helix should be at least five times the maximum helix diameter below final grade. For multiple helix piles, the vertical spacing between helices should be at least three times the largest helix diameter.

#### **Floor Slab**

We recommend small structures (e.g., concession stands, etc.) to consist of slab-on-grade construction. We recommend placing the concrete floor slab over a minimum 12-inch-thick base course of crushed stone over proof compacted existing fill or compacted granular fill (CGF). The intent of the 12 inches of crushed stone is partially to mitigate the potential for frost heaving of the unheated concrete slab during freezing conditions. The subgrade modulus for the recommended subgrade is 100 pounds per cubic inch.

#### **Slab Drainage and Dampproofing**

Slab underdrains are recommended. The floor slab underdrains should consist of 4-inch-diameter perforated drainpipe that extends the full length of the floor slab at a nominal 15±-foot spacing. The drainpipes should reside within a 6-inch layer of crushed stone wrapped in a nonwoven filter fabric below the slab base course material. The crushed stone should bear on a prepared subgrade of proof-compacted existing fill or CGF. The slab underdrains should discharge by gravity to an appropriate location. Floor slab drains may be laid flat. The solid discharge pipe should be laid at a minimum slope of 0.5 percent or in accordance with local building code requirements.

Slab dampproofing should be installed between the slab and base course and consist of not less than 6-mil polyethylene with joints lapped at least 6 inches. Other approved methods and materials may be considered or as detailed by the structural engineer.

#### **Lateral Earth Pressures**

Foundation walls and earth retaining structures with unbalanced loading should be designed to resist lateral earth pressures. For walls that are braced at the top (e.g., foundation walls), we recommend they be designed to resist an equivalent at-rest static horizontal fluid pressure equal to 52 pound per square foot (psf) (based on  $\phi = 35^\circ$ ,  $c = 0$  psf,  $K_0 = 0.43$ , and  $\gamma = 120$  pounds





per cubic foot [pcf]). For walls that are allowed to rotate (e.g., site retaining walls), we recommend they be designed to resist an equivalent active horizontal fluid pressure equal to 32 psf (based on  $\phi = 35^\circ$ ,  $c = 0$  psf,  $K_a = 0.27$ , and  $\gamma = 120$  pcf). We recommend using a traffic surcharge load of 250 psf and pedestrian surcharge load of 75 psf as appropriate.

Where the calculated earth pressure is less than 200 psf, the minimum earth pressure value should be increased to 200 psf to account for stress created by compaction near the walls. Walls subject to other live or dead loads must also be designed for an additional uniform lateral pressure over the entire height of the wall equal to use at rest 0.33 times the surcharge.

These pressures do not include hydrostatic pressures, and we assume a horizontal backfill geometry and free-draining backfill materials will be used.

### **Asphalt Pavements**

We recommend the new pavements consist of 2-inch wearing course over a 2-inch binder course over 6 inches of processed aggregate base. The pavement section should be constructed over either proof-compacted existing fill or CGF over these materials. It should be noted that the recommended pavement section considers regular passenger vehicles and no larger trucks such as tractor trailers. If larger vehicles are intended to use this area, a further pavement analysis will have to be completed.

Groundwater was observed within 2 feet of the existing ground surface in Boring SLR-1. We anticipate the area prone to flooding will be resolved; however, where final pavement subgrades (e.g., bottom of pavement section) will be within 2 feet of anticipated groundwater levels, we recommend pavement drains be installed that drain by gravity to an appropriate location or daylighted.

### **Seismic Site Class and Liquefaction Potential**

The average Standard Penetration Test "N" value extrapolated over a 100-foot depth in the area of the proposed grandstands is 5 blows per foot, which results in a Site Class E (Soft Clay Soil) per the IBC.

According to Table 1604.11 of the 2018 Massachusetts Building Code for Pittsfield, Massachusetts,  $S_s$  is 0.170g and  $S_1$  is 0.067g. Based on the seismic response parameters ( $S_s$ ,  $S_1$ ), we estimate  $S_{MS}$  as 0.408g,  $S_{M1}$  as 0.281g,  $S_{DS}$  as 0.272g, and  $S_{D1}$  as 0.188g.

Based on the standard penetration test results, estimated depth to groundwater, soil classifications, and expected peak ground acceleration at this locale, it is our opinion that the site soils are not prone to liquefaction.

### **Materials and Compaction Requirements**

Existing fill that does not contain deleterious material may be potentially suitable for reuse as CGF or as ordinary fill in nonload-bearing areas. Materials proposed for reuse should be free of ice or frost, weak compressible soils should be acceptable to the geotechnical engineer and satisfy project requirements, and laboratory testing should be performed to establish gradation and moisture-density requirements that should be confirmed by field testing.

CGF for use as structural fill should consist of inorganic soil that is free of clay, loam, ice and snow, tree stumps, roots, and other organic matter and graded within the following limits:



Sieve Size	Percent Finer by Weight
5 inches	100
3 ½ inches	90 – 100
1 ½ inches	55 – 100
¼ inch	25 – 60
No. 10	15 – 45
No. 40	5 – 25
No. 200	0 – 12

Crushed stone for use below foundation should consist of sound, durable rock that is graded within the following limits:

Sieve Size	Percent Finer by Weight
1 inch	100
¾ inch	90 – 100
½ inch	20 – 55
3/8 inch	0 – 15
No. 4	0 – 5

**Compaction Requirements**

We recommend a minimum in-place dry density of 95 percent as per ASTM D1557 for material placed below foundations and floor slabs and 92 percent for material placed behind foundation walls and earth retaining structures. Materials should be placed within 2 percent of their optimum moisture content. We recommend a maximum loose lift thickness of 10 inches.

**Construction Considerations**

**Site and Subgrade Preparation**

Any surficial deleterious materials must be stripped or excavated during site preparation. Excavated soils should be stockpiled for potential reuse. Materials disturbed during such removal should be undercut to undisturbed material and backfilled with CGF.

The base of excavations should be free of water, ice, frozen soil, and loose materials prior to placing concrete. We recommend the use of a smooth-edged excavator bucket to make final excavations to help protect the subgrade, followed by proof compaction of the exposed subgrade. Fill materials and/or concrete should be placed as soon as possible after excavation so that disturbance of the subgrade soils does not occur. Should the subgrade materials become disturbed, the affected materials should be removed prior to further construction and replaced with CGF or crushed stone prior to further construction. A 4-inch-thick layer of crushed stone may be used to protect subgrades that are expected to be open for an extended period.

**Demolition**

All existing substructures (i.e., existing foundations, including driven piles and spread footings) must be removed from beneath the proposed grandstand footprint. Spread footings must be removed in their entirety, and driven piles, if present, should be cut down at least 3 feet below





grade so that they do not conflict with new foundations. Where previous foundations conflict with proposed foundations, either previous foundations must be removed or the new elements relocated to avoid obstruction. Materials disturbed during removal should be replaced with CGF. Utilities should be rerouted as necessary to prevent conflicts. If underground utilities are to be abandoned in-place below pavements, they should be grouted to prevent future collapse.

Additionally, we recommend a hazardous building materials survey be performed prior to preparing the demolition specification.

#### **Existing Fill Improvement for Slab-on-Grade**

In areas below slab-on-grade and after the removal of any deleterious material, we recommend improving the remaining fill with a minimum of four passes with a vibratory drum roller having a minimum dynamic force of 6,500 pounds per foot of drum width. Areas exhibiting instability shall receive additional compaction and/or be overexcavated and replaced with CGF.

The above proof rolling procedure assumes existing fill is relatively dry. This procedure may have to be modified or abandoned if the subgrade is too saturated. Improving the existing fill will require careful observation by an experienced field engineer.

#### **Deep Foundations**

Deep foundations should be installed using adequately sized construction equipment and be installed within approximately 2 percent of vertical and within 3 inches of plan locations. For timber piles, hammer blows should be recorded at 1-foot intervals for each pile, and for helical piles, installation torque should be recorded at 1-foot intervals for each pile using a direct inline electronic torque meter. Additionally, for helical piles, the pile advance (revolutions per foot) and advance time should be recorded at 1-foot intervals for each pile. Pile depths and other applicable information should be recorded during foundation installation.

We recommend a load test be performed on a sacrificial deep foundation element in general accordance with ASTM D1143-07 "Standard Test Methods for Deep Foundations Under Static Axial Compressive Load" to confirm that the allowable design capacities and predicted settlements meet the project specifications.

#### **Temporary Excavations**

Excavations should be sloped or shored in accordance with local, state, and federal regulations, including the Occupational Safety and Health Administration (OSHA) (29 CFR Part 1926) excavation trench safety standards.

Where excavations can be sloped, they should be sloped in accordance with OSHA requirements for a Class "C" soil, which can be cut at a maximum of one vertical to one and one-half horizontal (1V:1.5H), up to a maximum excavation depth of 20 feet. These recommendations assume no surcharge load (i.e., stockpiles, construction equipment, etc.) at the top of the excavations or seepage (e.g., cuts below the groundwater table).

Where excavations cannot be sloped back in accordance with OSHA requirements, a temporary earth retaining system (TERS) will be required. The TERS should be selected by the contractor and designed by a professional engineer registered in the State of Connecticut.

#### **Dewatering**

Based on the subsurface conditions encountered and the proposed construction, groundwater is not likely to be encountered during construction. However, we expect that control of groundwater can be accomplished with filtered sumps and pumps and grading to low points. In



addition, site grades during construction should divert surface water runoff away from open excavations. The contractor is ultimately responsible for choosing means and methods of maintaining subgrades in an undisturbed condition.

### Construction Documents and Quality Control

If changes are made to the location or type of structure, the recommendations in this report will need to be reviewed and may be subject to revision.

We recommend that SLR make field observations of excavations and foundation preparation to monitor actual conditions and compliance with our recommendations and the project specifications.

Additionally, we recommend that SLR make field observations of excavations, footing subgrades, removal of unsuitable materials, and placement and compaction of new fill materials. We can also assist in classifying material on site for segregation and/or mixing for reuse on site.

### Limitations

This report is subject to the limitations included in Appendix 4.

Thank you for the opportunity to be of service. Please feel free to call either of the undersigned if you have questions.

Regards,

**SLR International Corporation**



**Robert D. Gowisnock, Jr.**  
Associate Geotechnical Engineer  
[rgowisnock@slrconsulting.com](mailto:rgowisnock@slrconsulting.com)



**Carl W. Thunberg, PE**  
Principal Geotechnical Engineer  
[cthunberg@slrconsulting.com](mailto:cthunberg@slrconsulting.com)

Attachments: Appendix 1 – Figures  
Appendix 2 – Boring Logs  
Appendix 3 – 1946 Boring Logs  
Appendix 4 – Limitations

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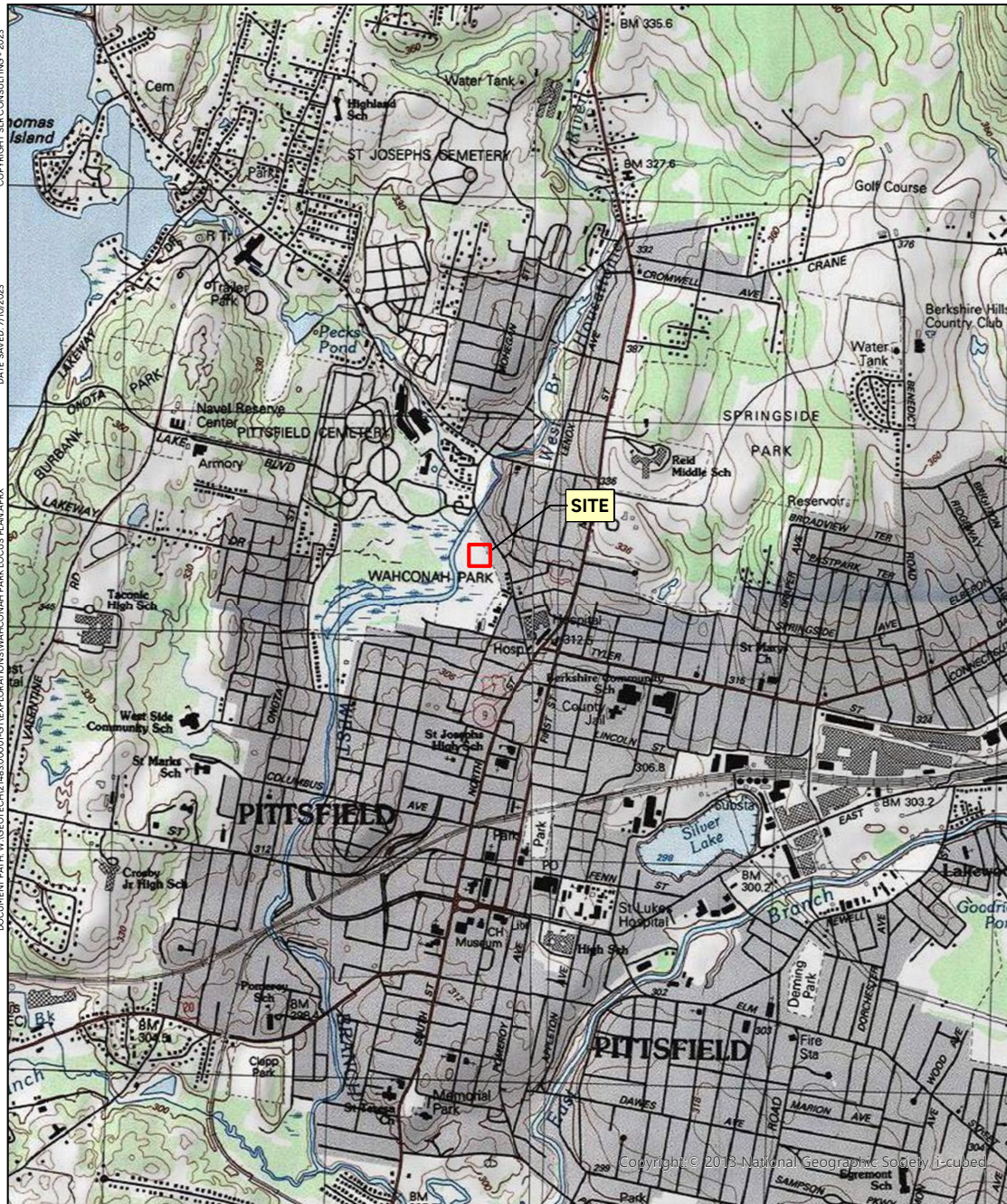


APPENDIX 1  
FIGURES

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DATE SAVED: 7/10/2023

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**SLR**  
 99 REALTY DRIVE  
 CHESHIRE, CT 06410  
 203.271.1773

**LOCUS PLAN**  
**WAHCONAH BASEBALL PARK IMPROVEMENTS**

105 WAHCONAH STREET  
 PITTSFIELD, MASSACHUSETTS

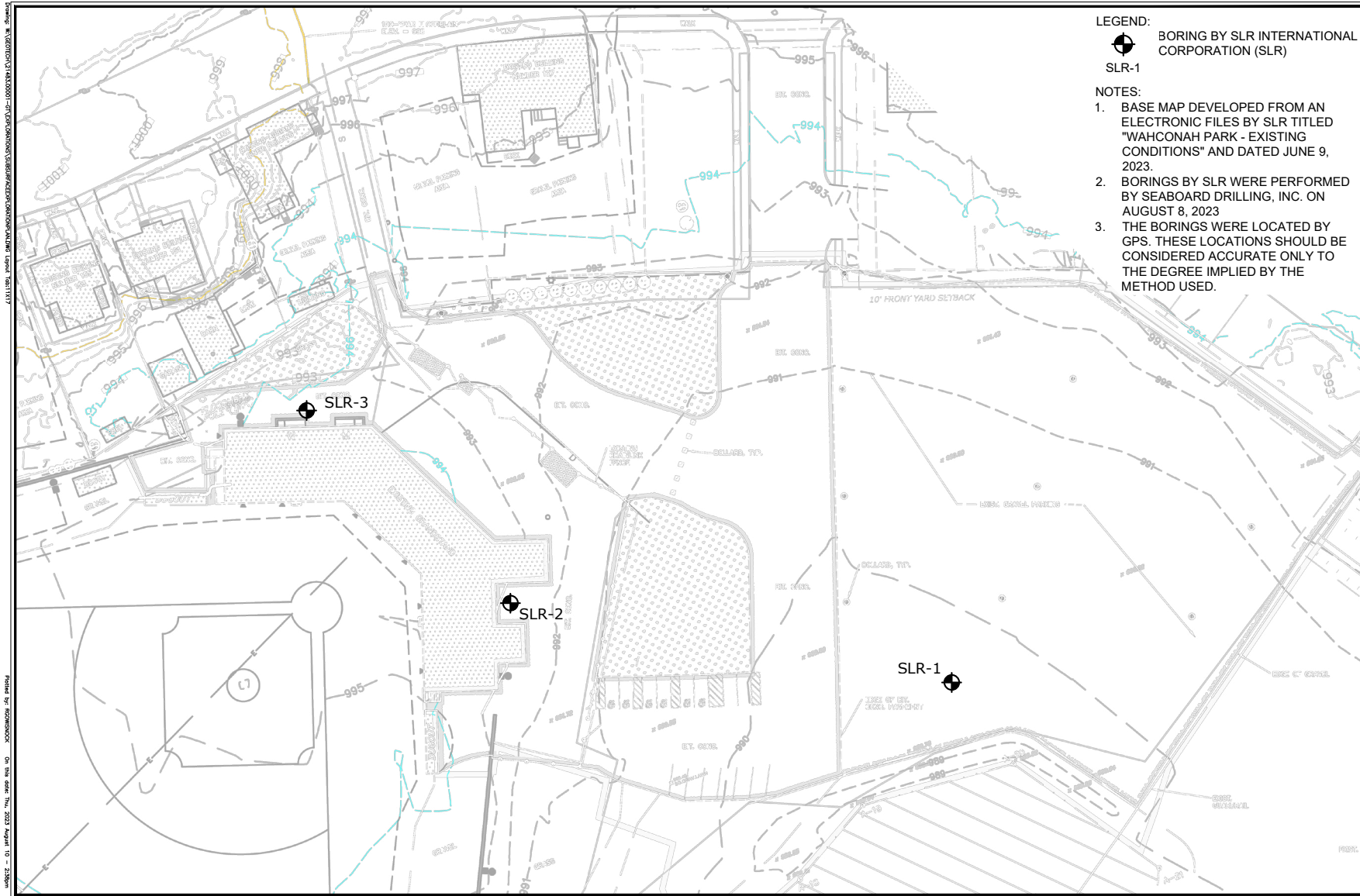
0 2,000  
 Feet


N

1" = 2000'  
 SCALE  
 7/10/2023  
 DATE  
 141.21483.0001  
 PROJ. NO.

**FIG. 1**





- LEGEND:**
-  BORING BY SLR INTERNATIONAL CORPORATION (SLR)
  - SLR-1
- NOTES:**
1. BASE MAP DEVELOPED FROM AN ELECTRONIC FILES BY SLR TITLED "WAHCONAH PARK - EXISTING CONDITIONS" AND DATED JUNE 9, 2023.
  2. BORINGS BY SLR WERE PERFORMED BY SEABOARD DRILLING, INC. ON AUGUST 8, 2023
  3. THE BORINGS WERE LOCATED BY GPS. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.



REVISIONS

**SUBSURFACE EXPLORATION LOCATION PLAN**  
**WAHCONAH PARK STADIUMS IMPROVEMENTS**  
 105 WAHCONAH STREET  
 PITTSFIELD, MASSACHUSETTS

RDG DESIGNED	RDG DRAWN	MGB CHECKED
1"=50'		
DATE: AUGUST 10, 2023		
PROJECT NO: 141.21483.00001		

**FIG. 2**

APPENDIX 2  
BORING LOGS



# BORING LOG

<p>SLR International Corporation 99 Realty Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com</p>		PROJECT: WAHCONAH BASEBALL PARK IMPROVEMENTS		BORING NO.: SLR-1A		SHEET: 1 OF 1					
		LOCATION: 105 WAHCONAH STREET, PITTSFIELD, MA				CONTRACTOR: SEABOARD DRILLING, INC.					
		PROJ. NO: 141.21483.00001				FOREMAN: J. NITSCH					
		CLIENT: S3 DESIGN, INC.				INSPECTOR: R. GOWISNOCK					
		DATE: AUGUST 8, 2023				GROUND SURFACE ELEVATION: ±989.5'					
EQUIPMENT:		AUGER	CASING	SAMPLER	COREBRL.	GROUNDWATER DEPTH (FT.)		TYPE OF RIG:			
TYPE		HSA	-	SS	-	DATE	TIME	WATER DEPTH			
SIZE ID (IN.)		2 1/4	-	1 3/8	-	2023-08-08	8:45 AM	±1.0'			
HMR. WT (LB.)		-	-	140	-						
HMR. FALL (IN.)		-	-	30	-						
DEPTH (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)				DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
1	S-1	22	5 9 10	S-1: Medium dense, gray-brown, fine to coarse SAND, some fine to coarse Gravel, little Silt.				1.0'	G.W.T. ▼ 988.5'		
2			8								
3	S-2	12	16 11	S-2: Medium dense, Top 8": Gray, fine to coarse SAND, some fine to coarse Gravel, some Silt. Bottom 4": Gray-black, fine to coarse SAND, some Silt, little fine Gravel.							
4			8								
5			5								
6	S-3	15	9 12 11	S-3: Medium dense, gray, fine to coarse SAND, some fine to coarse Gravel, some Silt.					FILL		
7			11								
8											
9											
10											
11	S-4	13	3 1 1	S-4: Very loose, gray-black, fine to coarse SAND and SILT, trace Debris (e.g., organic matter).							1
12			1								
13											
14											
15	S-5	0	50/4"	S-5: No Recovery.							3
16											
17											
18											
19											
20	S-6	0	100/4"	S-6: No Recovery. Bottom of Exploration ±20.3'				12.0'		977.5'	2
21											
22											
Remarks:		1. Possible oil/contaminants observed in sample. Sample observed to have an odor and visual sheen. 2. Soil not classified from ±12.0' to ±20.3' due to no samples. 3. Spoon observed to bounce during standard penetration test. 4. Boring terminated due to lack of recovery. Boring offset ±5.0' east and drilled to ±10.0'. See Boring SLR-1B.		NON-PLASTIC (SPT-N) 0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE	PLASTIC (SPT-N) 0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30+ = HARD	SAMPLE TYPE C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL	PROPORTIONS trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%				

# BORING LOG

<p style="font-size: small; margin-top: 5px;">SLR International Corporation 99 Reality Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com</p>		<b>PROJECT:</b> WAHCONAH BASEBALL PARK IMPROVEMENTS			<b>BORING NO.:</b> SLR-1B		<b>SHEET:</b> 1 OF 2				
		<b>LOCATION:</b> 105 WAHCONAH STREET, PITTSFIELD, MA				<b>CONTRACTOR:</b> SEABOARD DRILLING, INC.					
		<b>PROJ. NO.:</b> 141.21483.00001				<b>FOREMAN:</b> J. NITSCH					
		<b>CLIENT:</b> S3 DESIGN, INC.				<b>INSPECTOR:</b> R. GOWISNOCK					
		<b>DATE:</b> AUGUST 8, 2023				<b>GROUND SURFACE ELEVATION:</b> ±989.5'					
<b>EQUIPMENT:</b>		<b>AUGER</b>	<b>CASING</b>	<b>SAMPLER</b>	<b>COREBRL.</b>	<b>GROUNDWATER DEPTH (FT.)</b>		<b>TYPE OF RIG:</b>			
<b>TYPE</b>		HSA	-	SS	-	<b>DATE</b>	<b>TIME</b>	<b>WATER DEPTH</b>			
<b>SIZE ID (IN.)</b>		2 1/4	-	1 3/8	-	2023-08-08	8:45 AM	±1.0'			
<b>HMR. WT (LB.)</b>		-	-	140	-						
<b>HMR. FALL (IN.)</b>		-	-	30	-						
<b>Depth (FT)</b>	<b>SAMPLE NUMBER</b>	<b>RECOVERY (IN)</b>	<b>BLOWS PER 6"</b>	<b>SOIL AND ROCK CLASSIFICATION-DESCRIPTION</b>				<b>DEPTH (FT.)</b>	<b>STRATUM DESCRIPTION</b>	<b>ELEV. (FT.)</b>	<b>Remark</b>
				<b>BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)</b>							
1								1.0'	G.W.T. ▼	988.5'	1
2											
3											
4											
5											
6											
7									FILL		
8											
9											
10			2	S-1: Very loose, black, fine to coarse SAND, little fine Gravel, trace Silt.							2
11	S-1	12	2								
12			1								
13			1								
14											
15								13.5'		976.0'	
16											
17	S-2	10	WOH	S-2: Very loose, dark brown, PEAT.							
18			1								
19			1								
20			2								
21	S-3	10	2	S-3: Loose, dark brown, PEAT.							
22			3								
			2								
			2								
<b>Remarks:</b>				<b>NON-PLASTIC (SPT-N)</b>		<b>PLASTIC (SPT-N)</b>		<b>SAMPLE TYPE</b>		<b>PROPORTIONS</b>	
1. See Boring SLR-1A for soil classification from ±0.0' to ±10.0'. 2. Possible oil/contaminants observed in sample. Sample observed to have an odor and visual sheen.				0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE		0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30 + = HARD		C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL		trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%	



# BORING LOG

 <small>SLR International Corporation 99 Reality Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com</small>		<b>PROJECT:</b> WAHCONAH BASEBALL PARK IMPROVEMENTS			<b>BORING NO.:</b> SLR-1B		<b>SHEET:</b> 2 OF 2				
		<b>LOCATION:</b> 105 WAHCONAH STREET, PITTSFIELD, MA				<b>CONTRACTOR:</b> SEABOARD DRILLING, INC.					
		<b>PROJ. NO.:</b> 141.21483.00001				<b>FOREMAN:</b> J. NITSCH					
		<b>CLIENT:</b> S3 DESIGN, INC.				<b>INSPECTOR:</b> R. GOWISNOCK					
		<b>DATE:</b> AUGUST 8, 2023				<b>GROUND SURFACE ELEVATION:</b> ±989.5'					
<b>EQUIPMENT:</b>	<b>AUGER</b>	<b>CASING</b>	<b>SAMPLER</b>	<b>COREBRL.</b>	<b>GROUNDWATER DEPTH (FT.)</b>			<b>TYPE OF RIG:</b>			
<b>TYPE</b>	HSA	-	SS	-	<b>DATE</b>	<b>TIME</b>	<b>WATER DEPTH</b>	TRUCK W/ AUTOHAMMER			
<b>SIZE ID (IN.)</b>	2 1/4	-	1 3/8	-	2023-08-08	8:45 AM	±1.0'	<b>RIG MODEL:</b>  MOBILE B-53			
<b>HMR. WT (LB.)</b>	-	-	140	-							
<b>HMR. FALL (IN.)</b>	-	-	30	-							
<b>Depth (FT)</b>	<b>SAMPLE NUMBER</b>	<b>RECOVERY (IN)</b>	<b>BLOWS PER 6"</b>	<b>SOIL AND ROCK CLASSIFICATION-DESCRIPTION</b>				<b>DEPTH (FT.)</b>	<b>STRATUM DESCRIPTION</b>	<b>ELEV. (FT.)</b>	<b>Remark</b>
				<b>BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)</b>							
24				S-4: No Recovery.					PEAT		
25			2								
26	S-4	0	2								
27			2								
28			2								
29											
30				S-5: Very soft, gray-black, Clayey SILT, trace fine Sand.					CLAYEY SILT		
31	S-5	8	WOH								
32			WOH								
33			WOH								
34				Bottom of Exploration ±32.0'							
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
<b>Remarks:</b>				<b>NON-PLASTIC (SPT-N)</b>	<b>PLASTIC (SPT-N)</b>	<b>SAMPLE TYPE</b>		<b>PROPORTIONS</b>			
				0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE	0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30+ = HARD	C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL		trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%			

# BORING LOG

 SLR International Corporation 99 Reality Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com		PROJECT: WAHCONAH BASEBALL PARK IMPROVEMENTS		BORING NO.: SLR-2		SHEET: 1 OF 2					
		LOCATION: 105 WAHCONAH STREET, PITTSFIELD, MA				CONTRACTOR: SEABOARD DRILLING, INC.					
		PROJ. NO: 141.21483.00001				FOREMAN: J. NITSCH					
		CLIENT: S3 DESIGN, INC.				INSPECTOR: R. GOWISNOCK					
		DATE: AUGUST 8, 2023				GROUND SURFACE ELEVATION: ±992.0'					
EQUIPMENT:		AUGER	CASING	SAMPLER	COREBRL.	GROUNDWATER DEPTH (FT.)		TYPE OF RIG:			
TYPE		HSA	-	SS	-	DATE	TIME	WATER DEPTH			
SIZE ID (IN.)		2 1/4	-	1 3/8	-	2023-08-08	10:30 AM	±5.0'			
HMR. WT (LB.)		-	-	140	-						
HMR. FALL (IN.)		-	-	30	-						
Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	SOIL AND ROCK CLASSIFICATION-DESCRIPTION				DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
				BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)							
1	S-1	14	7	Top 5": ASPHALT.				0.4'	ASPHALT	991.6'	
2			9	Bottom 7": Brown-gray, fine to coarse SAND, little fine to coarse Gravel, little Silt. S-1: Medium dense, brown-gray, fine to coarse SAND, little fine to coarse Gravel, little Silt.							
3			11								
4	S-2	15	10	S-2: Medium dense, gray, fine to coarse SAND, some fine to coarse Gravel, some Silt.							
5			4								
6			6								
7	S-3	12	5	S-3: Medium dense, brown-gray, fine to coarse SAND and Clayey SILT, trace fine Gravel.				5.0'	G.W.T. ▼	987.0'	
8			4								
9			2								
10	S-4	8	2	S-4: Loose, brown-gray, fine to coarse SAND, some Silt, trace fine Gravel.							
11			2								
12			3								
13	S-5	8	4	S-5: Loose, Top 4": Gray, fine to coarse SAND, little fine to coarse Gravel, trace Silt. Bottom 4": Dark Brown, PEAT, little fine Sand, little fine Gravel.							
14			3								
15			4								
16	S-6	15	3	S-6: Loose, dark brown, PEAT, little fine Sand.				16.0'		976.0'	
17			4								
18			2								
19											
20											
21											
22											
Remarks:				NON-PLASTIC (SPT-N)		PLASTIC (SPT-N)		SAMPLE TYPE		PROPORTIONS	
				0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE		0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30 + = HARD		C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL		trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%	



# BORING LOG

<p style="font-size: small; margin-top: 5px;">SLR International Corporation 99 Realty Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com</p>		<b>PROJECT:</b> WAHCONAH BASEBALL PARK IMPROVEMENTS			<b>BORING NO.:</b> SLR-2		<b>SHEET:</b> 2 OF 2			
		<b>LOCATION:</b> 105 WAHCONAH STREET, PITTSFIELD, MA			<b>CONTRACTOR:</b> SEABOARD DRILLING, INC.					
		<b>PROJ. NO.:</b> 141.21483.00001			<b>FOREMAN:</b> J. NITSCH					
		<b>CLIENT:</b> S3 DESIGN, INC.			<b>INSPECTOR:</b> R. GOWISNOCK					
		<b>DATE:</b> AUGUST 8, 2023			<b>GROUND SURFACE ELEVATION:</b> ±992.0'					
<b>EQUIPMENT:</b>	<b>AUGER</b>	<b>CASING</b>	<b>SAMPLER</b>	<b>COREBRL.</b>	<b>GROUNDWATER DEPTH (FT.)</b>			<b>TYPE OF RIG:</b>		
<b>TYPE</b>	HSA	-	SS	-	<b>DATE</b>	<b>TIME</b>	<b>WATER DEPTH</b>	TRUCK W/ AUTOHAMMER		
<b>SIZE ID (IN.)</b>	2 1/4	-	1 3/8	-	2023-08-08	10:30 AM	±5.0'	<b>RIG MODEL:</b>		
<b>HMR. WT (LB.)</b>	-	-	140	-				MOBILE B-53		
<b>HMR. FALL (IN.)</b>	-	-	30	-						
<b>Depth (FT)</b>	<b>SAMPLE NUMBER</b>	<b>RECOVERY (IN)</b>	<b>BLOWS PER 6"</b>	<b>SOIL AND ROCK CLASSIFICATION-DESCRIPTION</b>			<b>DEPTH (FT.)</b>	<b>STRATUM DESCRIPTION</b>	<b>ELEV. (FT.)</b>	<b>Remark</b>
				<b>BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)</b>						
24				S-7: Very loose, Top 8": Dark brown, PEAT, little fine Sand.				PEAT		
25			1							
26	S-7	24	1							
27			2							
28			2				28.5'	963.5		
29				S-8: Very loose, gray, SILT, some Organic Matter.				ORGANIC SILT		
30			WOH							
31	S-8	24	1							
32			2				32.0'	960.0'		
33			2	S-9: Loose, gray, SILT.				SILT		
34	S-9	24	3							
35			3	Bottom of Exploration ±34.0'						
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
<b>Remarks:</b>				<b>NON-PLASTIC (SPT-N)</b>	<b>PLASTIC (SPT-N)</b>	<b>SAMPLE TYPE</b>	<b>PROPORTIONS</b>			
				0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE	0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30 + = HARD	C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL	trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%			

# BORING LOG



SLR International Corporation  
99 Reality Drive, Cheshire, CT 06410  
203.271.1773 | www.slrconsulting.com

PROJECT: WAHCONAH BASEBALL PARK IMPROVEMENTS	BORING NO.: SLR-3	SHEET: 1 OF 2
LOCATION: 105 WAHCONAH STREET, PITTSFIELD, MA	CONTRACTOR: SEABOARD DRILLING, INC.	
PROJ. NO: 141.21483.00001	FOREMAN: J. NITSCH	
CLIENT: S3 DESIGN, INC.	INSPECTOR: R. GOWISNOCK	
DATE: AUGUST 8, 2023	GROUND SURFACE ELEVATION: ±994.0'	

EQUIPMENT:	AUGER	CASING	SAMPLER	COREBRL.	GROUNDWATER DEPTH (FT.)			TYPE OF RIG:
TYPE	HSA	-	SS	-	DATE	TIME	WATER DEPTH	TRUCK W/ AUTOHAMMER
SIZE ID (IN.)	2 1/4	-	1 3/8	-	2023-08-08	1:00 PM	±7.5'	RIG MODEL:
HMR. WT (LB.)	-	-	140	-				MOBILE B-53
HMR. FALL (IN.)	-	-	30	-				

Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	SOIL AND ROCK CLASSIFICATION-DESCRIPTION		DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
				BURMISTER SYSTEM (SOIL)	U.S. CORPS OF ENGINEERS SYSTEM (ROCK)				
1				Top 5": ASPHALT.		0.4'	ASPHALT	993.6'	
2	S-1	16	5	Bottom 7": Brown, fine to coarse SAND, some fine to coarse Gravel, little Silt.					
3			7	S-1: Medium dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt.					
4			9						
5	S-2	10	7	S-2: Medium dense, gray-brown, fine to coarse SAND, little fine to coarse Gravel, little Silt.					
6			6						
7			2						
8	S-3	10	WOH	S-3: Loose, Top 3": Brown, fine to coarse SAND, little fine to coarse Gravel, little Silt.		5.5'		988.5'	
9			3	Bottom 7": Gray-dark brown, PEAT, some fine Sand, trace fine Gravel.					
10			3						
11			3						
12						7.5'	G.W.T. ▼	986.5'	
13									
14						8.5'		985.5'	
15									
16	S-4	12	WOH	S-4: Very loose, gray-black, fine to medium SAND and SILT, little fine Gravel.					
17			1						
18			2						
19						13.5'		980.5'	
20									
21	S-5	14	5	S-5: Medium dense, brown, fine to coarse SAND and fine to coarse GRAVEL, trace Silt.					
22			6						
23			9						
24			9						
25									
26									
27									
28									
29									
30	S-6	9	4	S-6: Medium dense, brown, fine to coarse GRAVEL and fine to coarse SAND, trace Silt.					
31			5						
32			6						
33			6						

Remarks:	NON-PLASTIC (SPT-N)	PLASTIC (SPT-N)	SAMPLE TYPE	PROPORTIONS
	0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE	0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30+ = HARD	C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL	trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%



# BORING LOG

 SLR International Corporation 99 Reality Drive, Cheshire, CT 06410 203.271.1773   www.slrconsulting.com	<b>PROJECT:</b> WAHCONAH BASEBALL PARK IMPROVEMENTS	<b>BORING NO.:</b> SLR-3	<b>SHEET:</b> 2 OF 2
	<b>LOCATION:</b> 105 WAHCONAH STREET, PITTSFIELD, MA	<b>CONTRACTOR:</b> SEABOARD DRILLING, INC.	
	<b>PROJ. NO.:</b> 141.21483.00001	<b>FOREMAN:</b> J. NITSCH	
	<b>CLIENT:</b> S3 DESIGN, INC.	<b>INSPECTOR:</b> R. GOWISNOCK	
	<b>DATE:</b> AUGUST 8, 2023	<b>GROUND SURFACE ELEVATION:</b> ±994.0'	

<b>EQUIPMENT:</b>	<b>AUGER</b>	<b>CASING</b>	<b>SAMPLER</b>	<b>COREBRL.</b>	<b>GROUNDWATER DEPTH (FT.)</b>		<b>TYPE OF RIG:</b>
<b>TYPE</b>	HSA	-	SS	-	<b>DATE</b>	<b>TIME</b>	TRUCK W/ AUTOHAMMER
<b>SIZE ID (IN.)</b>	2 1/4	-	1 3/8	-	2023-08-08	1:00 PM	<b>RIG MODEL:</b>
<b>HMR. WT (LB.)</b>	-	-	140	-			MOBILE B-53
<b>HMR. FALL (IN.)</b>	-	-	30	-			

Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	SOIL AND ROCK CLASSIFICATION-DESCRIPTION		DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
				BURMISTER SYSTEM (SOIL)	U.S. CORPS OF ENGINEERS SYSTEM (ROCK)				
24									
25	S-7	20	4	S-7: Loose, brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt.			SAND & GRAVEL		
26			3						
26			6						
27			6						
28									
29									
30	S-8	8	11	S-8: Medium dense, brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt.				32.0'	962.0'
31			12						
31			11						
32			5						
33				Bottom of Exploration ±32.0'					
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

<b>Remarks:</b>	<b>NON-PLASTIC (SPT-N)</b>	<b>PLASTIC (SPT-N)</b>	<b>SAMPLE TYPE</b>	<b>PROPORTIONS</b>
	0-4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE	0-2 = VERY SOFT 2-4 = SOFT 4-8 = MEDIUM 8-15 = STIFF 15-30 = VERY STIFF 30 + = HARD	C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PISTON UT = UNDISTURBED THINWALL	trace = <10% little = 10% - 20% some = 20% - 35% and = 35% - 50%

A. CLASSIFICATION OF SOIL COMPONENTS					B. IDENTIFICATION OF DESCRIPTION TERMS		
PRINCIPAL COMPONENT	DESCRIPTIVE PARTICLE SIZE	SMALLEST DIAMETER OF ROLLED THREAD (IN.)	SIEVE SIZE	OVERALL PLASTICITY AND PLASTICITY INDEX	DESCRIPTION OF SOIL COMPONENTS	PERCENTAGE OF SAMPLE BY WEIGHT	
GRAVEL	Coarse Fine	----	3/4" to 3" No. 4 to 3/4"	----	<u>PRINCIPAL COMPONENT</u>  GRAVEL, SAND, SILT CLAY, etc.  <u>MINOR COMPONENTS</u>  <b>and</b> fine to coarse SAND, and GRAVEL, etc.  <b>some</b> some Gravel, some Silt, etc.  <b>little</b> little Gravel, little Silt, etc.  <b>trace</b> trace Gravel, trace Silt, etc.	50 or more	
SAND	Coarse Medium Fine	----	No. 10 to No. 4 No. 40 to No. 10 No. 200 to No. 40	----			
SILT	----	----	Passing No. 200	Non-Plastic 0			35 to 50
Clayey Silt	----	1/4	Passing No. 200	Slight 1 to 5			20 to 35
SILT and CLAY	----	1/8	Passing No. 200	Low 5 to 10			10 to 20
CLAY and SILT	----	1/16	Passing No. 200	Medium 10 to 20			1 to 10
Silty Clay	----	1/32	Passing No. 200	High 20 to 40			
CLAY	----	1/64	Passing No. 200	Very High 40 and greater			
PEAT	Partially decomposed fibrous organic matter without living fibers						

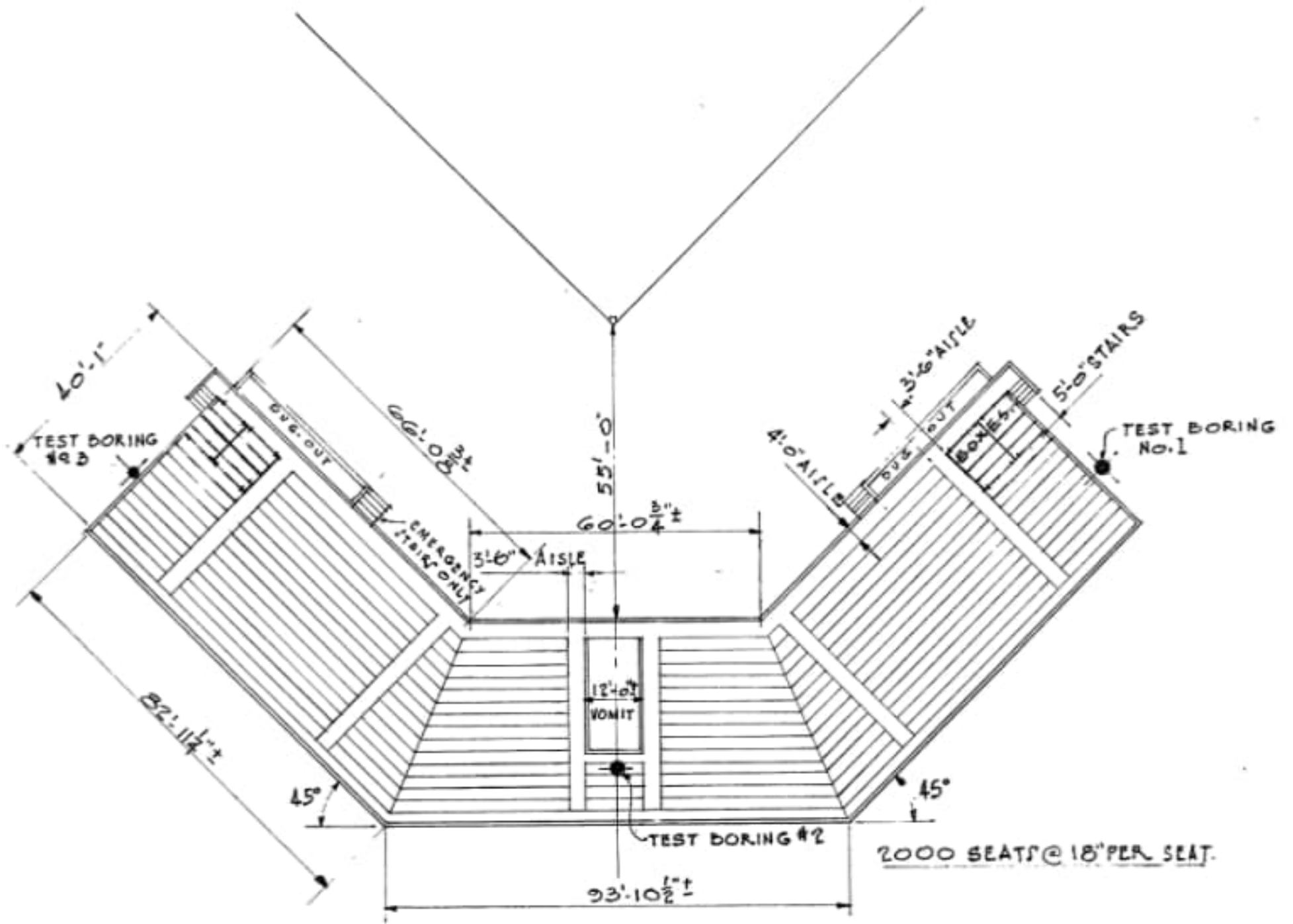
C. DEFINITION OF TERMS IDENTIFYING THE GRADATION OF THE GRANULAR COMPONENT	
GRADATION DESIGNATIONS FOR IDENTIFICATION	DEFINING PROPORTIONS
fine to coarse	all fractions greater than 10 percent
medium to coarse	less than 10 percent fine
fine to medium	less than 10 percent coarse
medium	less than 10 percent coarse and fine
fine	less than 10 percent coarse and medium

D. DENSITY OR CONSISTENCY	
<u>GRANULAR SOILS</u>	
Standard Penetration Resistance (N value) blows/foot	Relative Density
0 - 4	Very loose
4 - 10	Loose
10 - 30	Medium dense
30 - 50	Dense
50+	Very dense
<u>PLASTIC SOILS</u>	
Standard Penetration Resistance (N value) Blows/foot	Consistency
0 - 2	Very soft
2 - 4	Soft
4 - 8	Medium
8 - 15	Stiff
15 - 30	Very stiff
30+	Hard

E. GLOSSARY OF MISCELLANEOUS TERMS	
<b>PLUS (+)</b> - NEARER THE UPPER LIMIT OF THE PROPORTION OR OVERALL PLASTICITY	<b>ORGANIC MATTER [EXCLUDING PEAT]:</b>
<b>MINUS (-)</b> - NEARER THE LOWER LIMIT OF THE PROPORTION OR OVERALL PLASTICITY	<b>TOPSOIL</b> - SURFICIAL SOILS THAT SUPPORT PLANT LIFE AND WHICH CONTAIN CONSIDERABLE AMOUNTS OF ORGANIC MATTER
<b>NO SIGN</b> - MIDDLE RANGE OF THE PROPORTION OR OVERALL PLASTICITY	<b>DECOMPOSED VEGETATION</b> - PARTIALLY DECOMPOSED ORGANIC MATTER WHICH RETAINS ITS ORIGINAL CHARACTER;
<b>COBBLES</b> - ROUNDED PIECES OR ROCK BETWEEN 3 TO 6 INCHES	<b>LIGNITE</b> - IMMATURE COALS WITH LOW FIXED CARBON CONTENT GENERALLY EXHIBITING DISTINCT TEXTURE OF WOOD;
<b>BOULDERS</b> - ROUNDED PIECES OF ROCK LARGER THAN 6 INCHES	<b>HUMUS</b> - COMPLETELY DECOMPOSED ORGANIC MATTER
<b>ROCK FRAGMENTS</b> - ANGULAR PIECES OF ROCK WHICH HAVE SEPARATED FROM PARENT ROCK AND ARE PRESENT IN A SOIL MATRIX	<b>FILL</b> - MAN MADE DEPOSIT CONTAINING SOIL, ROCK OR FOREIGN MATTER
<b>QUARTZ</b> - A HARD SILICA MINERAL OFTEN FOUND IN SOME GLACIAL LAYERS	<b>PROBABLE FILL</b> - SOILS WHICH CONTAIN NO VISUALLY DETECTABLE FOREIGN MATTER BUT WHICH ARE SUSPECT WITH RESPECT TO ORIGIN
<b>IRONITE</b> - CEMENTED DEPOSITS OF IRON OXIDE WITHIN A SOIL LAYER	<b>LENSES</b> - LAYER LESS THAN 1/2 INCH <b>LAYERS</b> - 1/2 TO 12 INCH THICK LAYER
<b>CEMENTED SAND</b> - VARIOUS SIZED AND GRAINS CEMENTED BY CALCIUM CARBONATE OR OTHER MINERALS WITHIN THE SOIL DEPOSIT	<b>POCKET</b> - DISCONTINUOUS LAYERS LESS THAN 12 INCHES
<b>VARVED DEPOSITS</b> - ALTERNATING LIGHT AND DARK LAYERS OF COHESIVE CLAYS AND SILTS DEPOSITED AS GLACIAL LAKE SEDIMENTATION	<b>STRATUM</b> - CONTINUOUS LAYERS GREATER THAN 12 INCHES
<b>FISSURED CLAYS</b> - COHESIVE SOILS AND EXHIBITING A JOINT STRUCTURE, GENERALLY SLIGHTLY TO HIGHLY OVER CONSOLIDATED	<b>COLOR SHADING</b> - LIGHT OR DARK TO INDICATE SUBSTANTIAL DIFFERENCE IN COLOR
	<b>MOISTURE CONDITIONS</b> - WET, MOIST, OR DRY PER VISUAL OBSERVATION



APPENDIX 3  
1946 BORING LOGS



· PLAN ·





APPENDIX 4  
LIMITATIONS



## Limitations

This report has been prepared for the exclusive use of S3 Design, Inc. in a manner consistent with generally accepted professional consulting principles and practices for the same locality under similar conditions. No other representations or warranties, expressed or implied, are made. These services were performed consistent with our agreement with our client. This work product is intended solely for the use and information of our client unless otherwise noted. Any reliance on this work product by a third party is at such party's sole risk.

Opinions and recommendations contained in this work product are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this work product.

The services described in this report were performed consistent with generally accepted geotechnical engineering principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third Party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames and project parameters indicated. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

The conclusions and recommendations in this report are invalid if:

- The assumed design loads change;
- The structures are relocated;
- The report is used for adjacent or other property or buildings;
- If grades, ground water levels, or both, change between the issuance of this report and construction; or
- Any other change is implemented that materially alters the project from that proposed when this report was prepared.

The exploration logs do not provide a warranty of the conditions that may exist at the entire site. The extent and nature of subsurface soil and groundwater variations may not become evident until construction begins. Variations in soil conditions between borings could possibly exist between or beyond the points of exploration or groundwater elevations may change, both of which may require additional studies, consultation, and possible design revisions. **Any person associated with this project who observes conditions or features of the site or surrounding areas that are different from those described in this report should report them immediately to the company for consideration and evaluation. This report was prepared solely for the use of our client and should be reviewed in its entirety.**



# Structural Analysis Report



## Executive Summary

08/08/2023

On July 26<sup>th</sup>, 2023, Structural Engineers from SLR consulting inspected the grandstand at Wahkonah baseball park at 105 Wahkonah street, Pittsfield, Massachusetts. It was determined to be in a poor condition and would require maintenance or replacement of structural elements for long term use. The grandstand at Wahkonah park covers a 9,720 sqft. area approx.

The superstructure is in an overall fair to poor condition. Roof structural members are pitted with paint peeling but no section loss. All roofing materials above structural steel are in poor condition and need to be replaced. Timber floor decking and benches show signs of warping and connections have missing fasteners.

The substructure is in poor condition. Concrete footings at the roof columns and at intermediate columns underground are visibly in good condition. Base plates at the structural steel columns and connections are severely rusted and are in poor condition. The cross bracings located below the bleachers are rusted out resulting in major section losses at multiple locations.

Overall, the steel members are in good condition and can be reused with repairs to the base of the columns with the exception of exterior roof framing members. The Concrete footings and concrete wall are in good condition. Bleachers and seating will need to be replaced.

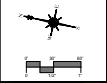


**LEGEND**

- APPROXIMATE PROPERTY LINE
- - - - - EXISTING CONTOUR
- - - - - EXISTING FENCE
- - - - - EXISTING TREE LINE
- EXISTING TREE
- EXISTING GUARDRAIL
- 10-YEAR FLOODPLAIN (ELEV. = 994')
- 100-YEAR FLOODPLAIN (ELEV. = 998')
- EDGE OF WETLAND
- EDGE OF GRAVEL
- EDGE OF BIT. CONC. PAVEMENT

**GENERAL NOTE**

1. THIS PLAN IS A COMPILED BASE MAP AND IS BASED UPON AVAILABLE MAPPING AND FIELD OBSERVATIONS. THIS PLAN HAS BEEN PREPARED FOR INFORMATIONAL AND BUDGETARY PURPOSES AND IS SUBJECT TO DETAILED DESIGN AND REGULATORY PERMITTING PROCESSES. FINAL DESIGN, LAYOUT AND DETAILS MAY VARY SIGNIFICANTLY FROM THIS PLAN.



DESCRIPTION	DATE	BY

WAHCONAH PARK - EXISTING CONDITIONS  
 WAHCONAH PARK  
 105 WAHCONAH STREET  
 PITTSFIELD, MASSACHUSETTS

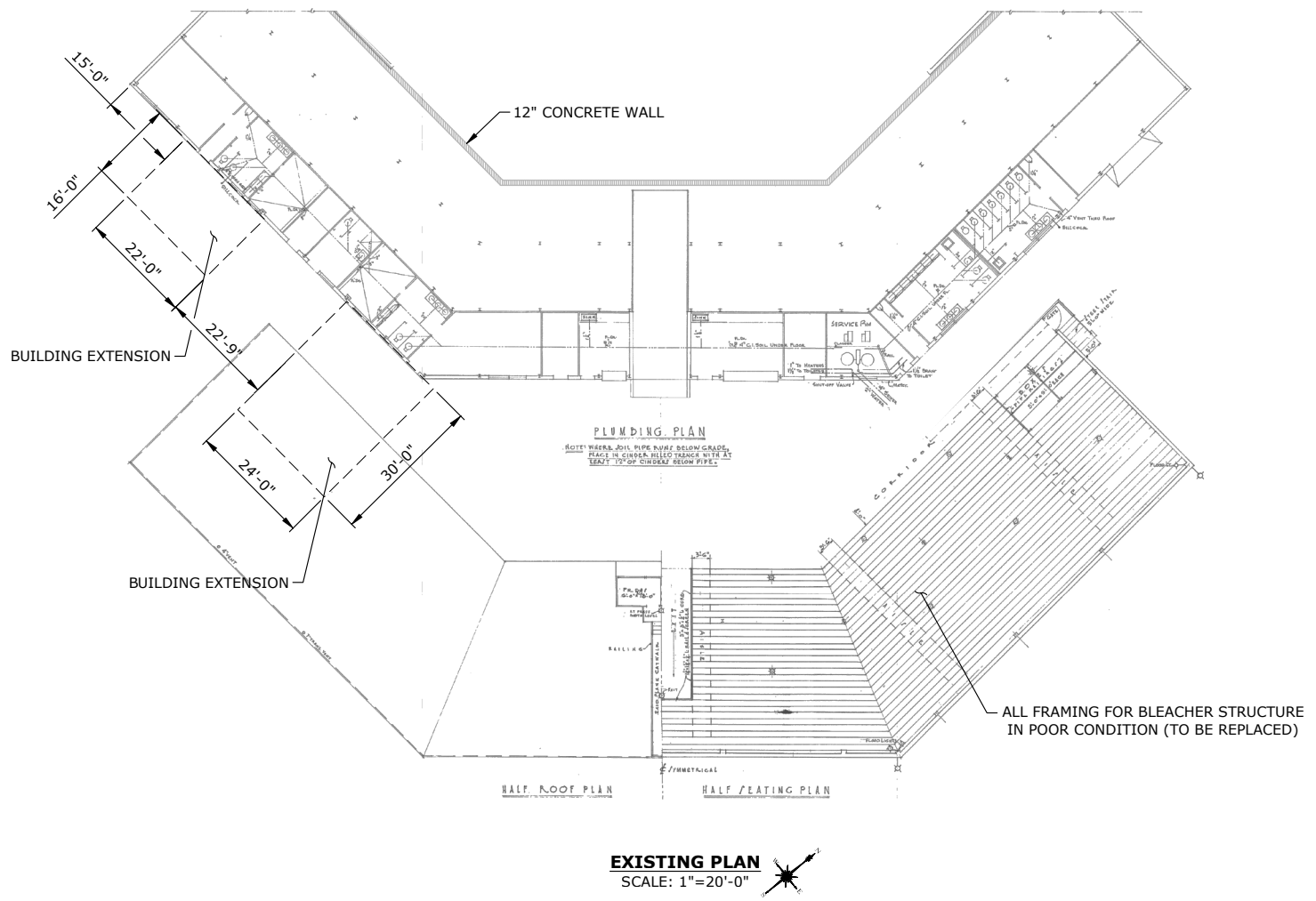
MEW	MEW	MRA
SCALE: 1"=60'		
DATE: JUNE 9, 2023		
PROJECT NO: 21483.00001		
SHEET NO: --- OF XX		

**EX-1**



10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM

10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM 10-14-2023 10:00 AM



NO.	DATE	DESCRIPTION

WAHCONAH PARK - EXISTING CONDITIONS  
 WAHCONAH PARK  
 105 WAHCONAH STREET  
 PITTSFIELD, MASSACHUSETTS

KP	MO	NP
DESIGNED	DRAWN	CHECKED
AS NOTED		
DATE: AUGUST 08, 2023		
PROJECT NO: 21483.00001		
PROJECT NO:		

**STR-01**









**JOB NO. 21483.00001**

**WAHCONAH PARK**

**CREW: KP/NP**

**FIELD NOTES**

**DATE: 07/26/2023**

**LOCATION:**

WAHCONAH PARK INSPECTION  
105 WAHCONAH ST,  
PITTSFIELD, MASSACHUSETTS 01201

**DESCRIPTION:** EXISTING CONDITIONS

**PHOTO NUMBER:**

**01**

**PHOTO:** IMG\_3858.jpg

**DESCRIPTION:**

- TYPICAL SIDE ELEVATION



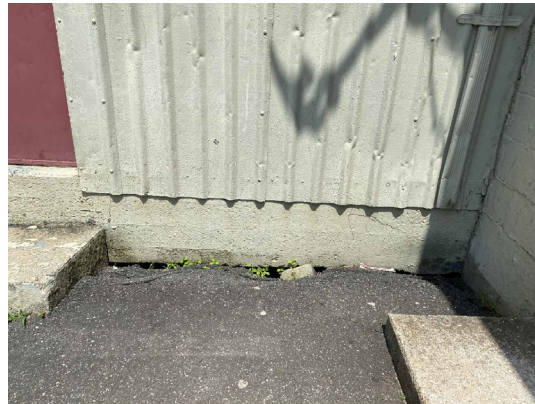
**PHOTO NUMBER:**

**02**

**PHOTO:** IMG\_3942.jpg

**DESCRIPTION:**

- VOID AT FOUNDATION/PAVEMENT





 <small>89 REALTY DRIVE        CHESTER, CT 06410        203.271.1773        SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h1>03</h1> <b>PHOTO:</b> IMG_3945.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>BUILDING EXTENSION</li> </ul>			
<b>PHOTO NUMBER:</b>  <h1>04</h1> <b>PHOTO:</b> IMG_3948.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>EXTERIOR</li> </ul>			

 <small>99 REALTY DRIVE CHESHIRE, CT 06410 203.271.1173 SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">05</h1> <b>PHOTO:</b> IMG_3949.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL LOADING RAMP</li> </ul>			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">06</h1> <b>PHOTO:</b> IMG_3953.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL RAMP TO BLEACHERS</li> </ul>			





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**JOB NO. 21483.00001**

**WAHCONAH PARK**

**CREW: KP/NP**

**FIELD NOTES**

**DATE: 07/26/2023**

**LOCATION:**

WAHCONAH PARK INSPECTION  
105 WAHCONAH ST,  
PITTSFIELD, MASSACHUSETTS 01201

**DESCRIPTION:** EXISTING CONDITIONS

**PHOTO NUMBER:**

**07**

**PHOTO:** IMG\_3865.jpg

**DESCRIPTION:**

- INFIELD



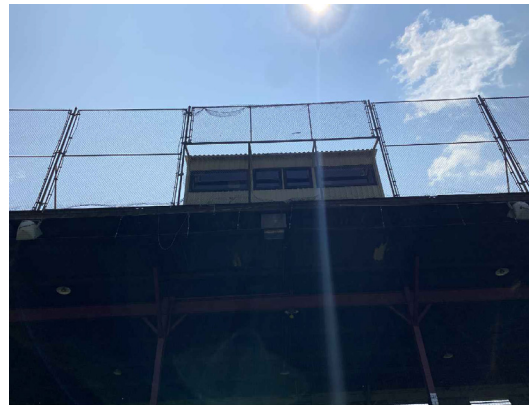
**PHOTO NUMBER:**




**08**




**PHOTO:** IMG\_3866.jpg

**DESCRIPTION:**

- PRESS BOOTH



 <small>99 REALTY DRIVE          CHESTER, CT 06410          203.271.1773          SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">09</h1> <b>PHOTO: IMG_3823.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL ROOF COLUMN</li> </ul>			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">10</h1> <b>PHOTO: IMG_3821.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL ROOF FRAMING</li> </ul>			

 <small>99 REALTY DRIVE CHESHIRE, CT 06410 203.271.1171 SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <p style="text-align: center;"><b>11</b></p> <b>PHOTO:</b> IMG_3835.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL ROOF CROSS FRAMING</li> </ul>			
<b>PHOTO NUMBER:</b>  <p style="text-align: center;"><b>12</b></p> <b>PHOTO:</b> IMG_3828.jpg			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL ROOF COLUMN KNEE BRACING</li> </ul>			





**JOB NO. 21483.00001**

**WAHCONAH PARK**

**CREW: KP/NP**

**FIELD NOTES**

**DATE: 07/26/2023**

**LOCATION:**

WAHCONAH PARK INSPECTION  
105 WAHCONAH ST,  
PITTSFIELD, MASSACHUSETTS 01201

**DESCRIPTION:** EXISTING CONDITIONS

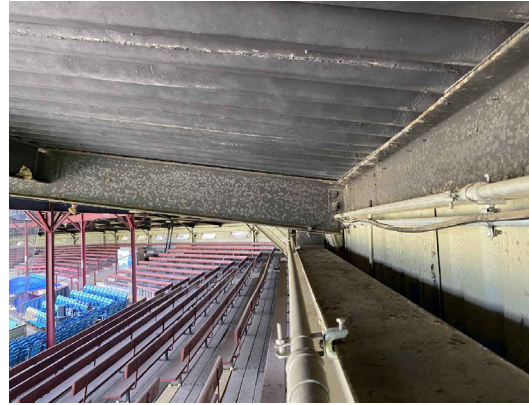
**PHOTO NUMBER:**

**13**

**PHOTO:** IMG\_3820.jpg

**DESCRIPTION:**

- ROOF MEMBERS PITTED (TYP.)
- PAINT PEELING



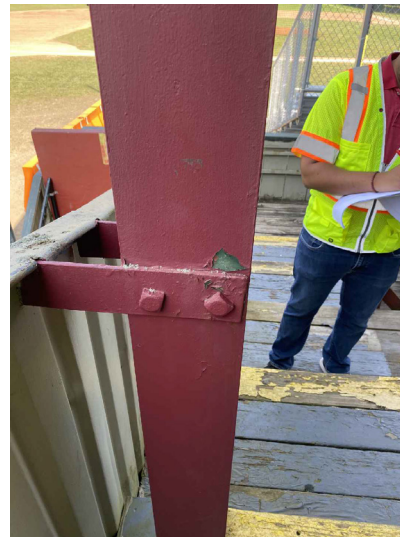
**PHOTO NUMBER:**

**14**


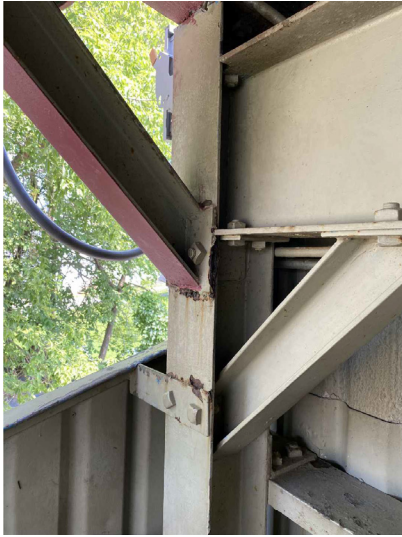

**PHOTO:** IMG\_3813.jpg

**DESCRIPTION:**

- TYPICAL COLUMN
- MINOR PAINT CHIPPING



 <small>89 REALTY DRIVE        CASHPRIE, CT 06410        203.271.1777        SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h1>15</h1> <b>PHOTO: IMG_3815.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL BEAM &amp; END COLUMN CONNECTION</li> <li>• MINOR PITTING &amp; PAINT PEELING</li> </ul>			
<b>PHOTO NUMBER:</b>  <h1>16</h1> <b>PHOTO: IMG_3816.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL BEAM</li> <li>• PAINT PEELING</li> </ul>			

 <small>89 REALTY DRIVE        CHESTER, CT 06410        203.271.1773        SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">17</h1> <b>PHOTO: IMG_3838.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>TYPICAL PITTING &amp; PAINT PEELING</li> </ul>			
<b>PHOTO NUMBER:</b>  <h1 style="text-align: center;">18</h1> <b>PHOTO: IMG_3843.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>TYPICAL INTERMEDIATE RAFTER CONNECTION</li> </ul>			





99 REALTY DRIVE  
CASHPREE, CT 06410  
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JOB NO. 21483.00001

WAHCONAH PARK

CREW: KP/NP

FIELD NOTES

DATE: 07/26/2023

LOCATION:

WAHCONAH PARK INSPECTION  
105 WAHCONAH ST,  
PITTSFIELD, MASSACHUSETTS 01201

DESCRIPTION: EXISTING CONDITIONS

PHOTO NUMBER:

19

PHOTO: IMG\_3844.jpg

DESCRIPTION:

- BEAM CONNECTION



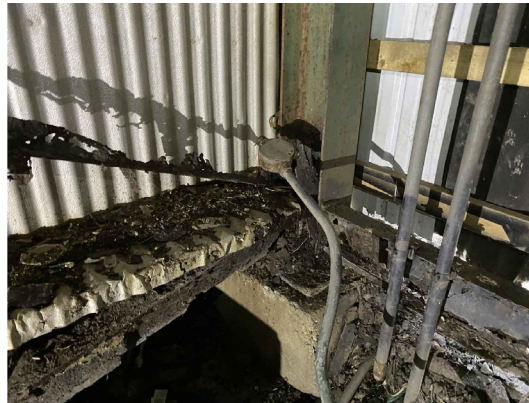
PHOTO NUMBER:


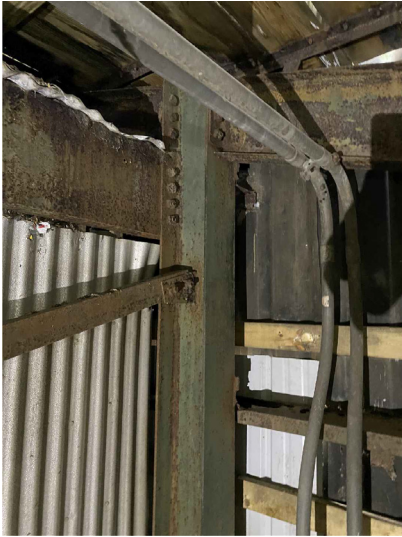

20




PHOTO: IMG\_3874.jpg

DESCRIPTION:




- TYPICAL ROOF COLUMN BASE PLATE & FOOTING



 <small>99 REALTY DRIVE          CASHPRIE, CT 06410          203.271.1773          SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">21</h2> <b>PHOTO: IMG_3875.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>TYPICAL RUSTING AT BEAM/COLUMN CONNECTION</li> </ul>			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">22</h2> <b>PHOTO: IMG_3879.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>CROSS BRACING FAILURE</li> </ul>			

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	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">23</h2> <b>PHOTO: IMG_3882.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• COLUMN FOOTING SEVERE RUSTING &amp; PAINT PEELING</li> </ul>			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">24</h2> <b>PHOTO: IMG_3905.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• CONCRETE WALL UNDER BLEACHERS</li> </ul>			



 <small>99 REALTY DRIVE          CHESTER, CT 06410          203.271.1773          SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">25</h2> <b>PHOTO: IMG_3906.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• CONCRETE RAMP DECK ON STEEL FRAMING</li> </ul>			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">26</h2> <b>PHOTO: IMG_3913.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• BLEACHER ON NORTHERN SECTION</li> </ul>			



99 REALTY DRIVE  
CASHPHIRE, CT 06410  
203.271.1773  
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**JOB NO. 21483.00001**

**WAHCONAH PARK**

**CREW: KP/NP**

**FIELD NOTES**

**DATE: 07/26/2023**

**LOCATION:**

WAHCONAH PARK INSPECTION  
105 WAHCONAH ST,  
PITTSFIELD, MASSACHUSETTS 01201

**DESCRIPTION:** EXISTING CONDITIONS

**PHOTO NUMBER:**

**27**

**PHOTO:** IMG\_3928.jpg

**DESCRIPTION:**

- TYPICAL UTILITIES BELOW BLEACHERS



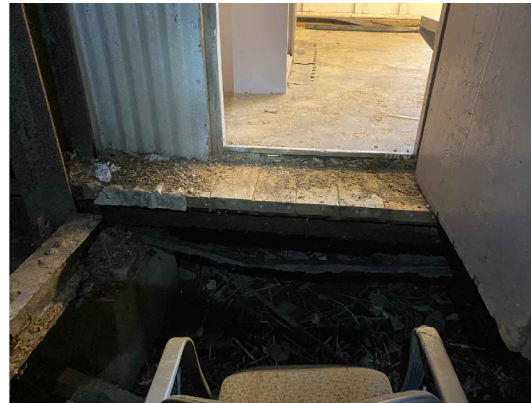
**PHOTO NUMBER:**

**28**

**PHOTO:** IMG\_3939.jpg

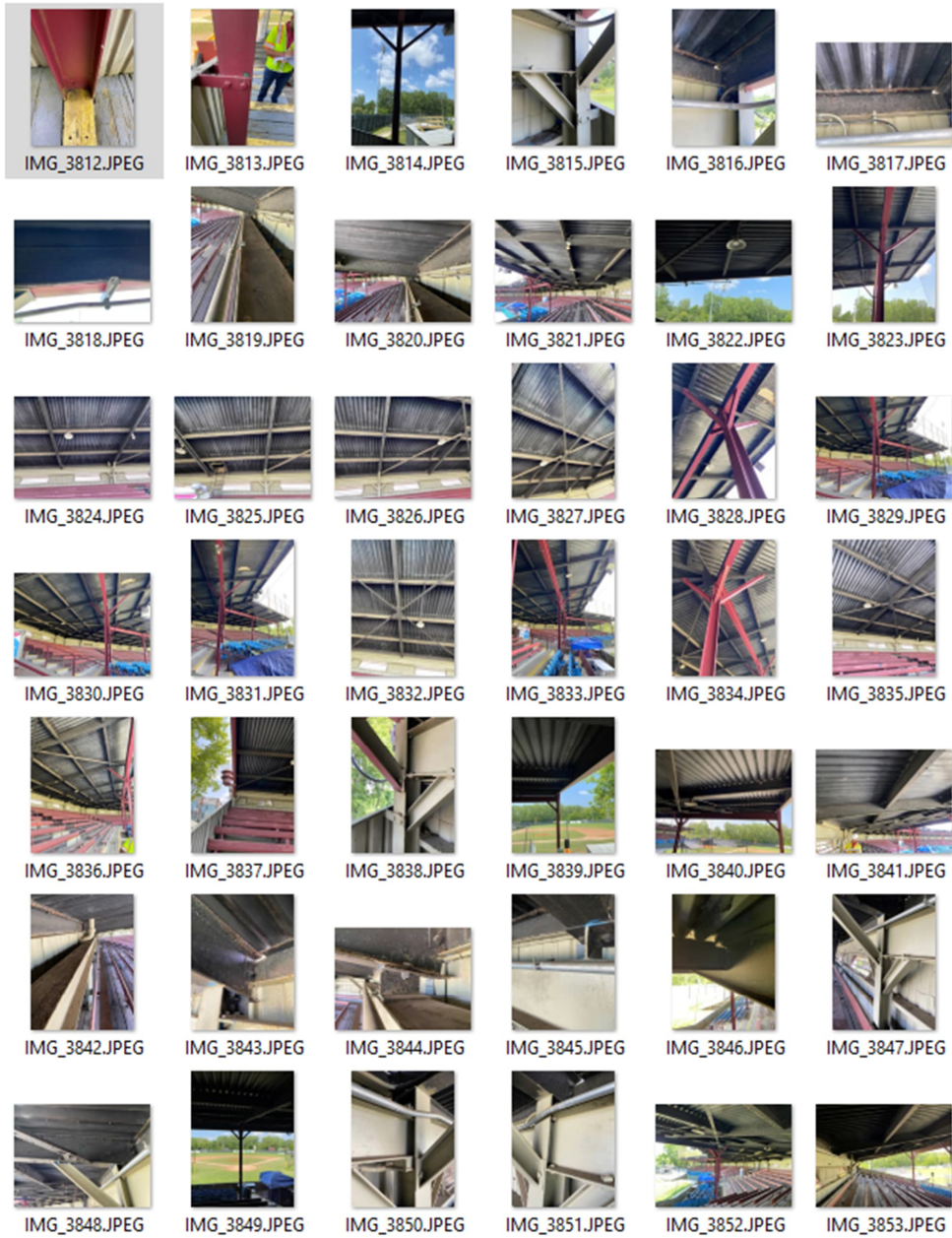
**DESCRIPTION:**

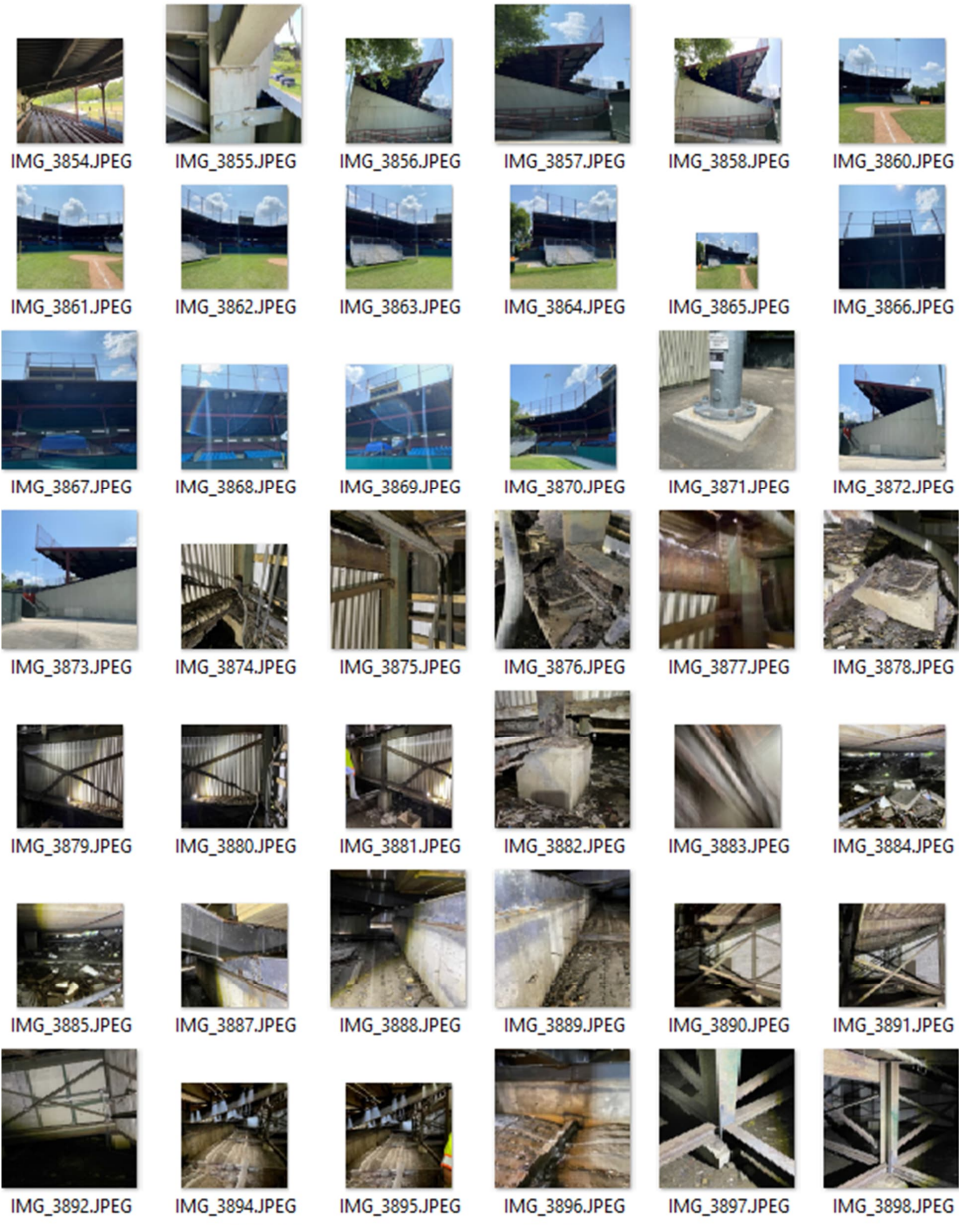
- ACCESS DOOR BELOW BLEACHERS

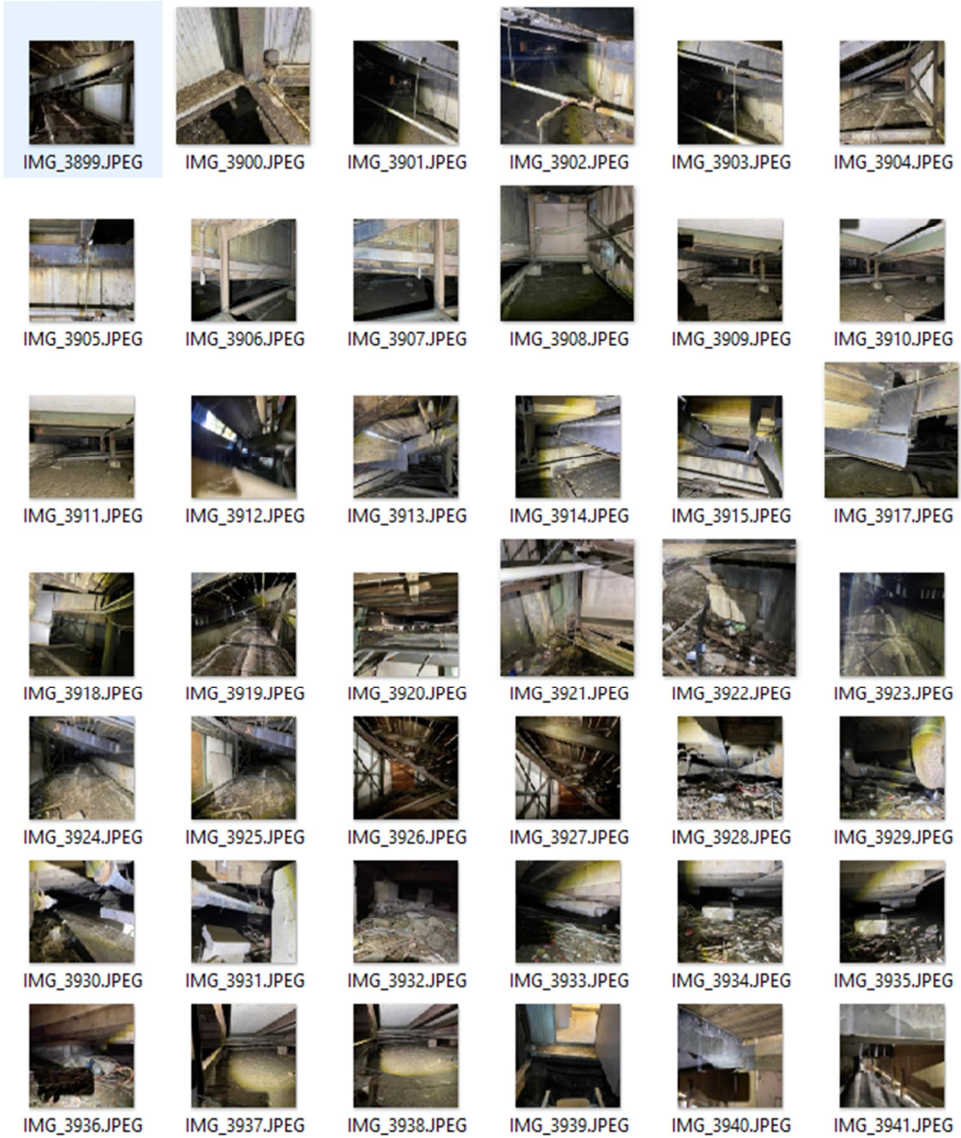


 <small>89 REALTY DRIVE        CHESHIRE, CT 06410        203.271.1773        SLRCONSULTING.COM</small>	<b>JOB NO. 21483.00001</b>	<b>WAHCONAH PARK</b>	<b>CREW: KP/NP</b>
	<b>FIELD NOTES</b>		
	<b>DATE: 07/26/2023</b>	<b>LOCATION:</b> WAHCONAH PARK INSPECTION 105 WAHCONAH ST, PITTSFIELD, MASSACHUSETTS 01201	
<b>DESCRIPTION:</b> EXISTING CONDITIONS			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">29</h2> <b>PHOTO: IMG_3958.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL OUTFIELD FENCE</li> </ul>			
<b>PHOTO NUMBER:</b>  <h2 style="text-align: center;">30</h2> <b>PHOTO: IMG_3954.jpg</b>			
<b>DESCRIPTION:</b> <ul style="list-style-type: none"> <li>• TYPICAL OUTFIELD FENCE</li> </ul>			













IMG\_3942.JPG



IMG\_3943.JPG



IMG\_3944.JPG



IMG\_3945.JPG



IMG\_3946.JPG



IMG\_3947.JPG



IMG\_3948.JPG



IMG\_3949.JPG



IMG\_3950.JPG



IMG\_3951.JPG



IMG\_3952.JPG



IMG\_3953.JPG



IMG\_3954.JPG



IMG\_3955.JPG



IMG\_3956.JPG



IMG\_3957.JPG



IMG\_3958.JPG

# Code Review



## CODE REVIEW (RENOVATION OPTION)

This review of the renovation project assumes a continuation of use in the space, Assembly, A-5, Grandstand.

The review is based on compliance with the Massachusetts Existing Building Code (2015) which adopts, with amendments, the International Existing Building Code (2015).

This review assumes that the building complies with the building code that applied at the time of construction. This review takes into account the existing condition of the building and the notice of unsafe conditions enforced by the local Authority Having Jurisdiction.

### USE AND OCCUPANCY

The building is classified as Assembly Group A-5 – Grandstands.

### CONSTRUCTION TYPE

Based on our field observation, we believe the building to be of Type II B construction.

### COMPLIANCE METHOD

The proposed compliance method is the Work Area Compliance Method (Chapters 7-8-9) with Alterations - Level 3 as the work area exceeds 50% of the building area.

### BUILDING ELEMENTS AND MATERIALS (702, 803, 903)

**702.1 Interior Finishes** - All new interior finishes will be compliant.

**702.2 Interior Floor Finish** - All new interior floor finishes will be compliant.

**702.3 Interior Trim** - All new interior trim will be compliant.

**702.6 Materials** - All new work will be compliant.

**803.2.1 Existing Vertical Openings** – There are no interior egress stairs, egress is in open air. Vertical openings will be made compliant.

**803.4 Interior Finish** - The interior finishes in the exits paths will be compliant.

**803.5 Guards** - Where replaced, they will be in compliance with the new building code.

**803.6 Fire-resistance Ratings** – The fire-resistance ratings of the building elements are assumed to meet the requirements of the Code at the time of construction. New elements and features will meet the requirements of the new building code.

### FIRE PROTECTION (703, 804, 904)

**804.2 Automatic Sprinkler Systems** – The building will require sprinkler systems per the requirements of the new building code.

**New Building Code (IBC 2015) – 903.2:** Group A-5 occupancy requires an automatic sprinkler system in concession stands, retail areas, press boxes and other accessory use areas in excess of 1000 SF.

### MEANS OF EGRESS



**704.1 General** – Existing means of egress systems in the building will be modified. Any new systems will meet the requirements of the IBC.

**805.3 Number of Exits** – The number of exits from the work area will be compliant with the new building code.

**805.3.3 Main Entrance** – Group A – The main entrance is to be capable of serving as the main exit with an egress capacity of at least half of the total occupant load.

**805.4 Egress Doorways** – The work area egress doorways and hardware will be compliant.

**805.6 Dead-end Corridors** – The work area will be compliant.

**805.9 Handrails** – The handrails on the exterior stairs serving the work area will be modified to be compliant. All new work will be compliant with the new building code.

**805.10 Refuge Areas** – The building does not contain refuge areas.

**905.2 Means-of-Egress Lighting** – Means of egress lighting will meet the requirements of the new building code.

**905.3 Exit Signs** - Exist signs will be provided to meet the requirements of the new building code.

#### **ACCESSIBILITY (705, 806, 906, 521 CMR)**

**906.1 General** – Accessibility will comply with CMR 521.

The building assessed value is \$\_\_\_\_\_.

30% of the assessed value is \$\_\_\_\_\_.

Including any work that has been permitted within the last 3 years, The work is more than 30% of the assessed value of the building. The whole building will be made fully accessible.

#### **STRUCTURAL (707, 807, 907)**

**807.2 New Structural Elements** – The Bimah will be constructed of fire-retardant –treated wood as allowed by IBC 603.1.1.12 and 410.4. The Bimah will be constructed on top of a concrete slab-on-grade.

**807.4 Existing Structural Elements Carrying Gravity Loads** – No structural members are being altered as part of the renovations. No additional gravity loads will be incurred as a result of the renovations.

**907.4 Existing Structural Elements Resisting Lateral Loads** –.

#### **ELECTRICAL (808)**

**808.1 New Installations** - The new electrical work in the work area we comply with Massachusetts Electrical Code.

#### **MECHANICAL (809)**

**809.1 Reconfigured Spaces** – The project will be provided with mechanical ventilation in accordance with the International Mechanical Code.

## PLUMBING (810)

**810.1 Minimum Fixtures:** Must be provided based on new occupancy count per the new building code

**248 CMR: Board of State Examiners of Plumbers and Gas Fitters:** Table 1 - Minimum Fixtures for Building Occupancy for Use Group A-5: Stadiums

Fixture	Code Requires	Occupancy Count	Number Needed
Toilets: Females (first 2000 P)	1 per 30	675	23
Toilets: Males (first 2000 P)	1 per 60	675	11
Toilets: Females (Remaining)	1 per 100	0	
Toilets: Males (Remaining)	1 per 200	0	
Lavatories: Female	1 per 150	586	4
Lavatories: Males	1 per 150	586	4
Drinking Water Station	0	0	
Bath / Shower	0	0	
Other Fixtures	0	0	

(a) 50% of the required fixtures can be served by Urinals


## ENERGY CONSERVATION (708, 811, 908)

**908.1 Minimum Requirements** – The modified and new elements will meet the requirements of the International Energy Conservation Code for New Construction.

# Cost Estimate

WAHCONAH PARK REHABILITATION				
OPTION		RENOVATED OPTION		ELEVATED OPTION
TOTAL SF		25,141 SF		40,765 SF
AREA	TOTAL	COST/SF	TOTAL	COST/SF
<b>GRANDSTANDS &amp; BUILDING CONSTRUCTION</b>	<b>\$13,917,337</b>	<b>\$553.57</b>	<b>\$17,686,518</b>	<b>\$433.87</b>
GENERAL CONDITIONS/REQS	\$1,800,000	\$71.60	\$1,800,000	\$44.16
DESIGN CONTINGENCY -- 8%	\$1,257,387	\$50.01	\$1,558,921	\$38.24
CONTRACTOR'S FEE -- 3%	\$509,242	\$20.26	\$631,363	\$15.49
BOND & INSURANCE -- 3%	\$524,519	\$20.86	\$650,304	\$15.95
ESCALATION -- 4% -- ASSUME SUMMER 2024 START	\$720,339	\$28.65	\$893,084	\$21.91
<b>GRANDSTANDS &amp; BUILDING CONSTRUCTION TOTAL</b>	<b>\$18,728,824</b>	<b>\$744.95</b>	<b>\$23,220,191</b>	<b>\$569.61</b>
OWNER'S SOFT COSTS - 22% RENOVATION, 20% ELEVATED	\$4,120,341	\$163.89	\$4,644,038	\$113.92
<b>GRANDSTANDS &amp; BUILDING PROJECT TOTAL</b>	<b>\$22,849,166</b>	<b>\$908.84</b>	<b>\$27,864,229</b>	<b>\$683.53</b>
<b>SITework - PARKING &amp; DRAINAGE</b>	<b>\$1,280,729</b>	<b>\$50.94</b>	<b>\$1,280,729</b>	<b>\$31.42</b>
GENERAL CONDITIONS/REQS	\$360,000	\$14.32	\$360,000	\$8.83
DESIGN CONTINGENCY -- 8%	\$131,258	\$5.22	\$131,258	\$3.22
CONTRACTOR'S FEE -- 3%	\$53,160	\$2.11	\$53,160	\$1.30
BOND & INSURANCE -- 3%	\$54,754	\$2.18	\$54,754	\$1.34
ESCALATION -- 4% -- ASSUME SUMMER 2024 START	\$75,196	\$2.99	\$75,196	\$1.84
<b>SITework PARKING &amp; DRAINAGE CONSTRUCTION TOTAL</b>	<b>\$1,955,097</b>	<b>\$77.77</b>	<b>\$1,955,097</b>	<b>\$47.96</b>
OWNER'S SOFT COSTS - 22% RENOVATION, 20% ELEVATED	\$430,121	\$17.11	\$391,019	\$9.59
<b>SITework PARKING &amp; DRAINAGE PROJECT TOTAL</b>	<b>\$2,385,218</b>	<b>\$94.87</b>	<b>\$2,346,116</b>	<b>\$57.55</b>
<b>TOTAL PROJECT COST</b>	<b>\$25,234,384</b>	<b>\$1,003.71</b>	<b>\$30,210,345</b>	<b>\$741.09</b>
<b>ENABLING PROJECTS FUNDED SEPARATELY</b>				
<b>ADD ALTERNATE - REPLACE DRAINAGE PIPE WITH CULVERT - PROJECT COST</b>	<b>\$1,345,315</b>		<b>\$1,324,900</b>	
<b>ADD ALTERNATE - NEW HELICOPTER PAD - PROJECT COST</b>	<b>\$318,491</b>		<b>\$313,270</b>	




WAHCONAH PARK REHABILITATION					
OPTION ESTIMATES					
September 27, 2023					
OPTION		RENOVATED OPTION		ELEVATED OPTION	
TOTAL SF		25,141 SF		40,765 SF	
DIV	TRADE	TOTAL	COST/SF	TOTAL	COST/SF
2	DEMOLITION	\$554,000	\$22.04	\$736,900	\$18.08
3	CONCRETE	\$737,711	\$29.34	\$2,388,390	\$58.59
4	MASONRY	\$1,372,630	\$54.60	\$112,095	\$2.75
5	STEEL	\$1,649,178	\$65.60	\$1,926,455	\$47.26
6	CARPENTRY	\$356,612	\$14.18	\$293,864	\$7.21
7	MOISTURE MITIGATION	\$1,060,253	\$42.17	\$1,883,186	\$46.20
8	OPENINGS	\$349,815	\$13.91	\$518,215	\$12.71
9	FINISHES	\$713,725	\$28.39	\$1,073,447	\$26.33
10	SPECIALTIES	\$316,000	\$12.57	\$324,800	\$7.97
11	EQUIPMENT	\$1,053,750	\$41.91	\$1,053,750	\$25.85
12	FURNISHINGS	\$0	\$0.00	\$0	\$0.00
13	SPECIAL CONSTRUCTION	\$1,827,000	\$72.67	\$2,487,000	\$61.01
14	CONVEYING EQUIPMENT	\$56,000	\$2.23	\$130,000	\$3.19
21	FIRE PROTECTION	\$137,490	\$5.47	\$203,580	\$4.99
22	PLUMBING	\$881,700	\$35.07	\$990,700	\$24.30
23	HVAC	\$531,696	\$21.15	\$730,932	\$17.93
26	ELECTRICAL	\$1,095,983	\$43.59	\$1,540,777	\$37.80
31	EARTHWORK	\$491,394	\$19.55	\$560,025	\$13.74
32	SITE IMPROVEMENTS	\$1,533,930	\$61.01	\$1,533,930	\$37.63
33	SITE UTILITIES	\$479,200	\$19.06	\$479,200	\$11.76
<b>SUBTOTAL</b>		<b>\$15,198,066</b>	<b>\$604.51</b>	<b>\$18,967,246</b>	<b>\$465.28</b>
GENERAL CONDITIONS/REQS		\$2,160,000	\$85.92	\$2,160,000	\$52.99
DESIGN CONTINGENCY -- 8%		\$1,388,645	\$55.23	\$1,690,180	\$41.46
CONSTRUCTION CONTINGENCY		EXCLUDED		EXCLUDED	
CONTRACTOR'S FEE -- 3%		\$562,401	\$22.37	\$684,523	\$16.79
BUILDING PERMIT		EXCLUDED		EXCLUDED	
BOND & INSURANCE -- 3%		\$579,273	\$23.04	\$705,058	\$17.30
ESCALATION -- 4% -- ASSUME SUMMER 2024 START		\$795,535	\$31.64	\$968,280	\$23.75
<b>TOTAL CONSTRUCTION COST</b>		<b>\$20,683,921</b>	<b>\$822.72</b>	<b>\$25,175,288</b>	<b>\$617.57</b>
OWNER'S SOFT COSTS - 22% RENOVATION, 20% ELEVATED		\$4,550,463	\$181.00	\$5,035,058	\$123.51
<b>TOTAL PROJECT COST</b>		<b>\$25,234,384</b>	<b>\$1,003.71</b>	<b>\$30,210,345</b>	<b>\$741.09</b>
<b>ENABLING PROJECTS FUNDED SEPARATELY</b>					
<b>ADD ALTERNATE - REPLACE DRAINAGE PIPE WITH CULVERT - PROJECT COST</b>		<b>\$1,345,315</b>		<b>\$1,324,900</b>	
<b>ADD ALTERNATE - NEW HELICOPTER PAD - PROJECT COST</b>		<b>\$318,491</b>		<b>\$313,270</b>	


WAHCONAH PARK REHABILITATION					
OPTION ESTIMATES					
September 27, 2023					
		PCMC COMPANY		Accuracy You Can Build On	
OPTION		RENOVATED OPTION		ELEVATED OPTION	
INTERIOR		9,166 SF		13,572 SF	
EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
<b>DEMOLITION</b>					
Remove Grandstands (SF)	\$30.00	9,000	\$270,000.00	9,000	\$270,000.00
Remove Roof Structure (SF)	\$20.00		\$0.00	9,145	\$182,900.00
Misc Demolition (MHR)	\$125.00	200	\$25,000.00	200	\$25,000.00
Abate & Dispose of Metal Wall & Roof Panels (SF)	\$18.50	14,000	\$259,000.00	14,000	\$259,000.00
<b>CONCRETE</b>					
Foundations for Lockers Rooms, Restrooms, Concession Stands					
Form, Pour & Formwork (CY)	\$1,350.00	175	\$236,250.00	250	\$337,500.00
Rebar (TN)	\$4,600.00	13.8	\$63,250.00	18.8	\$86,250.00
Concrete (CY)	\$175.00	175	\$30,625.00	250	\$43,750.00
Foundations for Bleacher Stands					
Form, Pour & Formwork (CY)	\$1,350.00	25	\$33,750.00	100	\$135,000.00
Rebar (TN)	\$4,600.00	2.0	\$9,200.00	8.0	\$36,800.00
Concrete (CY)	\$175.00	25	\$4,375.00	100	\$17,500.00
Repair Existing Piers					
Clean Top of Piers & Cut Anchor Bolts (LOC)	\$1,160.00	20	\$23,200.00	20	\$23,200.00
Repair Spalled Concrete (LOC)	\$1,450.00	20	\$29,000.00		\$0.00
Form, Pour & Formwork for Extension of Footings (CY)	\$1,350.00		\$0.00	20	\$27,000.00
Rebar (TN)	\$4,600.00		\$0.00	1.5	\$6,900.00
Concrete (CY)	\$175.00		\$0.00	20	\$3,500.00
Dowel & Epoxy into Existing (LOC)	\$2,160.00		\$0.00	20	\$43,200.00
Slab on Grade - 6" (SF)	\$9.50	8,305	\$78,897.50		\$0.00
Rigid Insulation at SOG - 4" (SF)	\$3.50	8,305	\$29,067.50	0	\$0.00
Vapor Barrier at SOG (SF)	\$1.35	8,305	\$11,211.75		\$0.00
Elevator Pit (EA)	\$12,000.00		\$0.00	1	\$12,000.00
Slab on Deck (SF)	\$8.50	1,530	\$13,005.00	25,780	\$219,130.00
Stair Tread & Landings (FLT)	\$6,500.00		\$0.00	2	\$13,000.00
Concrete Ramp & Landing (CY)	\$2,500.00	24	\$59,027.78	64	\$159,027.78
Concrete Steps (CY)	\$2,500.00	5	\$11,851.85	41	\$102,592.59
Housekeeping Pads (LS)	\$5,000.00	1	\$5,000.00	1	\$5,000.00
Misc Concrete (LS)	\$100,000.00	1	\$100,000.00	1	\$100,000.00
Precast Concrete Panel Wall w/ Brick Inlay (SF)	\$80.00		\$0.00	12,713	\$1,017,040.00
<b>MASONRY</b>					

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GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
CMU Block Planters (SF)	\$35.00		\$0.00	270	\$9,450.00
CMU Walls at Dugouts (SF)	\$35.00	1,140	\$39,900.00	1,152	\$40,320.00
CMU Block Walls (SF)	\$35.00	19,082	\$667,870.00		\$0.00
Stone Treads at Entry Stairs (SF)	\$225.00		\$0.00	277	\$62,325.00
Brick Veneer (SF)	\$42.00	15,830	\$664,860.00		\$0.00
<b>STEEL</b>					
Structural Steel - 2nd Level/Roof (TN)	\$6,000.00	100	\$600,000.00	170	\$1,020,000.00
Decorative Steel Allowance (ALLW)	\$150,000.00		\$0.00	1	\$150,000.00
Replace C-Channel around Roofing (TN)	\$11,500.00	2.8	\$31,625.00		\$0.00
Sandblast & Repair All Roof Structural Steel (SF)	\$55.00	9,145	\$502,975.00		\$0.00
Premium for Lead Paint Removal (SF)	\$15.00	9,145	\$137,175.00		\$0.00
Metal Floor Deck (SF)	\$6.25	1,530	\$9,562.50	25,780	\$161,125.00
Metal Roof Deck (SF)	\$5.50	7,630	\$41,965.00	6,210	\$34,155.00
Elevator Misc Metals (EA)	\$5,000.00		\$0.00	1	\$5,000.00
Metal Stair Assembly w/ Railings (FLT)	\$35,000.00		\$0.00	2	\$70,000.00
Guardrail w/ Mesh Panel Infill GRD-1 (LF)	\$350.00	412	\$144,200.00	665	\$232,750.00
Metal Pipe Railings (LF)	\$225.00	134	\$30,150.00	214	\$48,150.00
Steel Frame Ramp (SF)	\$75.00	247	\$18,525.00		\$0.00
Metal Stairs & Landing (SF)	\$125.00	64	\$8,000.00		\$0.00
Flood Grade Allowance (EA)	\$750.00	100	\$75,000.00	100	\$75,000.00
Metal Panel Jamb/Frame around Precast Panel (LF)	\$65.00		\$0.00	1,235	\$80,275.00
Misc Metals (LS)	\$50,000.00	1	\$50,000.00	1	\$50,000.00
<b>CARPENTRY</b>					
Wood Plank Backstop (SF)	\$22.00	3,136	\$68,992.00	3,072	\$67,584.00
Wood Framed Roof Deck at Dugouts (SF)	\$25.00	495	\$12,375.00	495	\$12,375.00
Elevated Wood Decking (SF)	\$65.00	2,743	\$178,295.00	1,107	\$71,955.00
Wood Stair & Ramp from Elevated Deck (LOC)	\$11,000.00		\$0.00	1	\$11,000.00
Wood Stair from Elevated Deck (LOC)	\$7,500.00	1	\$7,500.00	1	\$7,500.00
Roof Blocking (LF)	\$15.00	1,500	\$22,500.00	1,500	\$22,500.00
Stainless Steel Concessions Counter (LF)	\$350.00	37	\$12,950.00	47	\$16,450.00
Solid Surface Counter at Bathrooms (LF)	\$250.00	63	\$15,750.00	83	\$20,750.00
Solid Surface Counter at Press Box (LF)	\$250.00	20	\$5,000.00	20	\$5,000.00
Solid Surface Counter Drink Rail (LF)	\$200.00	62	\$12,400.00	193	\$38,600.00




WAHCONAH PARK REHABILITATION					
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September 27, 2023					
		RENOVATED OPTION		ELEVATED OPTION	
OPTION		RENOVATED OPTION		ELEVATED OPTION	
INTERIOR		9,166 SF		13,572 SF	
EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
Stainless Steel Tickets Counter (LF)	\$350.00	11	\$3,850.00	9	\$3,150.00
Sports Med Casework (LF)	\$950.00	10	\$9,500.00	10	\$9,500.00
Laundry Casework (LF)	\$750.00	10	\$7,500.00	10	\$7,500.00
<b>MOISTURE PROTECTION</b>					
Waterproofing at Elevator Pits (EA)	\$8,500.00		\$0.00	1	\$8,500.00
Waterproofing Traffic Coating (SF)	\$15.00		\$0.00	12,526	\$187,890.00
Waterproofing at Interior Spaces Under Seating (SF)	\$18.00	3,821	\$68,778.00		\$0.00
Air/Vapor Barrier at Exterior Wall (SF)	\$4.25	1,152	\$4,896.00	15,811	\$67,196.75
Waterproofing at Wall Type W3 (SF)	\$12.00		\$0.00	2,576	\$30,912.00
TPO Membrane Roof System (SF)	\$28.00	4,170	\$116,760.00	4,670	\$130,760.00
Corrugated Metal Roof Panel System (SF)	\$36.00	13,100	\$471,600.00	11,203	\$403,308.00
Fascia / Perimeter Roof Condition (LF)	\$70.00	1,455	\$101,850.00	1,450	\$101,500.00
Insulation at Underside of Elevated 1st Floor SOD (SF)	\$8.00		\$0.00	14,445	\$115,560.00
Spray Foam Insulation - 3" (SF) - At CMU Walls	\$6.50	19,082	\$124,033.00		\$0.00
Rigid Insulation & Z-furring at Exterior Wall - 1.5" (SF)	\$4.00	1,152	\$4,608.00	15,811	\$63,244.00
Metal Panel Siding (SF)	\$38.00	2,608	\$99,104.00	15,811	\$600,818.00
Metal Panel Siding w/ Hat Channel at Bleaching Seating System (SF)	\$42.00	736	\$30,912.00	2,675	\$112,350.00
Joint Sealants & Caulking (SF)	\$1.50	25,141	\$37,711.50	40,765	\$61,147.50
<b>OPENINGS</b>					
Single Doors - Exterior (EA)	\$3,495.00	18	\$62,910.00	19	\$66,405.00
Single Doors - Interior (EA)	\$2,845.00	15	\$42,675.00	14	\$39,830.00
Double Doors - Exterior (EA)	\$4,930.00		\$0.00	2	\$9,860.00
Interior Aluminum Doors - Single (EA)	\$5,500.00		\$0.00	2	\$11,000.00
Exterior Aluminum Doors - Single (EA)	\$7,500.00	3	\$22,500.00	6	\$45,000.00
Exterior Storefront System (SF)	\$135.00	1,032	\$139,320.00	1,896	\$255,960.00
Interior Storefront (SF)	\$85.00		\$0.00	240	\$20,400.00
Operable Windows at Press Box (SF)	\$155.00	192	\$29,760.00	192	\$29,760.00
Clerestory Windows (SF)	\$115.00	110	\$12,650.00		\$0.00
Transaction Windows (EA)	\$5,000.00	2	\$10,000.00	2	\$10,000.00
Roll Up Gates (EA)	\$7,500.00	4	\$30,000.00	4	\$30,000.00
<b>FINISHES</b>					
Exterior Walls - 6" MS, Insulation, Ext Sheathing, Int GWB (SF)	\$18.10	1,152	\$20,851.20	13,235	\$239,553.50
Exterior Walls - 6" MS, Insulation, Ext Sheathing, Int 1/2" Cement Board (SF)	\$18.35		\$0.00	2,576	\$47,269.60


WAHCONAH PARK REHABILITATION					
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 Accuracy You Can Build On					
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EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
Misc Cutting & Patching at Existing (MHR)	\$160.00	80	\$12,800.00		\$0.00
Interior Walls (SF)	\$15.50	9,545	\$147,947.50	9,439	\$146,304.50
Plumbing Chases (SF)	\$7.75	3,888	\$30,132.00	7,334	\$56,838.50
GWB Ceiling Finish (SF)	\$22.00	2,430	\$53,460.00	3,411	\$75,042.00
ACT Ceiling Finish (SF)	\$8.00	4,352	\$34,816.00	5,833	\$46,664.00
Epoxy Flooring (SF)	\$18.00	6,911	\$124,398.00	6,202	\$111,636.00
Carpet (SF)	\$7.00	748	\$5,236.00	1,420	\$9,940.00
Rubber Flooring (SF)	\$13.00		\$0.00	2,468	\$32,084.00
Turf Flooring (SF)	\$20.00		\$0.00	1,306	\$26,120.00
Wall Tile - Assume 8' High at Bathrooms (SF)	\$22.00	6,400	\$140,800.00	8,000	\$176,000.00
Paint Walls (SF)	\$1.50	13,840	\$20,760.00	29,190	\$43,785.00
Paint GWB Ceilings (SF)	\$3.25	2,430	\$7,897.50	3,411	\$11,085.75
Paint Exposed Deck/Structure (SF)	\$4.50	877	\$3,946.50	2,152	\$9,684.00
Paint Structure & Deck at Grandstand Roof (SF)	\$8.00	9,145	\$73,160.00		\$0.00
Paint Frames (EA)	\$200.00	33	\$6,600.00	35	\$7,000.00
FRP Wall Panels (SF)	\$10.00	1,592	\$15,920.00	1,944	\$19,440.00
Acoustical Treatment Allowance (ALLW)	\$15,000.00	1	\$15,000.00	1	\$15,000.00
<b>SPECIALTIES</b>					
Fire Extinguishers (EA)	\$425.00	6	\$2,550.00	6	\$2,550.00
Toilet Partitions (EA)	\$1,500.00	39	\$58,500.00	44	\$66,000.00
Urinal Screens (EA)	\$950.00	6	\$5,700.00	8	\$7,600.00
Toilet Accessories - Multi (LOC)	\$5,000.00	6	\$30,000.00	6	\$30,000.00
Toilet Accessories - Single (LOC)	\$1,200.00	3	\$3,600.00	6	\$7,200.00
Custom Wood Lockers w/ Bench (EA)	\$900.00	79	\$71,100.00	78	\$70,200.00
Misc Specialties (LS)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Signage Interior (ALLW)	\$15,000.00	1	\$15,000.00	1	\$15,000.00
Signage Exterior (ALLW)	\$50,000.00	1	\$50,000.00	1	\$50,000.00
Custom Graphics Allowance (ALLW)	\$55.00	810	\$44,550.00	750	\$41,250.00
<b>EQUIPMENT - PRICING PROVIDED BY THE SPORTS FACILITIES COMPANIES</b>					
Kitchen Equipment at Concessions (ALLW)	\$300,000.00	1	\$300,000.00	1	\$300,000.00
Game Clay Mound (EA)			EXCLUDED		EXCLUDED
Batting Cages (EA)			EXCLUDED		EXCLUDED
Bulpen w/ Clay Mounds (EA)	\$15,000.00	2	\$30,000.00	2	\$30,000.00

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SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
Grand Slam Safety Netting (LF)	\$175.00	442	\$77,350.00	442	\$77,350.00
Ball Control Foul Pole to Foul Pole (LF)	\$630.00	780	\$491,400.00	780	\$491,400.00
Nine Inning Scoreboard (EA)	\$25,000.00	1	\$25,000.00	1	\$25,000.00
Football Goal Posts (EA)			EXCLUDED		EXCLUDED
Wall Padding (LF)	\$150.00	200	\$30,000.00	200	\$30,000.00
Beer Garden Area (SF)	\$200.00	500	\$100,000.00	500	\$100,000.00
Weight Room Equipment (SF)			EXCLUDED		EXCLUDED
<b>SPECIAL CONSTRUCTION</b>					
Grandstands Structure - Structure, Chairs, Treads, Risers, Etc. - Pricing Provided by Dant Clayton (LS)	\$1,827,000.00	1	\$1,827,000.00	1	\$1,827,000.00
Roof Structure - Framing & Decking - Pricing Provided by Dant Clayton (LS)	\$660,000.00		\$0.00	1	\$660,000.00
<b>ELEVATOR</b>					
Passenger Elevator (STOPS)	\$65,000.00		\$0.00	2	\$130,000.00
Commerical Lift (STOPS)	\$28,000.00	2	\$56,000.00		\$0.00
<b>FIRE PROTECTION</b>					
Preaction Sprinkler System at Interior Spaces (SF)	\$15.00	9,166	\$137,490.00	13,572	\$203,580.00
<b>PLUMBING (INCL PIPING &amp; EQUIPMENT U.N.O.)</b>					
Plumbing Demolition (MHR)	\$145.00	60	\$8,700.00	60	\$8,700.00
Elevator Sump Pumps (EA)	\$5,500.00		\$0.00	1	\$5,500.00
Water Closets (EA)	\$8,500.00	42	\$357,000.00	46	\$391,000.00
Lavatories (EA)	\$7,500.00	25	\$187,500.00	26	\$195,000.00
Showers (EA)	\$10,000.00	8	\$80,000.00	13	\$130,000.00
Drinking Fountains (EA)	\$10,000.00	2	\$20,000.00	2	\$20,000.00
Sinks (EA)	\$7,500.00	8	\$60,000.00	8	\$60,000.00
Plumbing Associated with Concessions Stands (LS)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Floor Drains (EA)	\$4,000.00	19	\$76,000.00	22	\$88,000.00
Roof Drains (EA)	\$5,500.00	5	\$27,500.00	5	\$27,500.00
Water Heater (EA)	\$15,000.00	2	\$30,000.00	2	\$30,000.00
<b>HVAC</b>					
HVAC Demolition (MHR)	\$145.00	80	\$11,600.00	80	\$11,600.00
Outdoor Condensing Units (TNS)	\$2,200.00	23.5	\$51,700.00	27.5	\$60,500.00
Indoor Heat Pump Cassettes (EA)	\$2,800.00	26	\$72,800.00	30	\$84,000.00
ERVs (CFM)	\$24.00	4,270	\$102,480.00	6,090	\$146,160.00
Refrigerant Piping (SF)	\$6.00	9,166	\$54,996.00	13,572	\$81,432.00




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SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
Air Distribution - Ductwork, Diffusers/Registers, Etc. - Assume .5 lbs/sf (LBS)	\$24.00	4,583	\$109,992.00	6,786	\$162,864.00
Unit Heaters (EA)	\$3,500.00	4	\$14,000.00	10	\$35,000.00
Exhaust Fan - 100 CFM (EA)	\$800.00	1	\$800.00	1	\$800.00
Laundry Exhaust Requirements (LS)	\$5,000.00	1	\$5,000.00	1	\$5,000.00
Kitchen Requirements (LS)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Controls (SF)	\$8.00	9,166	\$73,328.00	13,572	\$108,576.00
<b>ELECTRICAL</b>					
Electrical Demolition (MHR)	\$145.00	120	\$17,400.00	120	\$17,400.00
Primary Service - Conduit Only (LF) Transformer & Wire By Others	\$75.00	280	\$21,000.00	280	\$21,000.00
Secondary Service - Wire & Conduit (SF)	\$400.00	75	\$30,000.00	75	\$30,000.00
Disconnect & Reconnect Generator (ALLW)	\$20,000.00	1	\$20,000.00	1	\$20,000.00
MDP (EA)	\$65,000.00	1	\$65,000.00	1	\$65,000.00
Panelboards (EA)	\$6,500.00	4	\$26,000.00	4	\$26,000.00
Branch Feeders Allowance (ALLW)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Power & Devices - Interior (SF)	\$9.00	9,166	\$82,494.00	13,572	\$122,148.00
Power & Devices - Exterior (SF)	\$3.50	4,920	\$17,220.00	16,793	\$58,775.50
Site Lighting Allowance (ALLW)	\$250,000.00	1	\$250,000.00	1	\$250,000.00
Interior Lighting (EA) - Assume 1 EA / 55 SF	\$770.00	170	\$130,900.00	260	\$200,200.00
Exterior Lighting (EA) - Assume 1 EA / 80 SF	\$820.00	70	\$57,400.00	210	\$172,128.25
Exterior Lighting at Grandstands (EA) - Assume 1 EA / 180 SF	\$970.00	65	\$63,050.00	65	\$63,050.00
HVAC Line Voltage (LS)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Misc Power - Elevator, Kitchen, Etc. (LS)	\$50,000.00	1	\$50,000.00	1	\$50,000.00
Fire Alarm (SF)	\$4.50	14,086	\$63,387.00	30,365	\$136,642.50
Tel/Data (SF)	\$6.00	9,166	\$54,996.00	13,572	\$81,432.00
Security Allowance (SF)	\$4.50	14,086	\$63,387.00	30,365	\$136,642.50
A/V Infrastructure Allowance (SF)	\$1.50	9,166	\$13,749.00	13,572	\$20,358.00
<b>EARTHWORK</b>					
Site Prep/Demo (ALLW)	\$150,000.00	1	\$150,000.00	1	\$150,000.00
Grading (SF)	\$0.75	200,000	\$150,000.00	200,000	\$150,000.00
Excavate & Backfill for Foundations (CY)	\$150.00	200	\$30,000.00	370	\$55,500.00
<i>Unsuitable Soils, Contaminated Soils, Ledge Removal - EXCLUDED</i>					
Stone Bed Under SOG & Elevated SOD (CY)	\$65.00	308	\$19,993.52	535	\$34,775.00
Timber Piles - 12" Dia, 40' (EA)	\$1,400.00	101	\$141,400.00	40	\$56,000.00

WAHCONAH PARK REHABILITATION					
OPTION ESTIMATES					
September 27, 2023					
OPTION		RENOVATED OPTION		ELEVATED OPTION	
INTERIOR		9,166 SF		13,572 SF	
EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
Timber Piles - 12" Dia, 50' (EA)	\$1,750.00		\$0.00	65	\$113,750.00
<b>SITE IMPROVEMENTS</b>					
Concrete Sidewalks (SF)	\$12.00	18,350	\$220,200.00	18,350	\$220,200.00
Asphalt Paving - Parking (SY)	\$50.00	5,300	\$265,000.00	5,300	\$265,000.00
Asphalt Paving - Drive (SY)	\$58.00	2,333	\$135,333.33	2,333	\$135,333.33
Gravel Parking (SF)	\$3.70	28,850	\$106,745.00	28,850	\$106,745.00
Gravel at Grass Parking - Assume 12" (SF)	\$55.00	852	\$46,851.85	852	\$46,851.85
Roadway Patching (SY)	\$175.00	200	\$35,000.00	200	\$35,000.00
Curbing (LF)	\$45.00	2,000	\$90,000.00	2,000	\$90,000.00
Site Furnishings Allowance (ALLW)	\$75,000.00	1	\$75,000.00	1	\$75,000.00
Landscaping Allowance (ALLW)	\$175,000.00	1	\$175,000.00	1	\$175,000.00
Wetland Restoration (SF)	\$4.00	46,200	\$184,800.00	46,200	\$184,800.00
Compensatory Mitigation Area (SF)	\$4.00	50,000	\$200,000.00	50,000	\$200,000.00
<b>SITE UTILITIES</b>					
Water Line - 3" (LF)	\$230.00	350	\$80,500.00	350	\$80,500.00
Fire Water Line - 4" (LF)	\$250.00	350	\$87,500.00	350	\$87,500.00
Sanitary Line - 6" (LF)	\$190.00	350	\$66,500.00	350	\$66,500.00
Sewage Ejector Pump (EA)	\$35,000.00	1	\$35,000.00	1	\$35,000.00
Excavation & Backfill for Electrical (LF)	\$65.00	355	\$23,075.00	355	\$23,075.00
Storm - 48" RCP Pipe (LF)	\$540.00	150	\$81,000.00	150	\$81,000.00
Storm - Check Dams (EA)	\$5,000.00	2	\$10,000.00	2	\$10,000.00
Storm - RipRap Impact Basin (LS)	\$10,000.00	1	\$10,000.00	1	\$10,000.00
Water Quality Swale (LF)	\$12.50	850	\$10,625.00	850	\$10,625.00
Additional Stormwater Management Allowance (ALLW)	\$50,000.00	1	\$50,000.00	1	\$50,000.00
Utility Relocation Allowance (ALLW)	\$25,000.00	1	\$25,000.00	1	\$25,000.00

WAHCONAH PARK REHABILITATION					
OPTION ESTIMATES					
September 27, 2023					
OPTION		RENOVATED OPTION		ELEVATED OPTION	
INTERIOR		9,166 SF		13,572 SF	
EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
<b>SUBTOTAL</b>		<b>\$604.51</b>	<b>\$15,198,066</b>	<b>\$465.28</b>	<b>\$18,967,246</b>
GENERAL CONDITIONS/REQS (MOS)	\$180,000	12	\$2,160,000	12	\$2,160,000
DESIGN CONTINGENCY	8.0%		\$1,388,645		\$1,690,180
CONSTRUCTION CONTINGENCY	EXCLUDED		EXCLUDED		EXCLUDED
CONTRACTOR'S FEE	3.0%		\$562,401		\$684,523
BUILDING PERMIT	EXCLUDED		EXCLUDED		EXCLUDED
BOND & INSURANCE	3.0%		\$579,273		\$705,058
ESCALATION - SUMMER 2024 START	4.0%		\$795,535		\$968,280
<b>TOTAL CONSTRUCTION COST</b>			<b>\$20,683,921</b>	<b>\$25,175,288</b>	
<b>COST PER SF</b>		<b>\$822.72 / SF</b>		<b>\$617.57 / SF</b>	
OWNER SOFT COSTS		22%	\$4,550,463	20%	\$5,035,058
<b>TOTAL PROJECT COST</b>			<b>\$25,234,384</b>	<b>\$30,210,345</b>	
<b>COST PER SF</b>		<b>\$1,003.71 / SF</b>		<b>\$741.09 / SF</b>	



WAHCONAH PARK REHABILITATION					
OPTION ESTIMATES					
September 27, 2023					
OPTION		RENOVATED OPTION		ELEVATED OPTION	
INTERIOR		9,166 SF		13,572 SF	
EXTERIOR / OPEN		4,920 SF		16,793 SF	
GRANDSTAND		11,055 SF		10,400 SF	
TOTAL GROSS SF		25,141 SF		40,765 SF	
SCOPE/TRADE	COST/UNIT	QUANTITY	TOTAL	QUANTITY	TOTAL
<b>ENABLING PROJECTS FUNDED SEPARATELY</b>					
<b>ADD ALTERNATE - REPLACE DRAINAGE FROM WAHCONAH STREET W/ NEW BOX CULVERT</b>					
<b>SITE UTILITIES</b>					
Replace Drainage Pipe w/ New Box Culvert & Micropiles (ALLW)	\$750,000.00	1	\$750,000.00	1	\$750,000.00
<b>SUBTOTAL</b>		<b>\$750,000</b>		<b>\$750,000</b>	
DESIGN CONTINGENCY	36.1%		\$270,750		\$270,750
<b>TOTAL ADD ALTERNATE - CONSTRUCTION COST</b>			<b>\$1,020,750</b>	<b>\$1,020,750</b>	
DESIGN OF CULVERT			\$100,000		\$100,000
OWNER SOFT COSTS		22%	\$224,565	20%	\$204,150
<b>TOTAL ADD ALTERNATE - PROJECT COST</b>			<b>\$1,345,315</b>	<b>\$1,324,900</b>	
<b>ADD ALTERNATE - ADD HELICOPTER PAD</b>					
<b>SITE IMPROVEMENTS</b>					
Grading (SF)	\$0.75	12,000	\$9,000.00	12,000	\$9,000.00
Excavate & Export for Slab & Stone (CY)	\$85.00	291	\$24,744.44	291	\$24,744.44
Stone Bed Under Pad - Assume 24" thick (CY)	\$65.00	146	\$9,461.11	146	\$9,461.11
Gravel Access Drive (SF)	\$4.85	2,280	\$11,058.00	2,280	\$11,058.00
Helicopter Pad - Assume 24" Thick Slab, Reinforced (SF)	\$70.00	1,965	\$137,550.00	1,965	\$137,550.00
<b>SUBTOTAL</b>		<b>\$191,814</b>		<b>\$191,814</b>	
DESIGN CONTINGENCY	36.1%		\$69,245		\$69,245
<b>TOTAL ADD ALTERNATE - CONSTRUCTION COST</b>			<b>\$261,058</b>	<b>\$261,058</b>	
OWNER SOFT COSTS		22%	\$57,433	20%	\$52,212
<b>TOTAL ADD ALTERNATE - PROJECT COST</b>			<b>\$318,491</b>	<b>\$313,270</b>	

## Copy of Documents for Cost Estimate

8.8.23

**Wahconah Park ROM Budget**

Provided below is a rough order of magnitude budget for the associated field related items. The pricing is a snapshot based on our industry experience, cost of similar services, and research conducted. There are many details of the listed scopes that are yet to be defined and could impact pricing. As the scopes become more defined the budget should be revisited to ensure the numbers align with the details of the scopes. This exhibit does not include contingency or any adjustments for escalation.

<b>Wahconah Park ROM Pricing Exhibit</b>						
<b>Scope</b>	<b>Notes</b>	<b>Quantity</b>	<b>Unit</b>	<b>Cost/Unit</b>	<b>Budgeted Cost</b>	
<b>Baseball Field</b>						
Turf	Includes bullpens	162,000	SF	\$10.50	\$1,701,000	
Game clay mound	Clay only	1	Each	\$15,000	\$15,000	
Batting Cages	Turf, posts, and netting	1	Each	\$35,000	\$35,000	
Bulpen with clay mounds (double Lane)	Clay only	2	Each	\$15,000	\$30,000	
Grand Slam safety fencing	Removeable fencing with sleeved poles	442	LF	\$175	\$77,350	
Ball control foul pole to foul pole	Tension netting 20' above grade	780	LF	\$630	\$491,400	
Nine inning scoreboard		1	Each	\$25,000	\$25,000	
Football goal posts	Removeable goal posts	2	Each	\$15,500	\$31,000	
Wall padding	8' H	200	LF	\$150	\$30,000	
Kitchen equipment	Pricing based on a full hood system	1,068	SF	\$280	\$299,040	
Beer garden area	Includes seating and bar area	500	SF	\$200	\$100,000	
Turf Care Equipment	Gator, groomer, loose items	1	LS	\$30,000	\$30,000	
Weight room equipment		700	SF	\$90	\$63,000	
<b>TOTAL ROM Budget</b>					<b>\$</b>	<b>2,927,790</b>







## **electrical general**

The electrical systems for the buildings will be designed in accordance with:

- NFPA 70, 2020 National Electrical Code
- NFPA 101 Life Safety Code
- Massachusetts State Building Code,
- Massachusetts Energy Conservation Code (IECC 2020)
- ANSI C2 National Electrical Safety Code
- Telecommunications Industry Association and Electronic Alliance Standards Association (EIA/TIA) 568 and/or 569A, Communications Cabling Circuits and Equipment

## **distribution**

The building is currently served power from (2) existing electrical services. The main service is 480/277-volt, 400 amp, 3-phase, 4wire. The secondary service is 120/240-volt 200amp, single phase, 3 wire. The secondary service is serving power to the existing sump and ejector pumps. This service is backed up by a 7KW natural gas generator connected to a automatic transfer switch. Both of the existing services are served from a group of pole mounted transformers located on a pole in close vicinity to the building.

The (2) existing services will be replaced with a (1) 3-phase service. Due to the expected size of the building's electrical load, the electrical service for the building is expected to be served via underground duct banks, originating from a pad-mounted transformer, located on the site. The exact location will be determined by the utility company (Eversource).

The intent for the existing generator and a transfer switch servicing the sump and ejector is that they will remain and be reconnected to the new service. It is imperative that the equipment be thoroughly inspected and evaluated to determine if re-use is acceptable or if equipment replacement is warranted.

The main utility meter will be located on the interior of the building, in a location that is easily accessible to the utility company. Hot/cold sequencing will be coordinated during the design phase of this project.

The new electrical service for the building will be provided at 208/120V, 800A, 3-phase, 4-wire. A service-entrance rated main distribution panel will be located in the electrical closet located in the building. The panel will be provided with a type I surge protective device, 100% rated main circuit breaker, and a revenue-grade energy metering device. Note: electric service size was based on available load information at time of report. Service size may increase as design phase progresses

Approximately (4) branch circuit panelboards will be added during the design phase. Panelboards shall be located throughout the space to distribute power. Panelboards will be provided with copper phase, neutral, and ground bussing (fully rated) and lockable covers.

## **lighting**

Lighting will be provided in the building that consists of high efficiency, LED fixtures. The power density within this space will be approximately 0.75 to 0.98 watts per square foot.

The interior lighting will be designed with luminance foot-candle levels recommended by the IESNA and US EPA Energy Star.



These luminance levels will provide lighting that complies with the energy code interior lighting power allowance in the Massachusetts energy code.

Lighting controls will consist of the following:

- Ceiling mounted occupancy sensors will be provided for the following spaces:
  - Laundry rooms, storage rooms, food prep areas, large offices and training rooms, corridors and hallways, exam rooms, staff rooms, etc.
- Wall switch occupancy sensors will be provided for the following spaces:
  - Small offices, smaller bathrooms, janitor's closet, etc.
- All spaces to be provided with manual override switches and dimming capabilities.
- Ceiling mounted day light sensors will be provided to control the level of electrical illumination based off of the natural ambient light in a given room.

Exterior lighting fixtures and poles for the parking lot should be inspect and evaluated for re-use. If reused, existing fixture wiring that is routed in free air from pole to pole will be replaced with new wiring routed from new branch circuit panelboard in conduit below grade to fixtures. Location of branch circuit panelboard and details of branch circuit wiring will be determined during design phase.

Existing Light fixtures and poles that are used to light the playing field are to remain. Fixtures will be reconnected to the new service. Existing controls will be relocated to new location that will be determined during the design phase.

#### **emergency lighting and exit signage.**

Emergency lighting will be provided by a combination of fixtures with integral battery backup, emergency lighting units and remote lighting inverters providing a minimum of 90 minutes of battery backup upon loss of power. For interior spaces the type of emergency lighting will be based on fixture selection in any given room. Exterior egress lighting located at egress doors will contain integral emergency battery backup or be powered remote lighting inverter based on fixture type selected during design phase. LED Exit signs will be provided throughout the space and will contain integral battery backup.

#### **Power**

Mechanical equipment rated below ½ HP will be supplied by 120V single-phase power.  
Mechanical equipment rated ½ HP and above will be supplied with 208V three-phase power.

Mechanical equipment to be provided with dedicated circuits includes:

Mechanical equipment to be provided with dedicated circuits includes:

Mechanical equipment to be provided with dedicated circuits includes:

New Mechanical equipment to be provided with dedicated circuits includes but is not limited to:

(Note-voltage, phase and power consumption values are estimates based on information available at time of writing this report and may change during design phase)

- (5) 1-ton outdoor heat pump – 208V, 20A, 1-phase
- (1) 1 1/4-ton outdoor heat pump – 208V, 20A, 1-phase
- (1) 2-ton outdoor heat pump – 208V, 25A, 1-phase
- (2) 4-ton outdoor heat pump – 208V, 30A, 1-phase
- (1) 10-ton outdoor heat pump – 208V, 30A, 3-phase
- (20) interior fan coil units – 208V, 20A, 1-phase

- (3) ERV at 100 cfm
- (1) ERV at 750 cfm
- (2) ERV >1000 cfm
- (2) electric unit heater
- (1) exhaust fan
- (1) heat pump water heater – 208V, 125A, 3-phase.

Existing equipment to be reconnected or replaced includes.

- (1) sump pump
- (1) ejection pump

Other equipment that shall receive power include but is not limited to:

(No electric information on equipment has been provided at time of report)

- Clothes washer and dryer in laundry space
- Water drinking fountains and Bottle fillers.
- Concession area equipment
  - Electric Dishwashers
  - Electric cook tops
  - Electric ranges
  - Specialty equipment

New outbuildings or existing outbuildings designated to remain that require power, will be provided with new multi-circuit load center fed power from new distribution panels. The details of this will be determined during the design phase.

All convenience power will be 120V and will be powered from the local power panelboard.

General purpose convenience power will be provided throughout the building using commercial grade duplex receptacles. The standard will be white devices and cover plates. Special requirements are as follows:

- Ground fault protected (GFI) receptacles will be provided within kitchens, 6 feet of a sink, in rooms that are hosed down for cleaning and exterior locations per NEC requirements.

Additional receptacles and power connections will be provided for the following items:

- (4) general purpose receptacle in the electrical room.
- (4) general purpose receptacle in the locker rooms.
- Dedicated receptacles for plug in equipment in the laundry room
- (2) general purpose receptacle each in the restrooms.
- Dedicated receptacles for concession area. Quantities will be determined during the design phase.
- Four general purpose receptacles in each office.
- Exterior receptacles, quantity = approx. 10.

The distribution of power will be concealed in finished areas and exposed in electrical/mechanical rooms. MC type cable will be used for branch circuits run above hung ceilings or concealed in walls. No conduits or cable will be exposed in finished areas.

Metallic raceways where required for feeders and branch circuits will be EMT in locations where exposure to physical damage is minimal and threaded rigid galvanized conduit in locations where the raceway will be exposed to physical damage or prolonged wetness.

All wiring will be designed with less than a 3% voltage drop for all feeders and less than a 2% voltage drop for all branch circuits.

Per the Massachusetts energy code, 50% of all general-purpose receptacles shall be automatically controlled.

#### **grounding and bonding**

A new grounding system consisting of grounding electrode conductors connected to the main service ground bar will be provided. Conductors will be connected to the water service, gas service, concrete encased electrode, ground rods, and telecom grounding system. Combined resistance of the grounding electrode system will not exceed 5 ohms. The neutral to ground bond will be located in the main service equipment enclosure.

A separate, insulated equipment grounding conductor, sized per NEC, shall be provided within each raceway and cable, with each end terminated on a suitable lug, bus, enclosure, or bushing.

#### **local disconnect switches**

Local disconnect safety switches will be provided for all permanently connected equipment to allow a lockout point for zero energy state compliance per OSHA requirements.



## **electrical general**

The electrical systems for the buildings will be designed in accordance with:

- NFPA 70, 2020 National Electrical Code
- NFPA 101 Life Safety Code
- Massachusetts State Building Code,
- Massachusetts Energy Conservation Code (IECC 2020)
- ANSI C2 National Electrical Safety Code
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## **distribution**

The building is currently served power from (2) existing electrical services. The main service is 480/277-volt, 400 amp, 3-phase, 4wire. The secondary service is 120/240-volt 200amp, single phase, 3 wire. The secondary service is serving power to the existing sump and ejector pumps. This service is backed up by a 7kW natural gas generator connected to a automatic transfer switch. Both of the existing services are served from a group of pole mounted transformers located on a pole in close vicinity to the building.

The (2) existing services will be replaced with a (1) 3-phase service. Due to the expected size of the building's electrical load, the electrical service for the building is expected to be served via underground duct banks, originating from a pad-mounted transformer, located on the site. The exact location will be determined by the utility company (Eversource).

The intent for the existing generator and a transfer switch servicing the sump and ejector is that they will remain and be reconnected to the new service. It is imperative that the equipment be thoroughly inspected and evaluated to determine if re-use is acceptable or if equipment replacement is warranted.

The main utility meter will be located on the interior of the building, in a location that is easily accessible to the utility company. Hot/cold sequencing will be coordinated during the design phase of this project.

The new electrical service for the building will be provided at 208/120V, 1000A, 3-phase, 4-wire. A service-entrance rated main distribution panel will be located in the electrical closet located in the building. The panel will be provided with a type I surge protective device, 100% rated main circuit breaker, and a revenue-grade energy metering device. Note: electric service size was based on available load information at time of report. Service size may increase as design phase progresses

Approximately (4) branch circuit panelboards will be added during the design phase. Panelboards shall be located throughout the space to distribute power. Panelboards will be provided with copper phase, neutral, and ground bussing (fully rated) and lockable covers.

## **lighting**

Lighting will be provided in the building that consists of high efficiency, LED fixtures. The power density within this space will be approximately 0.75 to 0.98 watts per square foot.

The interior lighting will be designed with luminance foot-candle levels recommended by the IESNA and US EPA Energy Star.

These luminance levels will provide lighting that complies with the energy code interior lighting power allowance in the Massachusetts energy code.

Lighting controls will consist of the following:

- Ceiling mounted occupancy sensors will be provided for the following spaces:
  - Laundry rooms, storage rooms, food prep areas, large offices and training rooms, corridors and hallways, exam rooms, staff rooms, etc.
- Wall switch occupancy sensors will be provided for the following spaces:
  - Small offices, smaller bathrooms, janitor's closet, etc.
- All spaces to be provided with manual override switches and dimming capabilities.
- Ceiling mounted day light sensors will be provided to control the level of electrical illumination based off of the natural ambient light in a given room.

Exterior lighting fixtures and poles for the parking lot should be inspect and evaluated for re-use. If reused, existing fixture wiring that is routed in free air from pole to pole will be replaced with new wiring routed from new branch circuit panelboard in conduit below grade to fixtures. Location of branch circuit panelboard and details of branch circuit wiring will be determined during design phase.

Existing Light fixtures and poles that are used to light the playing field are to remain. Fixtures will be reconnected to the new service. Existing controls will be relocated to new location that will be determined during the design phase.

#### **emergency lighting and exit signage**

Emergency lighting will be provided by a combination of fixtures with integral battery backup, emergency lighting units and remote lighting inverters providing a minimum of 90 minutes of battery backup upon loss of power. For interior spaces the type of emergency lighting will be based on fixture selection in any given room. Exterior egress lighting located at egress doors will contain integral emergency battery backup or be powered remote lighting inverter based on fixture type selected during design phase. LED Exit signs will be provided throughout the space and will contain integral battery backup.

#### **power**

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Mechanical equipment to be provided with dedicated circuits includes:

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(Note-voltage, phase and power consumption values are estimates based on information available at time of writing this report and may change during design phase)

- (5) 1 ton outdoor heat pump – 208V, 20A, 1-phase
- (1) 1 1/4 ton outdoor heat pump – 208V, 20A, 1-phase
- (1) 2 ton outdoor heat pump – 208V, 25A, 1-phase
- (2) 4 ton outdoor heat pump – 208V, 30A, 1-phase
- (1) 10 ton outdoor heat pump – 208V, 30A, 3-phase
- (20) interior fan coil units – 208V, 20A, 1-phase
- (3) ERV at 100 cfm

- (1) ERV at 750 cfm
- (2) ERV >1000 cfm
- (2) electric unit heater
- (1) exhaust fan
- (1) heat pump water heater – 208V, 125A, 3-phase.

Existing equipment to be reconnected or replaced includes.

- (1) sump pump
- (1) ejection pump

Other equipment that shall receive power include but is not limited to:

(No electric information on equipment has been provided at time of report)

- Clothes washer and dryer in laundry space
- Water drinking fountains and Bottle fillers.
- Concession area equipment
  - Electric Dishwashers
  - Electric cook tops
  - Electric ranges
  - Specialty equipment

New outbuildings or existing outbuildings designated to remain that require power, will be provided with new multi-circuit load center fed power from new distribution panels. The details of this will be determined during the design phase.

All convenience power will be 120V and will be powered from the local power panelboard.

General purpose convenience power will be provided throughout the building using commercial grade duplex receptacles. The standard will be white devices and cover plates. Special requirements are as follows:

- Ground fault protected (GFI) receptacles will be provided within kitchens, 6 feet of a sink, in rooms that are hosed down for cleaning and exterior locations per NEC requirements.

Additional receptacles and power connections will be provided for the following items:

- (4) general purpose receptacle in the electrical room.
- (4) general purpose receptacle in the locker rooms.
- Dedicated receptacles for plug in equipment in the laundry room
- (2) general purpose receptacle each in the restrooms.
- Dedicated receptacles for concession area. Quantities will be determined during the design phase.
- Four general purpose receptacles in each office.
- Exterior receptacles, quantity = approx. 10.

The distribution of power will be concealed in finished areas and exposed in electrical/mechanical rooms. MC type cable will be used for branch circuits run above hung ceilings or concealed in walls. No conduits or cable will be exposed in finished areas.

Metallic raceways where required for feeders and branch circuits will be EMT in locations where exposure to physical damage is minimal and threaded rigid galvanized conduit in locations where the raceway will be exposed to physical damage or prolonged wetness.



All wiring will be designed with less than a 3% voltage drop for all feeders and less than a 2% voltage drop for all branch circuits.

Per the Massachusetts energy code, 50% of all general-purpose receptacles shall be automatically controlled.

#### **grounding and bonding**

A new grounding system consisting of grounding electrode conductors connected to the main service ground bar will be provided. Conductors will be connected to the water service, gas service, concrete encased electrode, ground rods, and telecom grounding system. Combined resistance of the grounding electrode system will not exceed 5 ohms. The neutral to ground bond will be located in the main service equipment enclosure.

A separate, insulated equipment grounding conductor, sized per NEC, shall be provided within each raceway and cable, with each end terminated on a suitable lug, bus, enclosure, or bushing.

#### **local disconnect switches**

Local disconnect safety switches will be provided for all permanently connected equipment to allow a lockout point for zero energy state compliance per OSHA requirements.

## Wahconah Park M&P Narrative

### **Elevated Option**

#### **Mechanical general**

The mechanical systems for the buildings will be designed in accordance with:

- Massachusetts State Building Code – 780 CMR (Ninth Edition)
- Massachusetts Energy Conservation Code (IECC 2021)

#### Demolition

All existing Mechanical systems with associated ductwork, piping and controls shall be demolished.

#### New

This option for renovations to the Wahconah Park requires all new construction of the building and associated systems.

All split heat pump systems shall utilize refrigerant piping for electric cooling and heating. All treated fresh air shall be supplied directly to the interior units, that require small amounts of fresh air. In spaces that require lots of airflow, the interior units will not be able to handle the high airflows. Treated fresh air will be supplied directly to the spaces and will be tempered using an electric coil.

All Energy Recovery Ventilators (ERV) shall pre-treat outside air before supplying it into the building using return air from the spaces that gets exhausted to the outside. All ERVs shall be provided with MERV 13 filters. The minimum Code required separation between all intakes and exhausts shall be maintained.

All mechanical systems will operate in accordance with a timeclock. Some systems will operate seasonably while others will operate year round.

All mechanical systems used in the building will be locally controlled and connected into a central Building Management System (BMS) for scheduling, monitoring and alarm notification. All controls shall be user adjustable and non-proprietary.

#### Lower Level Security and Ticket Rooms

- The Lower Level Security and Ticket Rooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof.

#### Lower Level M&W Restrooms

- The Lower Level Men's & Women's Restrooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 2-tons and the ERV shall supply 1260 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof. In this instance, the ERV will supply the ventilation air directly to the space.

#### Home Team Locker Room

- The Home Team Locker Room including the Coaches and Gender Inclusive Restrooms, Laundry, Office, Fitness, Sports Medicine and Officials Rooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 10-tons and the ERV shall supply 1320 cfm. Nine ceiling mounted interior units shall be installed piped to a common remote condenser on the roof.
- A vent duct will be provided for the clothes dryer in the Laundry Room. An approved dryer outlet will be provided at the exterior wall. A make-up air system for the laundry room may be required depending on the final quantity of dryers. This will consist of a unit to provide tempered air and a dryer exhaust fan.

#### Visitor Team Locker Room

- The Visitor Team Locker Room including the Gender Inclusive restroom shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 4-tons and the ERV shall supply 750 cfm. Four ceiling mounted interior units shall be piped to a common remote condenser on the roof. The ERV will supply the ventilation air directly to the space.

#### Lower and Upper Level Concessions

- The Lower Level Concession Room shall be provided with a dedicated split heat pump system and an ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in the room piped to a remote condenser on the roof.
- Each Upper Level Concessions Room shall be provided with a dedicated split heat pump system and an ERV. The heat pump system shall be 1-1/4-tons and the ERV shall supply 100 cfm. Two ceiling mounted interior units shall be installed in each room piped to a remote condenser on the roof.

#### The Lower Level Utility Rooms

- The Utility Room shall be provided with an electric unit heater to prevent freezing and a 100 cfm exhaust fan to provide summer ventilation.

#### Lower and Upper Level Storage Rooms

- Each Storage Rooms shall be provided with an electric unit heater to prevent freezing.

#### Upper Level M&W Restrooms

- The Upper Level Men's & Women's Restrooms including the Family Restrooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 4-tons and the ERV shall supply 2060 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof. The ERV will supply the ventilation air directly to the space.

#### Upper Level Press Boxes, Offices and Conference Room

- The Upper Level Press Boxes shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof.



- The Upper Level Offices shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof.
- The Upper Level Conference Room shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. Two ceiling mounted interior units shall be installed in the room piped to a common remote condenser on the roof.

**Plumbing  
general**

The plumbing systems for the buildings will be designed in accordance with:

- Massachusetts State Building Code – 780 CMR (Ninth Edition)
- Massachusetts Uniform State Plumbing Code – 248 CMR 10
- Massachusetts Energy Conservation Code (IECC 2021)

Demolition

The existing domestic cold water service shall be removed back to the street. The existing domestic hot water systems shall be demolished. All existing plumbing fixtures shall be demolished. The existing gravity sanitary piping serving the existing building shall be demolished. The existing sump and ejection pump shall be evaluated for re-use with the new building otherwise new equipment shall be installed. The existing sanitary forced main serving the building will be capped for re-use with the new building.

New

All plumbing fixtures used in the building will be water sense certified and ADA compliant fixtures will be provided as required by Code. All fixtures connected to the potable water system will require MA plumbing board approval.

Systems

A new 6" gravity sanitary sewer will be installed to serve the plumbing fixtures in the building. The gravity sanitary sewer will flow into a sump with an ejection pump sized to suit the flow. All new sanitary sewer distribution piping shall be installed throughout the building using copper for piping 2" and under and no-hub cast iron for 2-1/2" and larger. A 4" forced main will discharge from the pump and be connected into the existing 4" force main on the site that routes to the street. All new plumbing systems will be installed in the Utility/Sewer Room on the lower level. A new 3" domestic water service with a meter per the local water utility shall be installed from the street. A pressure reducing valve shall be installed to keep the water pressure below the Code required 80 psig. A new central heat pump based domestic hot water system shall be installed with a mixing valve to supply 120 deg F water to the building. All new water distribution piping shall be installed throughout the building using copper for piping 2" and under and carbon steel for 2-1/2" and larger.

Lower Level M&W Restrooms

- The Lower Level Men's & Women's Restrooms shall be provided with a total of (14) water closets, (4) urinals and (7) lavatories. These will be connected to the main systems.

- There will also be a drinking fountain and bottle filler located in the public hallway. The fixture will be ADA compliant.

#### Home Locker Room

- The Home Team Locker Room including the Coaches and Gender Inclusive restrooms shall be provided with a total of (4) water closets, (1) urinals and (5) lavatories. These will be connected to the main systems.
- There shall be a total of (8) showers located in this area. Each shower will contain a single shower head, valving, and drain.
- There will also be a drinking fountain and bottle filler located within this area. The fixture will be ADA compliant.

#### Visiting Locker Room

- The Visiting Team Locker Room including the Gender Inclusive restroom shall be provided with a total of (3) water closets, (2) urinals and (4) lavatories. These will be connected to the main systems.
- There shall be a total of (4) showers located in this area. Each shower will contain a single shower head, valving, and drain.
- There will also be a drinking fountain and bottle filler located within this area. The fixture will be ADA compliant.

#### Laundry

- A washing machine for laundry shall be provided in the Laundry Room. This will be provided with domestic hot and cold water connections and an indirect sanitary connection through a pre-manufactured wall box for laundry.
- The Laundry Room shall have an elevated laundry tub connected to the main systems.

#### Lower and Upper Level Concessions

- The Concessions spaces shall be provided with (1) hand washing sink and (1) kitchen sink connected to the main systems.

#### Upper Level M&W Restrooms

- The Upper Level Men's & Women's Restrooms including the Family Restrooms shall be provided with a total of (24) water closets, (4) urinals and (9) lavatories. These will be connected to the main systems.
- There will also be a drinking fountain and bottle filler located in the public hallway. The fixture will be ADA compliant.
- The Upper Level Janitor's Closet shall be provided with a 24"x24" floor mounted mop sink connected to the main systems.

## **Renovate Option**

### **Mechanical general**

The mechanical systems for the buildings will be designed in accordance with:

- Massachusetts State Building Code – 780 CMR (Ninth Edition)
- Massachusetts Energy Conservation Code (IECC 2021)

### Demolition

All existing Mechanical systems with associated ductwork, piping and controls shall be demolished.

### New

This option for renovations to the Wahconah Park requires all new construction of the building and associated systems.

All split heat pump systems shall utilize refrigerant piping for electric cooling and heating. All treated fresh air shall be supplied directly to the interior units, that require small amounts of fresh air. In spaces that require lots of airflow, the interior units will not be able to handle the high airflows. Treated fresh air will be supplied directly to the spaces and will be tempered using an electric coil.

All Energy Recovery Ventilators (ERV) shall pre-treat outside air before supplying it into the building using return air from the spaces that gets exhausted to the outside. All ERVs shall be provided with MERV 13 filters. The minimum Code required separation between all intakes and exhausts shall be maintained.

All mechanical systems will operate in accordance with a timeclock. Some systems will operate seasonably while others will operate year round.

All mechanical systems used in the building will be locally controlled and connected into a central Building Management System (BMS) for scheduling, monitoring and alarm notification. All controls shall be user adjustable and non-proprietary.

#### Lower Level Security and Ticket Rooms

- The Lower Level Security and Ticket Rooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof.

#### Lower Level Larger M&W Restrooms

- The Lower Level Larger Men's & Women's Restrooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 3-tons and the ERV shall supply 1680 cfm. Two ceiling mounted interior units shall be installed in the Women's Room and one ceiling mounted interior unit shall be installed in the Men's Room piped to a common remote condenser on the roof. In this instance, the ERV will supply the ventilation air directly to the space.

#### Lower Level Smaller M&W Restrooms



- The Lower Level Smaller Men's & Women's Restrooms shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 2-tons and the ERV shall supply 630 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof. In this instance, the ERV will supply the ventilation air directly to the space.

#### Home Team Locker Room

- The Home Team Locker Room including the Coaches Offices, Gender Inclusive Restroom, Laundry and Sports Medicine shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 6-tons and the ERV shall supply 680 cfm. Eight ceiling mounted interior units shall be installed piped to a common remote condenser on the roof.
- A vent duct will be provided for the clothes dryer in the Laundry Room. An approved dryer outlet will be provided at the exterior wall. A make-up air system for the laundry room may be required depending on the final quantity of dryers. This will consist of a unit to provide tempered air and a dryer exhaust fan.

#### Visitor Team Locker Room

- The Visitor Team Locker Room including the Coaches Office, Gender Inclusive Restroom and Officials Room shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 3-tons and the ERV shall supply 680 cfm. Four ceiling mounted interior units shall be piped to a common remote condenser on the roof. The ERV will supply the ventilation air directly to the space.

#### Lower Level Concessions

- Each Lower Level Concessions Room shall be provided with a dedicated split heat pump system and an ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. One ceiling mounted interior unit shall be installed in each room piped to a remote condenser on the roof.

#### The Lower Level Utility Rooms

- Each Utility Room shall be provided with an electric unit heater to prevent freezing and a 100 cfm exhaust fan to provide summer ventilation.

#### Lower Level Storage Rooms

- Each Storage Room shall be provided with an electric unit heater to prevent freezing.

#### Upper Level Press Box, Offices and Conference Room

- The Upper Level Press Box shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in the room piped to a common remote condenser on the roof.
- The Upper Level Offices and Conference Room shall be provided with a dedicated split heat pump system and ERV. The heat pump system shall be 1-1/2 ton and the ERV shall supply 100 cfm. A ceiling mounted interior unit shall be installed in each room piped to a common remote condenser on the roof.

## **Plumbing general**

The plumbing systems for the buildings will be designed in accordance with:

- Massachusetts State Building Code – 780 CMR (Ninth Edition)
- Massachusetts Uniform State Plumbing Code – 248 CMR 10
- Massachusetts Energy Conservation Code (IECC 2021)

## Demolition

The existing domestic cold water service shall be removed back to the street. The existing domestic hot water systems shall be demolished. All existing plumbing fixtures shall be demolished. The existing gravity sanitary piping serving the existing building shall be demolished. The existing sump and ejection pump shall be evaluated for re-use with the new building otherwise new equipment shall be installed. The existing sanitary forced main serving the building will be capped for re-use with the new building.

## New

All plumbing fixtures used in the building will be water sense certified and ADA compliant fixtures will be provided as required by Code. All fixtures connected to the potable water system will require MA plumbing board approval.

## Systems

A new 6" gravity sanitary sewer will be installed to serve the plumbing fixtures in the building. The gravity sanitary sewer will flow into a sump with an ejection pump sized to suit the flow. All new sanitary sewer distribution piping shall be installed throughout the building using copper for piping 2" and under and no-hub cast iron for 2-1/2" and larger. A 4" forced main will discharge from the pump and be connected into the existing 4" force main on the site that routes to the street. All new plumbing systems will be installed in one of the Utility/Sewer Rooms on the lower level. A new 3" domestic water service with a meter per the local water utility shall be installed from the street. A pressure reducing valve shall be installed to keep the water pressure below the Code required 80 psig. A new central heat pump based domestic hot water system shall be installed with a mixing valve to supply 120 deg F water to the building. All new water distribution piping shall be installed throughout the building using copper for piping 2" and under and carbon steel for 2-1/2" and larger.

## Lower Level Larger M&W Restrooms

- The Lower Level Larger Men's & Women's Restrooms shall be provided with a total of (24) water closets, (4) urinals and (9) lavatories. These will be connected to the main systems.
- There will also be a drinking fountain and bottle filler located in the public hallway. The fixture will be ADA compliant.

## Lower Level Smaller M&W Restrooms

- The Lower Level Smaller Men's & Women's Restrooms shall be provided with a total of (9) water closets, (4) urinals and (7) lavatories. These will be connected to the main systems.
- There will also be a drinking fountain and bottle filler located in the public hallway. The fixture will be ADA compliant.

#### Home Locker Room

- The Home Team Locker Room including the Gender Inclusive restroom shall be provided with a total of (4) water closets, (1) urinals and (3) lavatories. These will be connected to the main systems.
- There shall be a total of (4) showers located in this area. Each shower will contain a single shower head, valving, and drain.
- There will also be a drinking fountain and bottle filler located within this area. The fixture will be ADA compliant.

#### Visiting Locker Room

- The Visiting Team Locker Room including the Gender Inclusive restroom shall be provided with a total of (4) water closets, (2) urinals and (4) lavatories. These will be connected to the main systems.
- There shall be a total of (4) showers located in this area. Each shower will contain a single shower head, valving, and drain.
- There will also be a drinking fountain and bottle filler located within this area. The fixture will be ADA compliant.

#### Laundry

- A washing machine for laundry shall be provided in the Laundry Room. This will be provided with domestic hot and cold water connections and an indirect sanitary connection through a pre-manufactured wall box for laundry.
- The Laundry Room shall have an elevated laundry tub connected to the main systems.

#### Lower Level Concessions

- The Concessions spaces shall be provided with (1) hand washing sink and (1) kitchen sink connected to the main systems.

#### The Lower Level Utility Rooms

- The Utility Rooms shall be provided with domestic hot and cold water. One Utility Room shall have a 24x24" floor mounted mop sink connected to the main systems.



































