THE COLLEGE OF WILLIAM AND MARY

Zable Stadium Feasibility Study

October 20, 2006

MOSELEY ARCHITECTS
HOK Sport + Venue + Event

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EXECUTIVE SUMMARY

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Executive Summary

A Summative Look at The College of William & Mary Feasibility Study

In 2002, Moseley Architects/HOK S+V+E were contracted by The College of William & Mary to create a feasibility study for the athletic precinct, with the dual purpose of expanding their facilities and connecting the historic campus core to newer developments at the periphery. Planning strategies focused on improved vehicular and pedestrian circulation, parking, new building sitting, tailgating activities, and creation of public spaces. Once these broad planning concepts were adopted, the project continued into a more detailed design phase, studying four primary elements: renovation / expansion of the existing football stadium, a new 30,000 square foot football training facility, two new practice fields, and replacement of the existing track. A key aspect of the project was the sensitive addition to the historic football stadium and arcade in a manner that compliments – but not replicates – the traditional architectural style that distinguishes the campus. The first phase of the project was scheduled to be completed in the Spring of 2004.

In 2005 Moseley Architects/HOK S+V+E were contracted by The College of William & Mary to update the 2002 feasibility study. Following review of the 2002 Zable Stadium Expansion & Modernization document, reevaluation of the current facility (including completed improvements from the 2002 Zable Stadium Expansion & Modernization document) and detailed discussions with the College, it was agreed that the majority of the 2002 plan was still consistent with the general objectives of the College. The study encompassed the following scope of work: ADA evaluations and improvements; evaluation of existing utility/life safety systems; structural evaluation; define improvements so that they may be updated incrementally in a logical sequence that can enable the College to flex with unpredictable state support and do work incrementally; and provide conceptual cost estimating.

The following list of ten (10) improvements were identified as the objectives of the 2005 Zable Stadium Feasibility Plan:

1. Structural repairs to existing Crow's Nest
2. New Laycock Football Center & Practice Fields
3. North Arcade Concessions Renovation
4. Scoreboard Replacement/Relocation
5. Emergency Lighting and Safety Lighting
6. West Stands Coaches/Press Box/Suites & New Seating (Options 1, 2 & 3)
7. East Stands Interim Press Box Renovations
8. New South Concessions/Toilet Pavilions
9. East Stands North/South Renovations
10. East Stands Permanent Press Box Renovations

FEASIBILITY PLAN DIAGRAM

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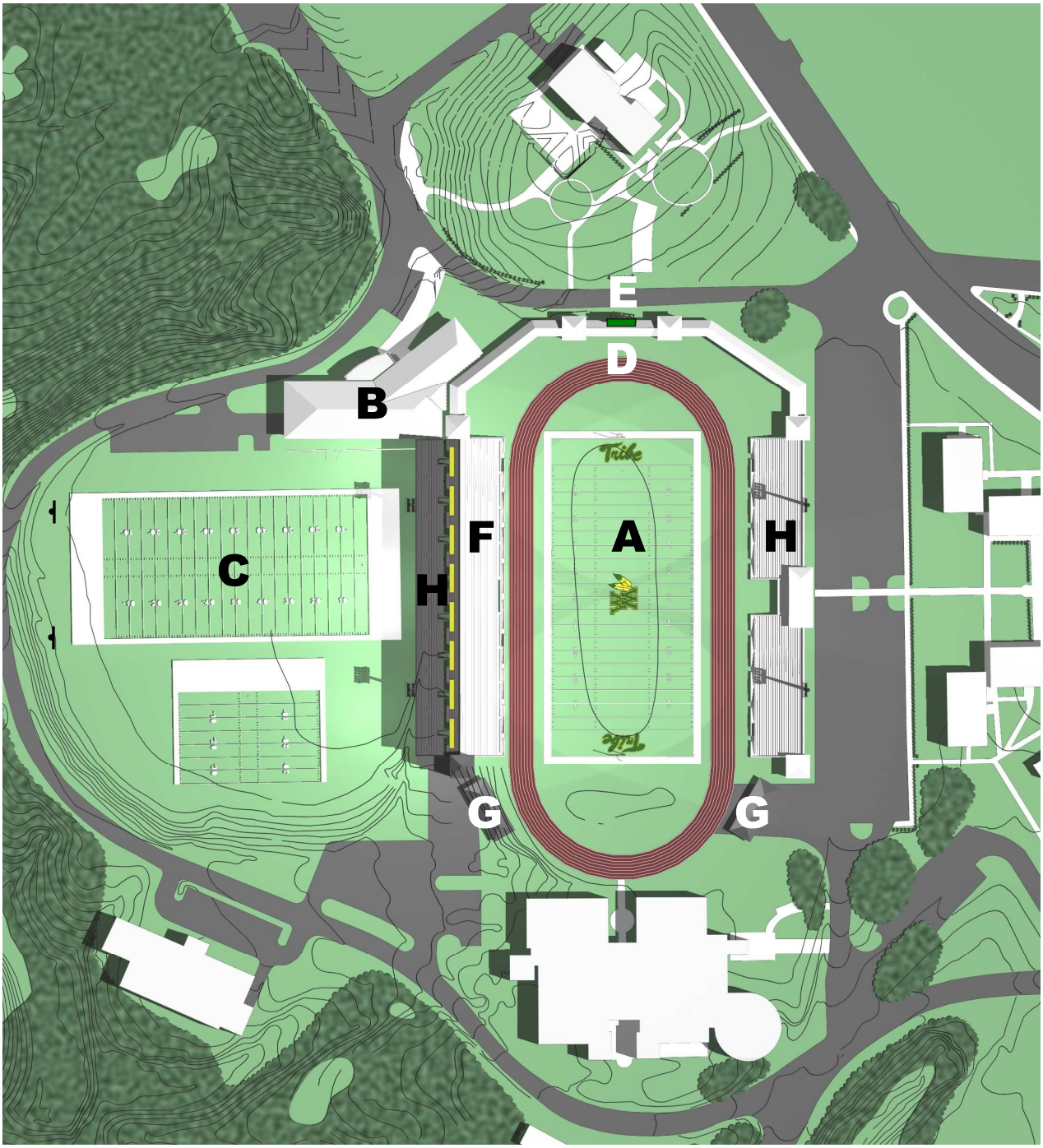

LEGEND

A – MAIN STADIUM
B – LAYCOCK TRAINING FACILITY
C – PRACTICE FIELD
D – NORTH ARCADE
E – SCOREBOARD REPLACEMENT
F – WEST STANDS EXPANSION
G– SOUTH CONCESSIONS
H – EAST STANDS

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FEASIBILITY PLAN DIAGRAM

PHASING PLAN
&
COST PROJECTIONS
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Phasing Plan

Based on the proposed improvements identified in this Feasibility Study, the College and the Architects embarked upon an evaluation of needs to determine task-specific priorities along with a phasing plan and project cost expectations. The following is a brief description of each specific renovation task categorized by proposed funding year.

Year 2006: (work previously completed or in progress)

Structural Repairs:

1. Current Crow's Nest (work previously completed): Provide structural renovations and upgrades to the existing "crow's nest" to extend the useable life of the program space.

Stadium Field Turf (work in progress):

2. Replace the existing stadiums grass field with a new artificial field. The design and bidding for construction was completed in early 2006. The expense amount indicated on the "Phasing and Cost Projections" graphic is the anticipated contractor's bid price for the work.

Estimated Construction Cost Year 2006: $862,200

Year 2007:

Laycock Training Facility: (Refer to Section V)

1. A new 30,000 square-foot 2-story facility to provide the varsity football team with program space for the enhancement of the football program. The facility includes spaces such as: team locker rooms, sports medicine/training room, position breakout rooms, coaches offices, public lobby, laundry facility and equipment storage. This project is currently in the bid phase and expected to be under construction November 2006.

2. North Arcade – Concessions: Provide renovation and expansion upgrades to the existing north arcade to add additional points of sale to the facility. The anticipated work includes addition power, temporary canopies/awnings, upgraded walks and pathways ease of for spectator access, and upgraded site lighting.

Estimated Construction Cost Year 2007: $8,772,400

Year 2008:

Scoreboard Replacement / Relocation: (refer to Section VI)

Provide a new electronic scoreboard and supporting structure to enhance and update the stadium amenities for the spectators/fans/alumni. The proposed location is the North end of Zable Stadium. The structure will be positioned inside the stadium arcade and constructed to a height that will allow the display panel to be seen from most areas of the stadium.
Estimated Construction Cost Year 2008: $2,550,042.

Year 2009:

Emergency Generator and Safety Lighting:
Provide a new emergency generator for Zable Stadium to serve the present facility, future upgrades, and specifically emergency lighting.

West Stands Coaches / Press Box (Options 1 & 2): (Refer to Section VII)

Option 1: Primary construction includes removal of the existing coaches' control box and construction of vertical circulation such as elevators, stairs elevator/stair lobbies and the mezzanine deck to support the following facilities: 1. Game operations (PA/scoreboard), 2. Press Box facilities and support areas, 3. broadcast booth/camera deck, 4. Home Coaches Box; 5. Visiting Coaches Box; 6. Suites to include 10 private revenue suites, Head Coach Suite, Home Athletic Director Suite; and 7. supporting structure for the future construction of approximately 3300 spectator seating indicated for the 2010 improvements.

This Option also includes the following items:
1. Miscellaneous structural repairs
2. Code improvements such as new handrail systems
3. ADA upgrades
4. Improve site utilities and new transformer for West Stands
5. Power loop upgrades to the electrical system for West Stands
6. Storage room enclosure below existing stadium seating

East Stand Press Box: Interim Renovations (cosmetic): (Refer to Section VII)
Primarily includes interior cosmetic upgrades to the existing East Stands Press Box. This would permit this modernized facility to be available for a variety of activities, including the following uses:
Revenue Suite – permit private corporations and/or individuals to rent the space from the College for entertainment purposes.
Presidential Suite – permit the President of the College to thank friends and donors of the College for their continuing support during game day activities.
Letterman's Club – provide a space for club meetings and gatherings.

Estimated Construction Cost W/Option 1 year 2009: $12,439,105

Estimated Construction Cost with Option 2 Year 2009: $9,868,663

Option 2: Press/Ops only: Primary construction includes removal of the existing coaches' control box and construction of vertical circulation such as elevators, stairs elevator/stair lobbies and the mezzanine deck to support the following facilities: 1. Game operations (PA/scoreboard), 2. Press Box facilities and support areas, 3. broadcast booth/camera deck, 4. Home Coaches Box; 5. Visiting Coaches Box. The supporting structure for the new Press Box facilities will be sized to accommodate any future expansion of the mezzanine and future seating. This Option also includes the following items:

1. Miscellaneous structural repairs
2. Code improvements such as new handrail systems
3. ADA upgrades
4. Improve site utilities and new transformer for West Stands
5. Power loop upgrades to the electrical system for West Stands
6. Storage room enclosure below existing stadium seating

Year 2010:

Option 3: West Stands, Suites, and New Seating: (Refer to Section VIII)

This phase of work is an expansion of the work described under Year 2009 Option 1. This phase includes the construction of approximately 3300 new bleacher and chair-back seating on an upper level from the Press Box/Suites level and the extension of stairs and elevator.

Stadium Renovations: (Refer to Section XI)

This work includes the following:
Construction of the South Pavilions that provide new toilet facilities and new concession areas
Power loop electrical upgrades for the renovation of the East Stands
New transformer for the East Stands

Estimated Construction Cost Year 2010: $15,357,659

Year 2011:

East Stands (North): (Refer to Section IX)

This work includes the following:
General renovation upgrades such as masonry repairs, seating upgrades, etc.
Accessibility (ADA) upgrades to the existing seating area
General code improvements for egress, etc.
General utility upgrades
Structural repairs (north end of East Stands only)

Estimated Construction Cost Year 2011: $3,372,934

Year 2012:

East Stands (South): (Refer to Section IX)

This work includes the following:
General renovation upgrades such as masonry repairs, seating upgrades, etc.
Accessibility (ADA) upgrades to the existing seating area
General code improvements for egress, etc.
General utility upgrades
Structural repairs (north end of East Stands only)

Estimated Construction Cost Year 2012: $2,948,908.

Year 2013:

East Stands Press Box: (Refer to Section X)

This work includes the following:
Installation of passenger elevator

Estimated Construction Cost Year 2013: $499,580

PHASE	Task Description		Proposed Construction Period		Approx.SF	Constr Cost ('06)	Constr Cost ('06) SubTotal	Soft Costs (x 1.35)	SubTotal w/Soft Cost	Projected Budget Escalated Cost (see Note 4 Below)	Funded by Athletics Department	Funded by The College of William & Mary	NOTES	STUDY REFERENCE LOCATION
Year														
2006									$862,600	$862,600	**$862,600**	**$0**		
	Structural Repairs													
	Current Crow's Nest Repairs		12/5/05	8/6/05			$16,000	$21,600			$21,600			**IV, Pg. 10, Item 1**
	Stadium Field Turf Project (actual cost)		1/1/06	6/1/06	80,000			$841,000			$841,000			**IV, Pg. 10, Item 2**
2007									$8,772,400	$8,772,400	**$8,200,000**	**$0**		
	Laycock Training Facility (actual cost)		9/1/06	12/1/07	31000			$8,200,000			$8,200,000		Includes Practice Field	**V**
	North Arcade - Concessions		12/7/06	8/8/07			$424,000	$572,400		$629,640		$629,640		
2008									$2,146,500	$2,550,042	**$2,550,042**	**$0**		
	Scoreboard Replacement/Relocation		3/1/07	8/1/07			$1,590,000	$2,146,500			$2,550,042			**VI**
2009									$9,695,025	$12,439,105	**$10,823,398**	**$1,707,508**		
	Emergency Generator and Safety Lighting		12/1/08	8/1/09			$265,000	$357,750			$459,008			**IV, Page 11**
Opt 1	**West Stands Coaches / Press Box: Replacement incl. Suites (See Note 1 Below)**		12/1/08	8/1/09	14,700	$6,916,500	$6,916,500	$9,337,275						
	Primary Construction					$4,028,000					$6,976,915			**VII**
	Structural Repairs					$424,000						$734,412		
	Code Improvements (Extg. Bowl railing, etc)					$190,800						$330,485		
	ADA (Extg. Bowl Seating, etc)				1,000	$116,600						$201,963	Assumption: 100 ft ramp for ADA seating.	
	Site Utilities/Transformer					$736,700					$1,276,041			
	Power Loop / Upgrades (for West Stands)					$254,400						$440,647	$240K in East South Pavilions and $240K in Crow's Nest West	
	Storage Improvements/Enclosure (Below West Stands)					$763,200					$1,321,942			
	Structural Upcharge for Future Seating Replacement					$402,800					$697,691			
	East Press Box: Interim Renovations (cosmetic: use TBD by Athletic Department)		12/1/08	8/1/09	1,311		$53,000	$71,550			$91,802			
Opt 2	**West Stands Coaches / Press Box: Press/Ops only (See Note 2 Below)**		12/1/08	8/1/09	10,000	$5,432,500								
	Primary Construction					$2,544,000								**VII**
	Structural Repairs					$424,000								
	Code Improvements (Extg. Bowl railing, etc)					$190,800								
	ADA (Extg. Bowl Seating, etc)				1,000	$116,600							Assumption: 100 ft ramp for ADA seating.	
	Site Utilities / Transformer					$736,700								
	Power Loop / Upgrades (for West Stands)					$402,800								
	Storage Improvements/Enclosure (Below West Stands)					$763,200								
	Structural Upcharge for Future Seating Replacement					$254,400								
2010									$11,083,095	$15,357,659	**$14,881,760**	**$475,899**		
Opt 3	**West Stands Coaches/Press Box, Suites, New Seating (3300 seats) (See Note 3 Below)**		12/1/09	8/1/10	35,000		$6,678,000	$9,015,300			$12,492,350			**VIII**
	Stadium Renovations						$1,531,700	$2,067,795						
	South Pavilions		12/1/09	8/1/10	6,000	$1,144,800					$2,141,546			
	Power Loop / Upgrades (for East Stands Renovation)					$254,400						$475,899	$238K in East South Pavilions and $238K in Crow's Nest West	
	Transformer (for East Stands)					$132,500					$247,864			
2011														
	East Stands (North)		12/1/10	8/1/11			$1,669,500	$2,253,825	$2,253,825	$3,372,934	**$642,464**	**$2,730,471**		**IX**
	Renovation Upgrades					$985,800						$1,991,637		
	ADA (Extg. Bowl Seating, etc)				500	$58,300						$117,785	Assumption: 50 ft ramp for ADA seating.	**XI**
	Code Improvements (Extg. Bowl railing, etc)					$95,400						$192,739		
	Utilities					$318,000					$642,464			
	Structural Repairs (half of total East Stands)					$212,000						$428,309		
2012														
	East Stands (South)		12/1/11	8/1/12			$1,351,500	$1,824,525	$1,824,525	$2,948,908	**$0**	**$2,948,908**		**IX**
	Renovation Upgrades					$985,800						$2,150,968		
	ADA (Extg. Bowl Seating, etc)				500	$58,300						$127,208	Assumption: 50 ft ramp for ADA seating.	**XI**
	Code Improvements (Extg. Bowl railing, etc)					$95,400						$208,158		
	Structural Repairs (half of total East Stands)					$212,000						$462,574		
2013														
	East Stands Press Box													**X**
	Permanent Renovations (elevator)		12/1/12	8/1/13	1,311		$212,000	$286,200	$286,200	$499,580	**$499,580**	**$0**		
Total							$20,707,200		$36,924,170	**$47,432,868**	**$38,459,843**	**$7,862,786**		

COLOR KEY:

Funding by Athletics	
Funding by College	
Shared Funding (Split 50%)	

NOTES:

1. Selected Option 1 for Phasing and Budgeting
2. Option 2: If selected over Option 1, then the 2009 West Stands Temporary Seating Expansion task will need additional funding to provide the necessary additional structural systems, vertical circulation systems, etc.
3. Section VII "West Stands Coaches / Press Box, Suites, New Seating" requires"Option 1" to be constructed in a prior phase.
4. Escalation rate of 10% for 2006 - 2007, and 8% annually for all subsequent years

LAYCOCK TRAINING FACILITY AND PRACTICE FIELDS

V

Laycock Football Center & Practice Fields

The purpose of this project is to provide The College of William and Mary football team with a state-of-the-art training facility. It will provide the team with additional office space for coaching personnel as well as providing a first class player locker room and complete training amenities.

The training facility will be located at the northern-western end of the existing Zable Stadium and adjacent to the Stadium arcade. The facility will be an approximately 30,000 gross square foot, two-story building with sloped roof. The facility will provide the following amenities:

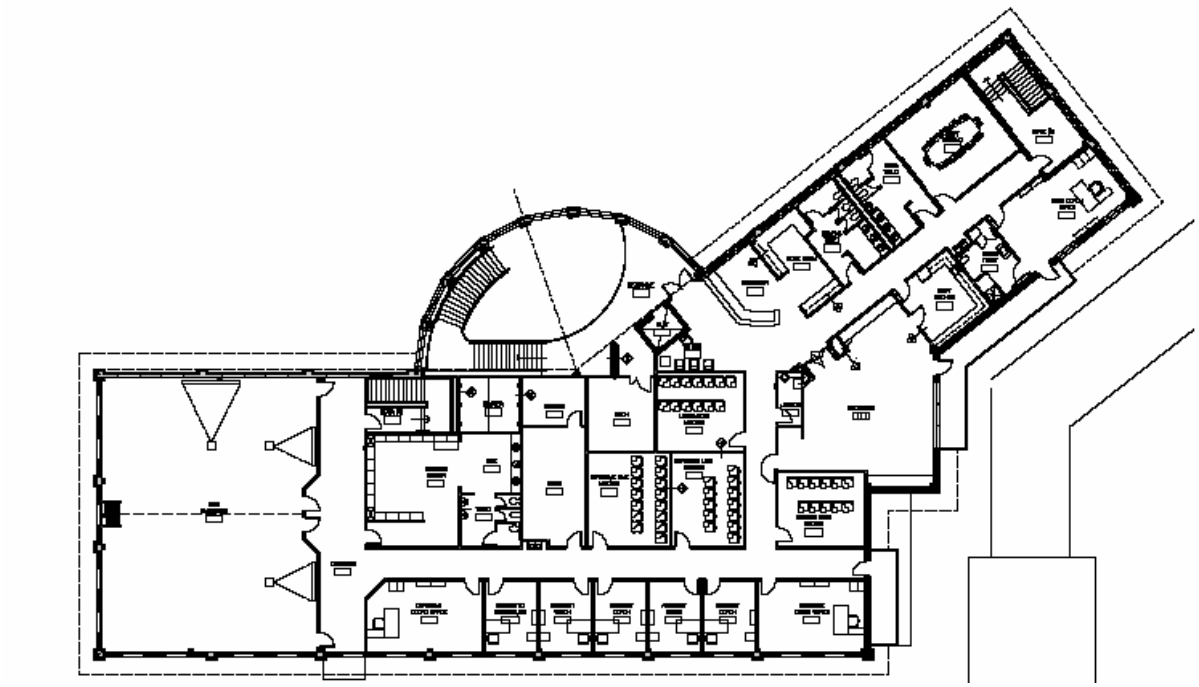
First Floor:
Lobby (2-story), team locker/shower facilities, training facilities, female trainer locker room, storage, equipment room with overhead door at elevated loading dock plus office space and toilet/lockers, laundry facility, and support spaces.

Second Floor:
Upper level balcony, receptionist, head coach office and support space, staff work room, staff kitchen, toilet areas, recruiting room, team meeting rooms, coaches offices, coaches locker room, team classroom, media room, and support spaces.

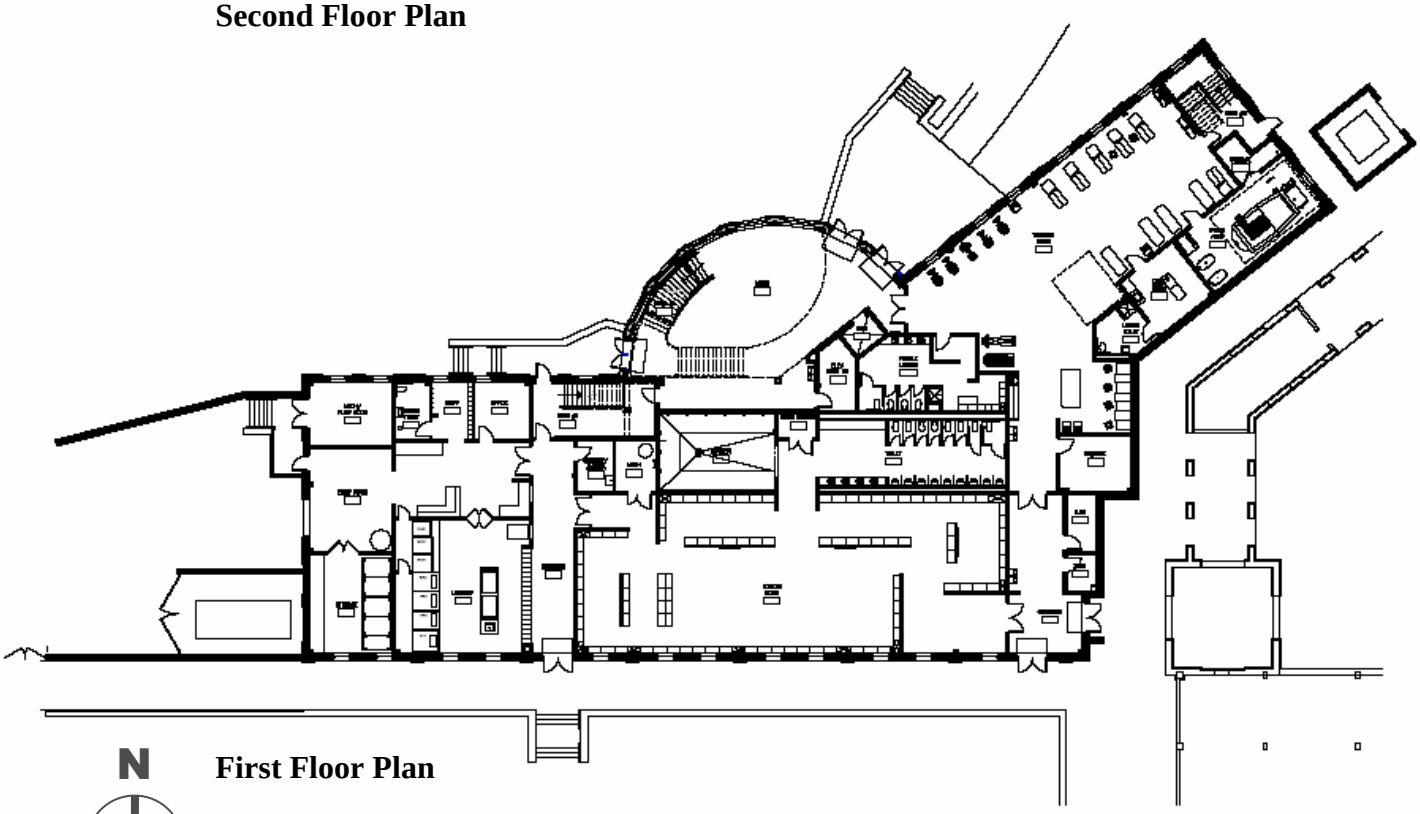
The existing practice fields to the west of Zable Stadium will be regraded for drainage and installation of an irrigation system. The area will accommodate a full-length football field in the east-west orientation and a half-field in the north-south orientation. The fields are placed as close to the training facility as possible for the convenience of the players and coaches. A well-fed irrigation system will be included with a layout to allow the field orientation to change to accommodate wear patterns.

LEGEND
A – Laycock Football Center
B – Practice Field
C – Half Practice Field

Jimmye Laycock Football Center
Aerial: Zable Stadium



Second Floor Plan



First Floor Plan

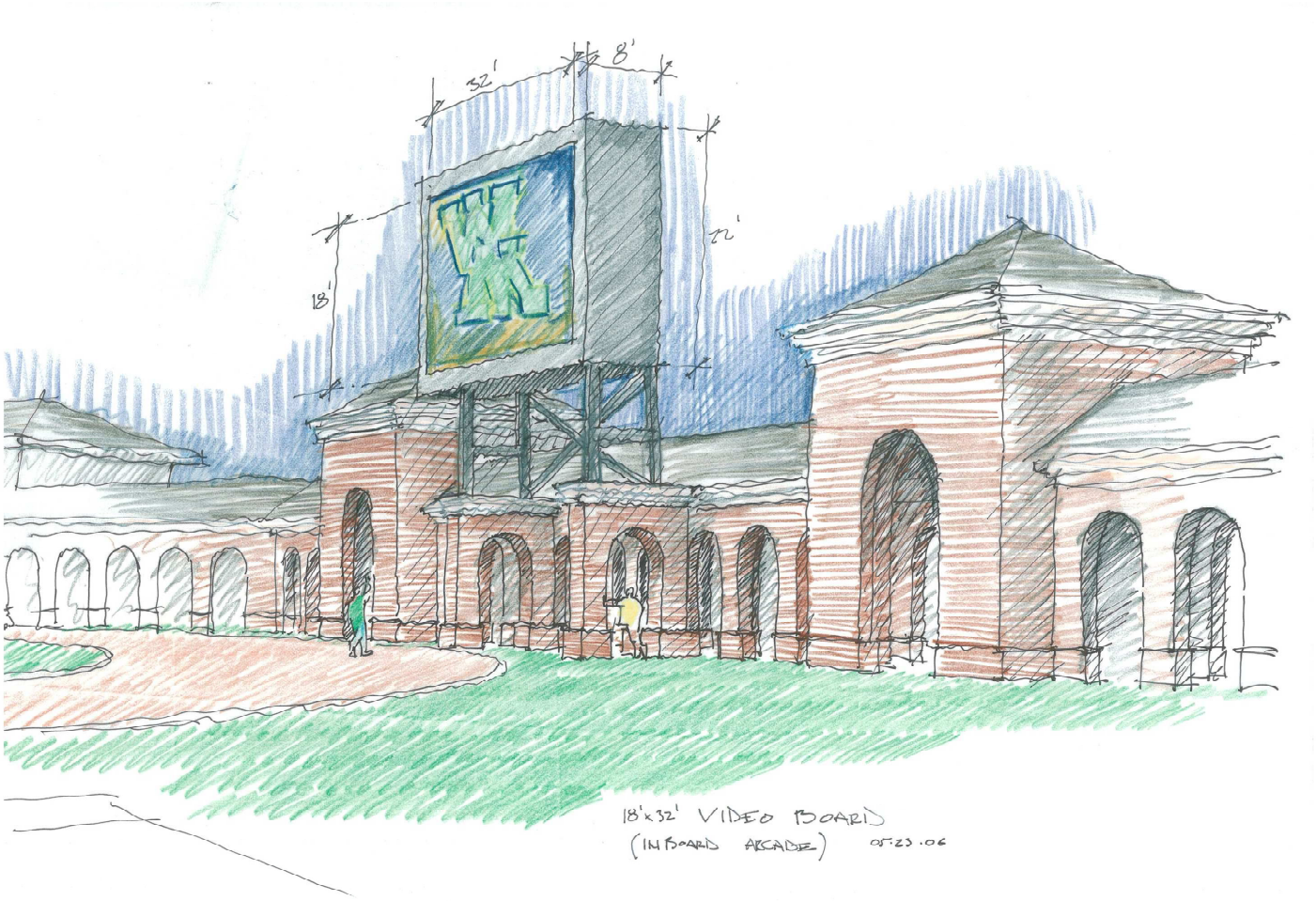
N

Jimmye Laycock Football Center
Floor Plans

Jimmye Laycock Football Center Renderings

SCOREBOARD REPLACEMENT/RELOCATION

VI



Zable Stadium Proposed Scoreboard

WEST STANDS COACHES/ PRESS BOX OPTIONS 1& 2

VII

West Stands Coaches / Press Box: Replacement Including Suites

OPTION 1 DESCRIPTION:

Option 1 includes removal of the existing coaches' control box and construction of vertical circulation such as elevators, stairs elevator/stair lobbies and the mezzanine deck to support the following facilities to the back of the west stands at Zable Stadium: 1. Game operations (PA/scoreboard), 2. Press Box facilities and support areas, 3. broadcast booth/camera deck, **4**. Home Coaches Box; **5**. Visiting Coaches Box; **6**. Suites to include 10 private revenue suites, Head Coach Suite, Home Athletic Director Suite; and 7. supporting structure for the future construction of approximately 2940 spectator seating indicated for the 2010 improvements. This press box/suite level would provide access to the Laycock Training Facility and accommodations for a future club.

On the ground level, a new, enclosed storage would be accommodated at the north end of the west stands as well as an outside storage along the remainder of the west stands. There are four stairs and one elevator in this option.

East Stand Press Box: Interim Renovations (cosmetic):
Primarily includes interior cosmetic upgrades to the existing East Stands Press Box. This would permit this modernized facility to be available for a variety of activities, including the following uses:
Revenue Suite – permit private corporations and/or individuals to rent the space from the College for entertainment purposes.
Presidential Suite – permit the President of the College to thank friends and donors of the College for their continuing support during game day activities.
Letterman's Club – provide a space for club meetings and gatherings.

WILLIAM AND MARY
West Stand
Option 1 - Replacement Including Suites

CLASSIFICATION 1: SPECTATOR FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Spectator Seating	Approximately 5,000 seats will be provided, distributed across the following categories:				
	a. Bleacher seating (*18" min. width on 33" treads*)	0	5.5	0	
	b. Club seating (*21" min. width on 33" treads*)	0	6.5	0	*future club seating*
	c. Suite seating (*22" min. width on 36" treads*)	0	8.0	0	
	d. Chairback seating	0	6.5	0	*below crossaisle*
	d. Temporary endzone bleacher seating	0	4.5	0	
	SUB-TOTAL - SPECTATOR SEATING	**0**		**0**	
Suites	The number, seating capacity, and location of private suites should be tested by a marketing study to determine and/or verify the marketability of this product.				
	a. Private suites	10	420	4,200	*includes seating, 14' x 30' typical, 16 fixed seats + 4 bar stools*
	b. Future suites	0	0	0	
	The following non-revenue suites will be provided:				
	c. Head Coach	1	420	420	*14' x 30' typical*
	d. Visiting Coach	0	420	0	
	e. Other: Home A.D	1	420	420	*14' x 30' typical*
	f. Other: University President - seating 16 persons	0	420	0	
	SUB-TOTAL - SUITES	**12**		**5,040**	
Club Lounge	Lounge with bar and dining tables for use by premium seat holders on game days. *Verify plumbing requirements.*				futureclub lounge
	a. Dining/bar area occupancy:	0	10	0	
	b. Bar / Servery	0	750		
	c. Mens toilets: 2 w.c. + 3 urinals + 3 lavs	0	50	0	
	d. Womens toilets: 5 w.c. + 3 lavs	0	50	0	
	SUB-TOTAL - CLUB LOUNGE			**0**	
Restrooms	Public restroom facilities will be provided based on 8000 permanent seats and an assumed ratio of 50:50 male-female attendance. *Note: the following ratios are based on anticipated IPC 2000 codes; check state and local requirements.*				
	a. Mens: 8 w.c. (*1:350*) + 21 urinals (*1:120*) + 16 lavs (1:150)	0	50	0	*hok recommended ratios*
	b. Womens: 67 w.c. (*1:60*) + 27 lavs (1:150)	0	50	0	*hok recommended ratios*
	c. Family toilets	0	80	0	
	SUB-TOTAL - RESTROOM FACILITIES			**0**	
Guest Services	a. First Aid Room for emergency medical treatment of spectators.	0	200	0	
	b. Satellite facilities for emergency medical treatment of	0	250	0	
	c. Information and Lost and Found Booth	0	100	0	
	SUB-TOTAL - GUEST SERVICES			**0**	
SUB-TOTAL (NET AREA)				**5,040**	

WILLIAM AND MARY
West Stand
Option 1 - Replacement Including Suites

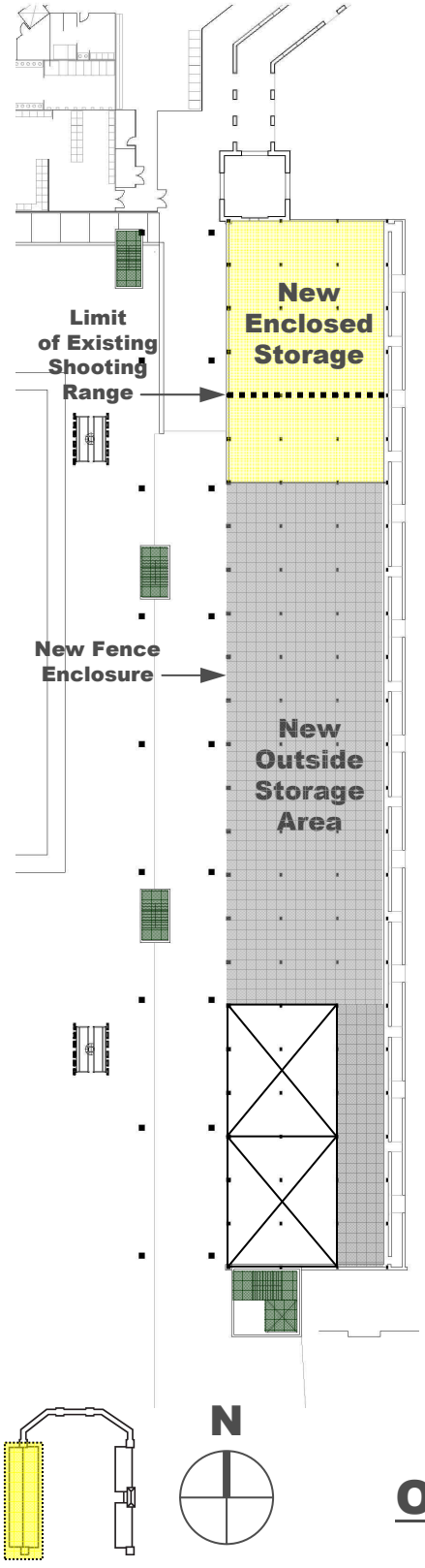
CLASSIFICATION 2: FOOD and RETAIL FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Concession Stands	Concession Stands will be distributed at regular intervals on the Concourse(s). Five linear feet of counter space is allowed per point-of-sale, with 20' depth to accommodate storage in each stand.				
	a. Permanent Concession stands are based on a ratio of 1:350 spectators	0	100	0	
	b. Portable specialty vendor concession stands will be provided in the Arcade area, with utility services available for temporary tap-ins.	0	0	0	
	c. Hawker Stands - facilities for food handling and storage by vendors will be distributed on each concourse	0	350	0	
	SUB-TOTAL - CONCESSIONS			0	
Kitchen / Commissary	a. Central Kitchen to support Concession Stands and Catering.	0	0	0	
	b. Commissary - centralized bulk storage for paper goods and food supplies, including climate-controlled storage rooms	0	500	0	
	c. Beverage Distribution Rooms	0	350	0	
	d. Suite Serving Pantries	0	0	0	
	SUB-TOTAL - KITCHEN/COMMISSARY			0	
Vendor Staff	a. Event Day Office and Counting Room	0	200	0	
	b. Lockers/Toilets - (50) half-height lockers for personal belongings	0	200	0	
	c. Uniform Distribution	0	100	0	
	SUB-TOTAL - VENDOR STAFF			0	
Retail Sales	a. A permanent retail store (pro shop) for sale of souvenirs, team memorabilia and novelty items	0	0	0	
	b. Permanent Novelty Sales stands to supplement novelty sales on event days.	0	150	0	
	c. Temporary Novelty Sales stands to supplement novelty sales on event days will be provided in the Concourse	0	0	0	
	d. Warehouse for bulk materials and cart storage	0	0	0	
	SUB-TOTAL - RETAIL SALES FACILITIES			0	
SUB-TOTAL (NET AREA)				0	

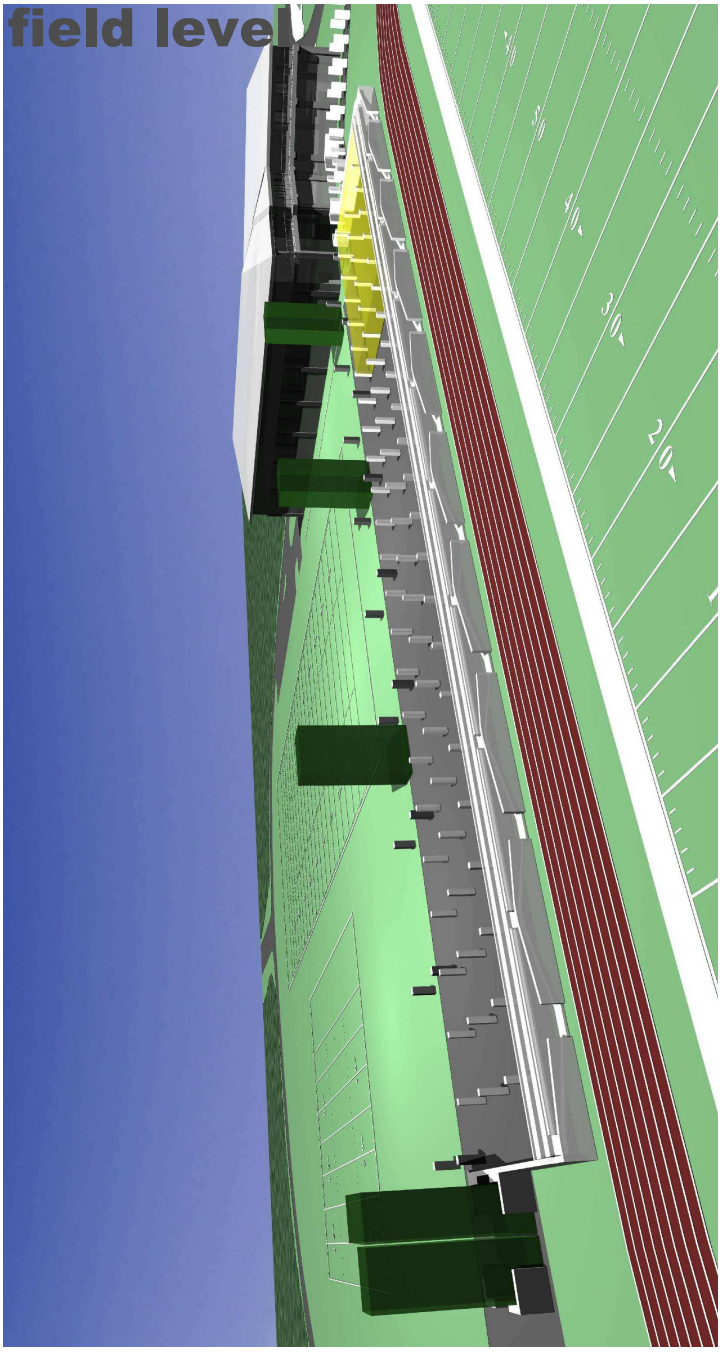
WILLIAM AND MARY
West Stand
Option 1 - Replacement Including Suites

CLASSIFICATION 5: PRESS FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Press Support	a. Work Room	1	350	350	
	b. Dark Room / Digital Editing	0	150	0	
	c. Media Check-In and Accredation	1	250	250	*ground level*
	SUB-TOTAL - PRESS SUPPORT			**600**	
Press Box Facilities	a. Writing Press Area	30	30	900	
	b. Food Support/Catering Area	1	120	120	
	c. PA/scoreboard operator booth	1	200	200	
	d. Coaching booths	2	200	400	
	e. Auxiliary booth	1	120	120	
	f. Operations booth	1	200	200	
	g. Visiting Team Suite	0	240	0	
	h. Storage Room	1	120	120	
	i. Toilets	2	150	300	
	j. Coaches Video Booths	2	200	400	
	SUB-TOTAL - PRESS BOX			**2,360**	
Broadcast Facilities	a. TV Booth	1	300	300	
	b. Radio broadcast Booth	3	150	450	
	c. Photographer's Booth	0	100	0	
	e. Auxiliary booth	0	150	0	
	d. Camera Deck	1	300	300	
	SUB-TOTAL - BROADCAST BOOTHS			**1,050**	
Interview Facilities	a. Multi-purpose room for press conferences and meetings	0	0	0	
	b. Visiting team press conference room	0	0	0	
	c. Interview "Studios"	0	0	0	
	SUB-TOTAL - INTERVIEW FACILITIES			**0**	
SUB-TOTAL (NET AREA)				**4010**	

WILLIAM AND MARY
West Stand
Option 1 - Replacement Including Suites

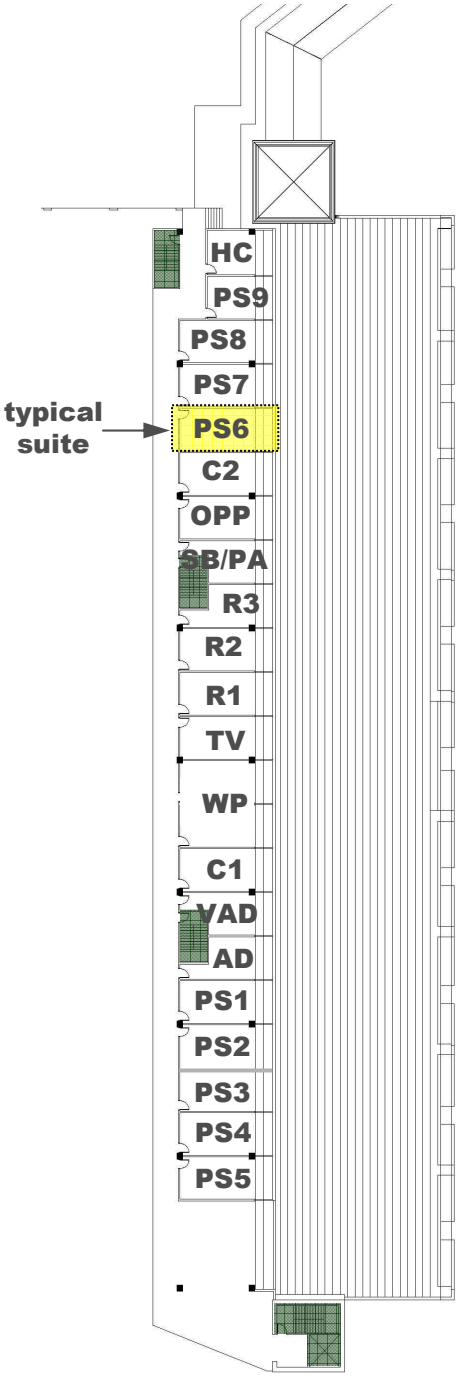
CLASSIFICATION 7: CIRCULATION					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Lobbies	a. Elevator Lobby	1	400	400	*at lower level*
	b. Pavilions: Covered Entranceways				
Concourses	a. Concourse	0	2.0	0	
	b. Turnstile Storage	0	0	0	
Corridors	a. Corridor on Suite Level (access to locker rooms)	1	2880	2880	*8' min. width(8 x 360)*
Vertical	c. Number of 4500 lb. Passenger/Service Elevators:	2	120	240	
Circulation	f. Number of Stairwells: *in net-to-gross factor*	4	200	800	*4'-5' stair width*
	g. Number of Escalators: *in net-to-gross factor*	0	0	0	
	h. Ramps:	0	0	0	
SUB-TOTAL (NET AREA)				4,320	

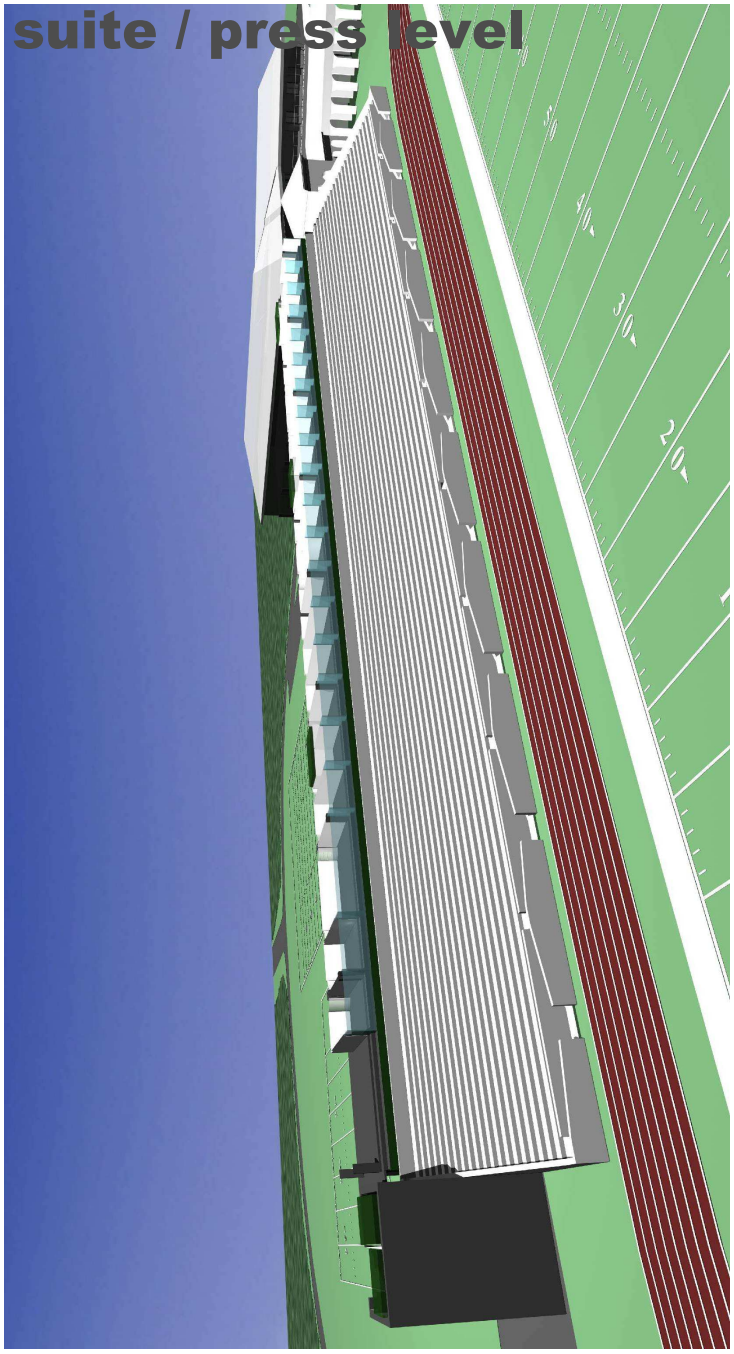


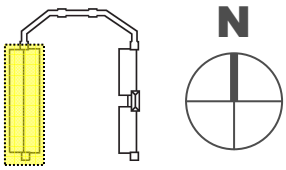


Option 1 – Replacement Including Suites

field level

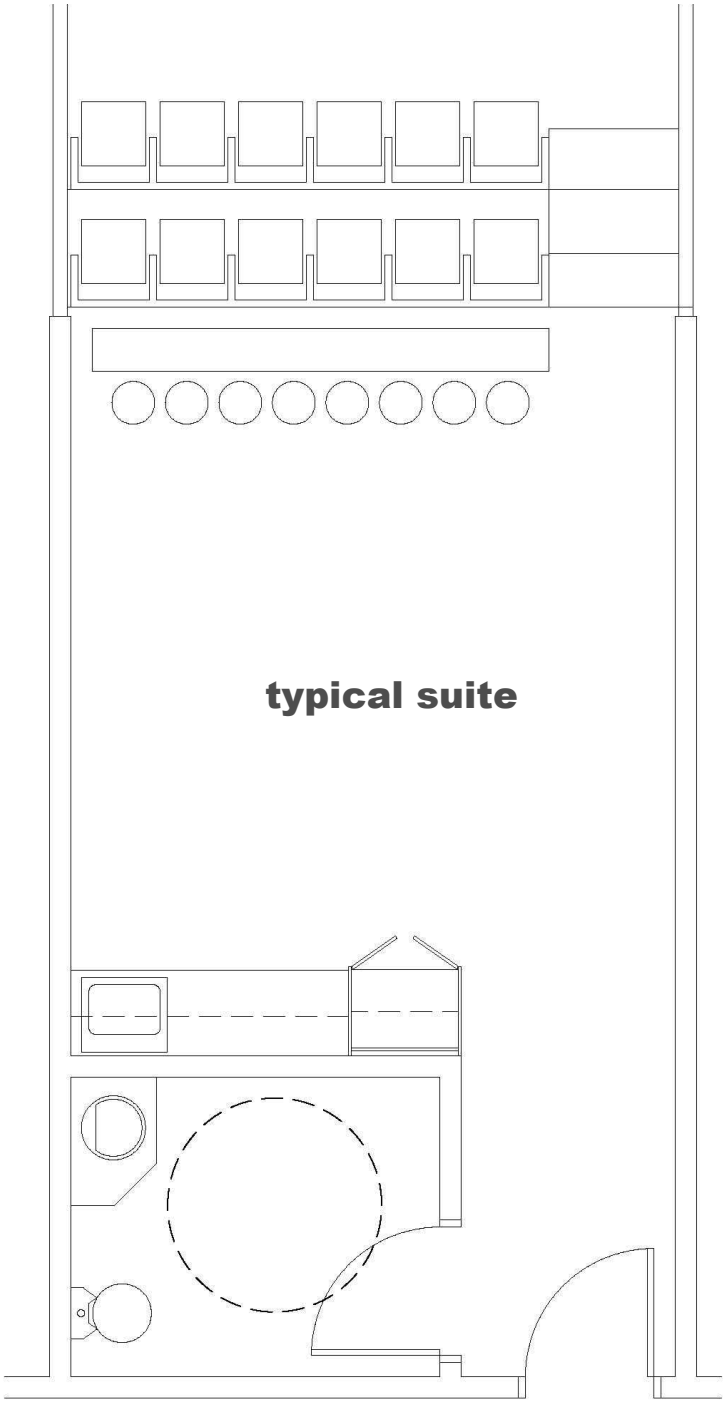


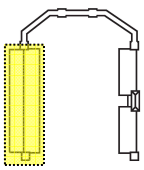




Option 1 – Replacement Including Suites

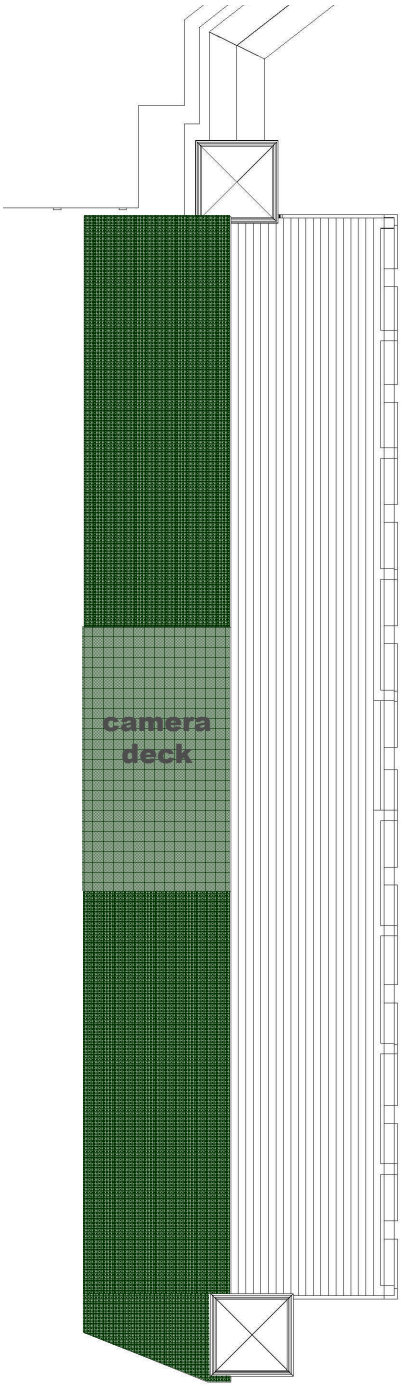
suite / press level

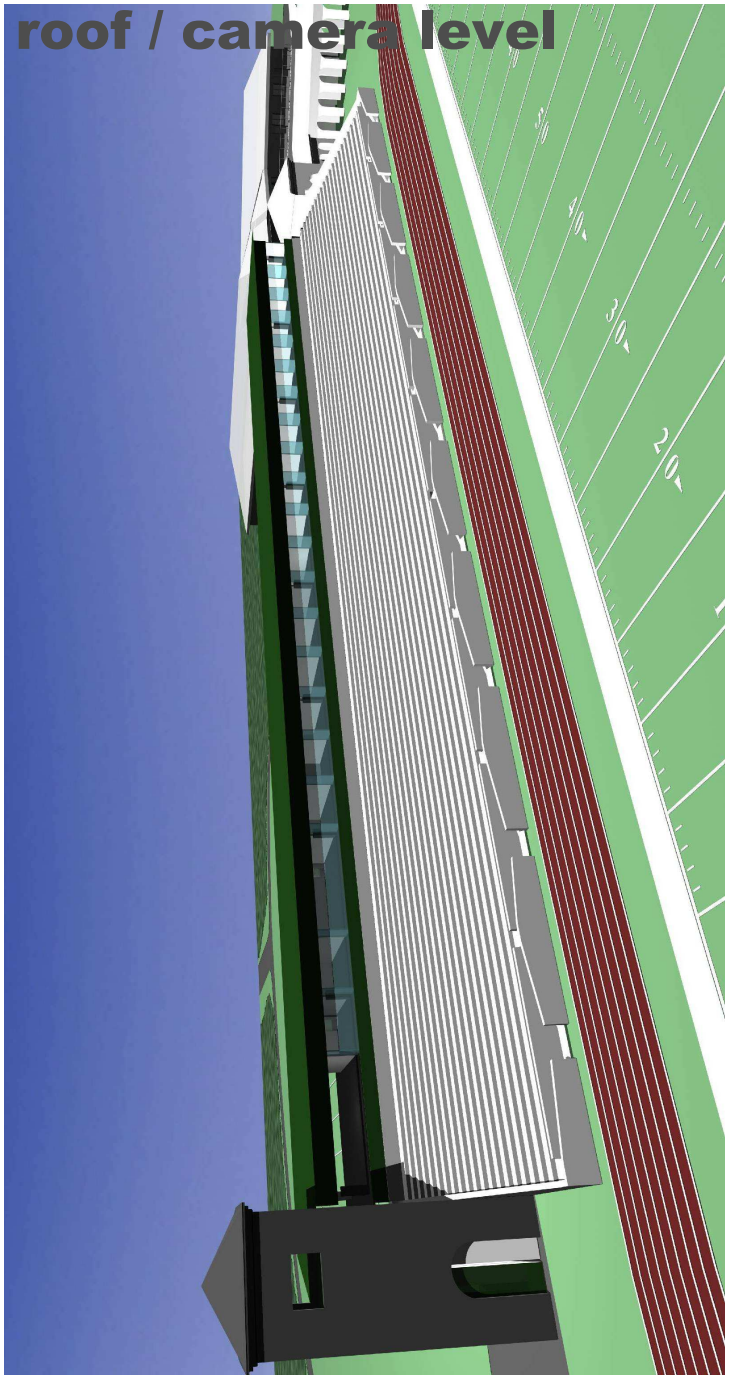


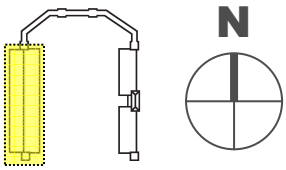


Option 1 – Replacement Including Suites

typical suite layout







Option 1 – Replacement Including Suites

roof / camera level

West Stands Coaches / Press Box: Press / Ops Only

OPTION 2 DESCRIPTION:

Option two adds a press box to the back of the west stands at Zable Stadium.

On the ground level, a new enclosed storage would be accommodated at the north end of the west stands as well as an outside storage along the remainder of the west stands. There are two stairs and one elevator in this option.

The press box is contained in the middle third of the west stands. It houses suites for press and radio as well as an auxiliary suite that could serve multiple rolls. These functions are housed in an elevated structure at the back of the west stands.

WILLIAM AND MARY
West Stand
Option 2 - Press / Ops only

CLASSIFICATION 1: SPECTATOR FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Spectator Seating	Approximately 5,000 seats will be provided, distributed across the following categories:				
	a. Bleacher seating (*18" min. width on 33" treads*)	0	5.5	0	
	b. Club seating (*21" min. width on 33" treads*)	0	6.5	0	*future club seating*
	c. Suite seating (*22" min. width on 36" treads*)	0	8.0	0	
	d. Chairback seating	0	6.5	0	*below crossaisle*
	d. Temporary endzone bleacher seating	0	4.5	0	
	SUB-TOTAL - SPECTATOR SEATING	**0**		**0**	
Suites	The number, seating capacity, and location of private suites should be tested by a marketing study to determine and/or verify the marketability of this product.				
	a. Private suites	0	420	0	*includes seating, 14' x 30' typical, 16 fixed seats + 4 bar stools*
	b. Future suites	0	0	0	
	The following non-revenue suites will be provided:				
	c. Head Coach	0	420	0	*14' x 30' typical*
	d. Visiting Coach	0	420	0	
	e. Other: Home A.D	0	420	0	*14' x 30' typical*
	f. Other: University President - seating 16 persons	0	420	0	
	SUB-TOTAL - SUITES	**0**		**0**	
Club Lounge	Lounge with bar and dining tables for use by premium seat holders on game days. *Verify plumbing requirements.*				futureclub lounge
	a. Dining/bar area occupancy:	0	10	0	
	b. Bar / Servery	0	750		
	c. Mens toilets: 2 w.c. + 3 urinals + 3 lavs	0	50	0	
	d. Womens toilets: 5 w.c. + 3 lavs	0	50	0	
	SUB-TOTAL - CLUB LOUNGE			**0**	
Restrooms	Public restroom facilities will be provided based on 8000 permanent seats and an assumed ratio of 50:50 male-female attendance. *Note: the following ratios are based on anticipated IPC 2000 codes; check state and local requirements.*				
	a. Mens: 8 w.c. (*1:350*) + 21 urinals (*1:120*) + 16 lavs (1:150)	0	50	0	*hok recommended ratios*
	b. Womens: 67 w.c. (*1:60*) + 27 lavs (1:150)	0	50	0	*hok recommended ratios*
	c. Family toilets	0	80	0	
	SUB-TOTAL - RESTROOM FACILITIES			**0**	
Guest Services	a. First Aid Room for emergency medical treatment of spectators.	0	200	0	
	b. Satellite facilities for emergency medical treatment of spectators.	0	250	0	
	c. Information and Lost and Found Booth	0	100	0	
	SUB-TOTAL - GUEST SERVICES			**0**	
SUB-TOTAL (NET AREA)				**0**	

WILLIAM AND MARY
West Stand
Option 2 - Press / Ops only

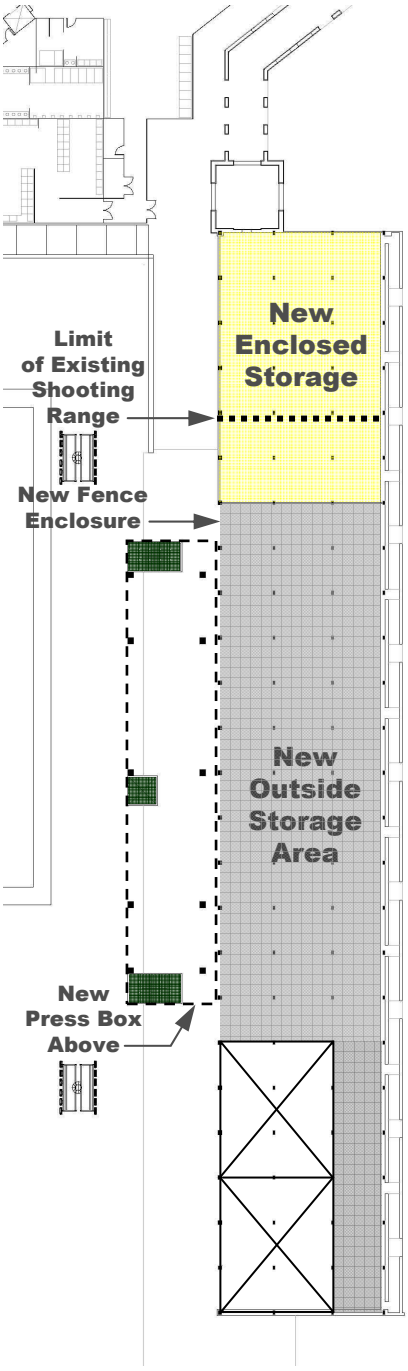
CLASSIFICATION 2: FOOD and RETAIL FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Concession Stands	Concession Stands will be distributed at regular intervals on the Concourse(s). Five linear feet of counter space is allowed per point-of-sale, with 20' depth to accommodate storage in each stand.				
	a. Permanent Concession stands are based on a ratio of 1:350 spectators	0	100	0	
	b. Portable specialty vendor concession stands will be provided in the Arcade area, with utility services available for temporary tap-ins.	0	0	0	
	c. Hawker Stands - facilities for food handling and storage by vendors will be distributed on each concourse	0	350	0	
	SUB-TOTAL - CONCESSIONS			0	
Kitchen / Commissary	a. Central Kitchen to support Concession Stands and Catering.	0	0	0	
	b. Commissary - centralized bulk storage for paper goods and food supplies, including climate-controlled storage rooms	0	500	0	
	c. Beverage Distribution Rooms	0	350	0	
	d. Suite Serving Pantries	0	0	0	
	SUB-TOTAL - KITCHEN/COMMISSARY			0	
Vendor Staff	a. Event Day Office and Counting Room	0	200	0	
	b. Lockers/Toilets - (50) half-height lockers for personal belongings	0	200	0	
	c. Uniform Distribution	0	100	0	
	SUB-TOTAL - VENDOR STAFF			0	
Retail Sales	a. A permanent retail store (pro shop) for sale of souvenirs, team memorabilia and novelty items.	0	0	0	
	b. Permanent Novelty Sales stands to supplement novelty sales on event days.	0	150	0	
	c. Temporary Novelty Sales stands to supplement novelty sales on event days will be provided in the Concourse.	0	0	0	
	d. Warehouse for bulk materials and cart storage	0	0	0	
	SUB-TOTAL - RETAIL SALES FACILITIES			0	
SUB-TOTAL (NET AREA)				0	

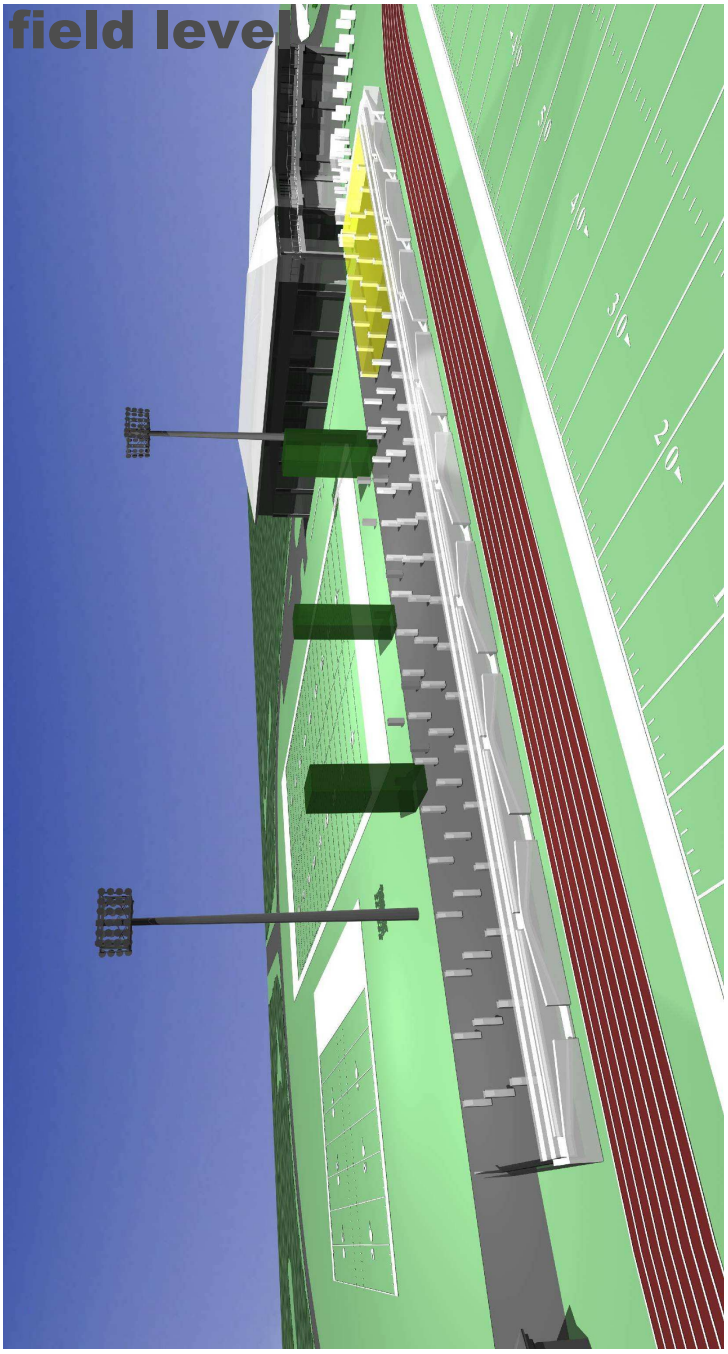
WILLIAM AND MARY
West Stand
Option 2 - Press / Ops only

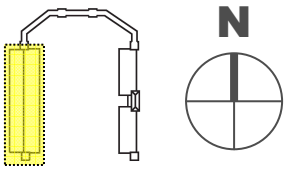
CLASSIFICATION 5: PRESS FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Press Support	a. Work Room	1	350	350	
	b. Dark Room / Digital Editing	0	150	0	
	c. Media Check-In and Accredation	1	250	250	*ground level*
	SUB-TOTAL - PRESS SUPPORT			600	
Press Box Facilities	a. Writing Press Area	30	30	900	
	b. Food Support/Catering Area	1	120	120	
	c. PA/scoreboard operator booth	1	200	200	
	d. Coaching booths	2	200	400	
	e. Auxiliary booth	1	120	120	
	f. Operations booth	1	200	200	
	g. Visiting Team Suite	0	240	0	
	h. Storage Room	1	120	120	
	i. Toilets	2	150	300	
	j. Coaches Video Booths	2	200	400	
	SUB-TOTAL - PRESS BOX			2,360	
Broadcast Facilities	a. TV Booth	1	300	300	
	b. Radio broadcast Booth	3	150	450	
	c. Photographer's Booth	0	100	0	
	e. Auxiliary booth	0	150	0	
	d. Camera Deck	1	300	300	
	SUB-TOTAL - BROADCAST BOOTHS			1,050	
Interview Facilities	a. Multi-purpose room for press conferences and meetings	0	0	0	
	b. Visiting team press conference room	0	0	0	
	c. Interview "Studios"	0	0	0	
	SUB-TOTAL - INTERVIEW FACILITIES			0	
SUB-TOTAL (NET AREA)				4010	

WILLIAM AND MARY
West Stand
Option 2 - Press / Ops only

CLASSIFICATION 7: CIRCULATION					
		Recommended			
Space Type	Room Description	Units	SF	Total SF	Comments
Lobbies	a. Elevator Lobby	1	400	400	*at lower level*
	b. Pavilions: Covered Entranceways				
Concourses	a. Concourse	0	2.0	0	
	b. Turnstile Storage	0	0	0	
Corridors	a. Corridor on Suite Level (access to locker rooms)	1	1400	1400	
Vertical	c. Number of 4500 lb. Passenger/Service Elevators:	2	120	240	
Circulation	f. Number of Stairwells: *in net-to-gross factor*	2	200	400	*4'-5' stair width*
	g. Number of Escalators: *in net-to-gross factor*	0	0	0	
	h. Ramps:	0	0	0	
SUB-TOTAL (NET AREA)				**2,440**	
	SUB TOTAL SQUARE FOOTAGE			6,450	
	10% net to gross			645	
	TOTAL SQUARE FOOTAGE			**7,095**	

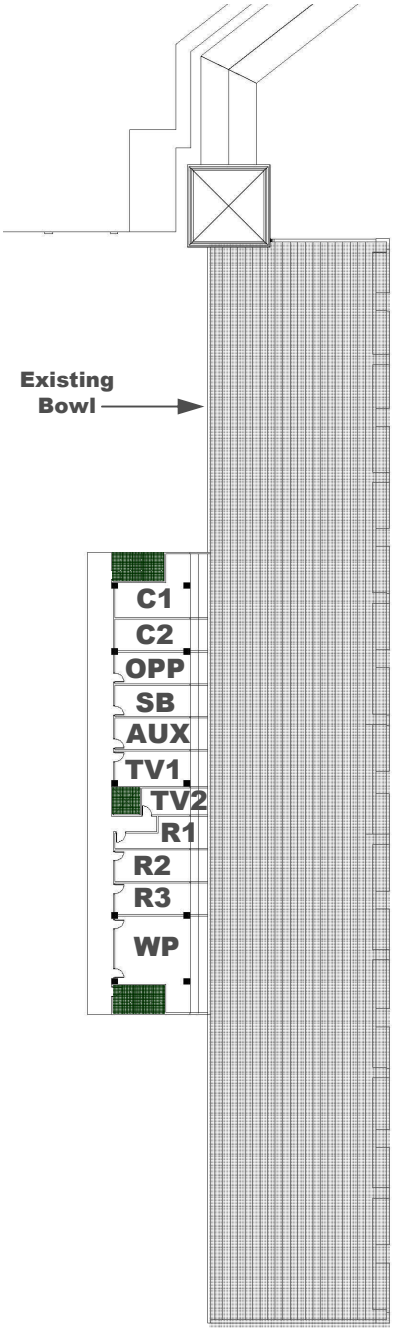


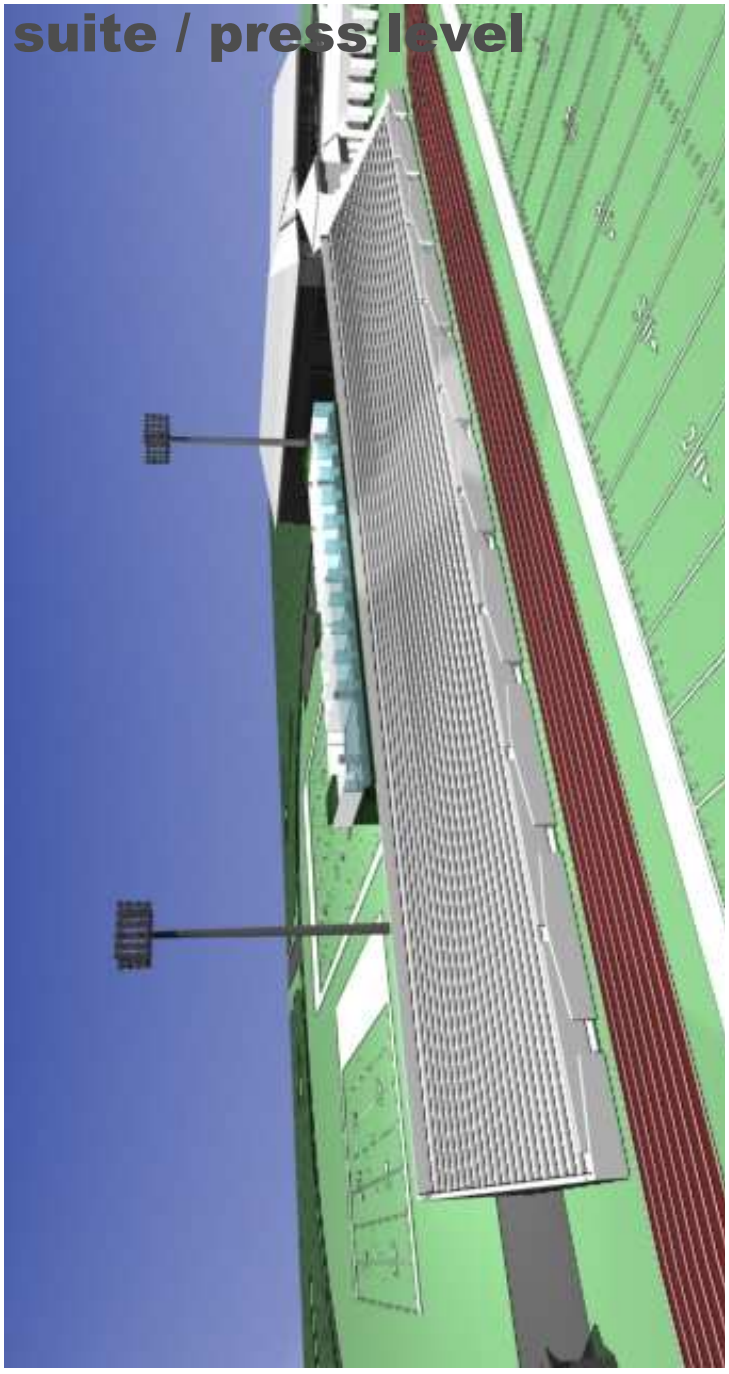


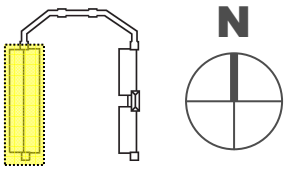


Option 2 – Press / Ops only

field level

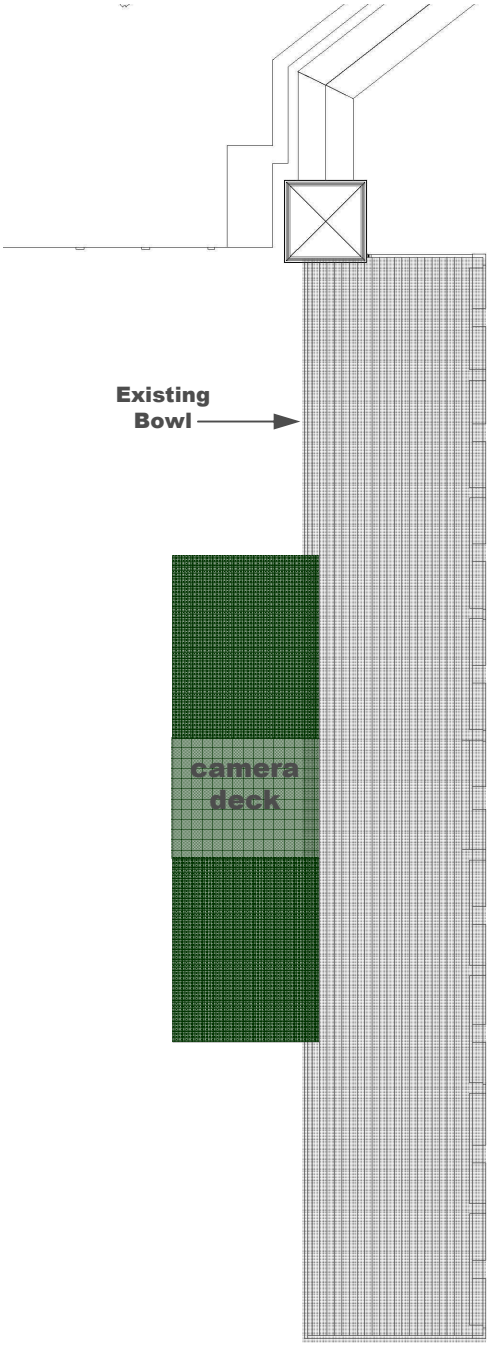


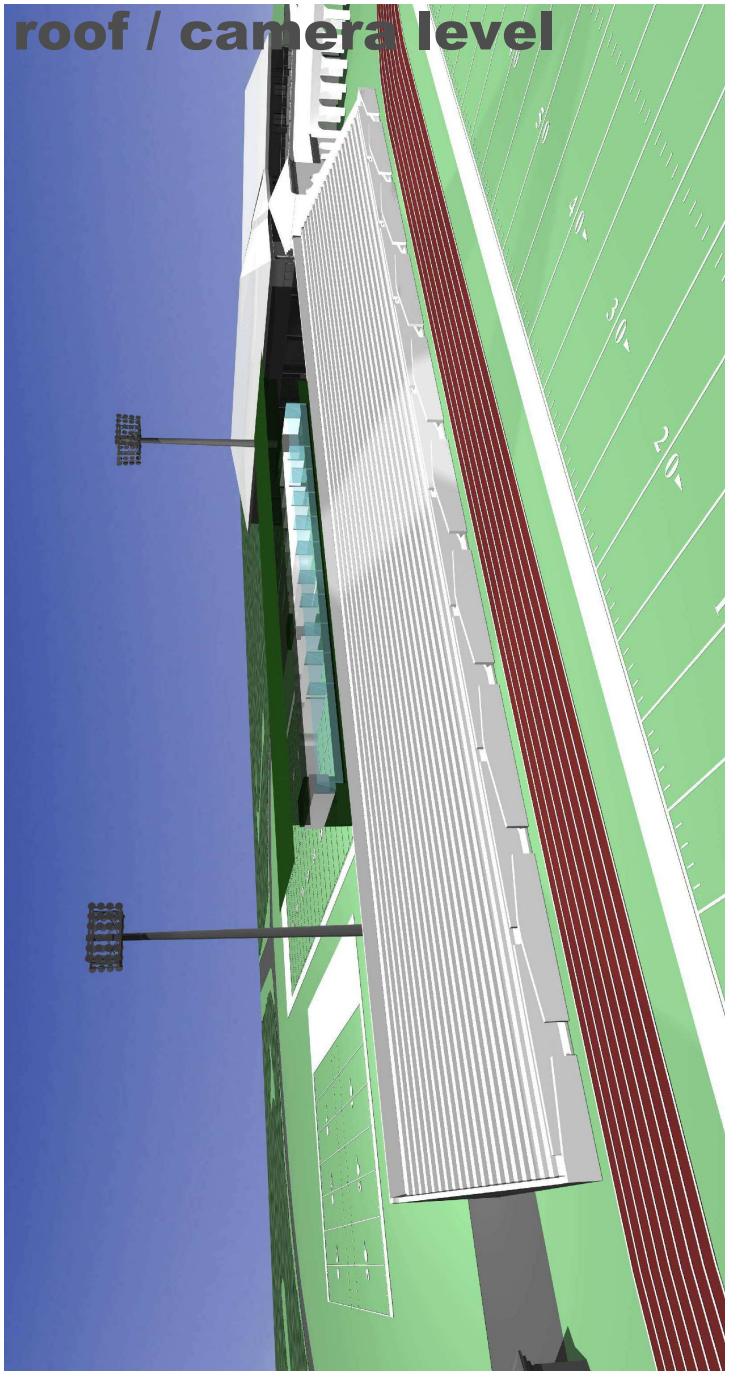


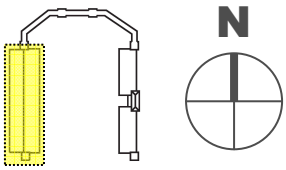


Option 2 – Press / Ops only

press level







Option 2 – Press / Ops only

roof / camera level

WEST STANDS/COACHES/PRESS BOX/SUITES AND NEW SEATING OPTION 3

VIII

West Stands Coaches / Press Box / Suites & New Seating

DESCRIPTION:

Option three adds a press box, a premium box, and additional seating to the back of the west stands at Zable Stadium.

Option three includes removal of the existing coaches' control box and construction of vertical circulation such as elevators, stairs elevator/stair lobbies and the mezzanine deck to support the following facilities to the back of the west stands at Zable Stadium: 1. Game operations (PA/scoreboard), 2. Press Box facilities and support areas, 3. broadcast booth/camera deck, **4**. Home Coaches Box; **5**. Visiting Coaches Box; and **6**. Suites to include 10 private revenue suites, Head Coach Suite, Home Athletic Director Suite. This press box/suite level would include concession/novelty stands, restrooms, commissary and other patron/spectator amenities, and provide access to the Laycock Training Facility and accommodations for a future club.

This option includes 3300 new seats added to Zable Stadium in the form of an elevated seating section above the press box/suite level, to permanently replace 3300 temporary bleacher seats in the north and south end zones.

This seating section would satisfy the American Disabilities Act by providing ADA compliant platforms in the new seating section. There is an upper concourse level associated with this option. This concourse would include the amenities (ie: storage, restrooms, and concession stands) to serve the additional 3300 seats.

On the ground level, a new enclosed storage would be accommodated at the north end of the west stands as well as an outside storage along the remainder of the west stands. There are four stairs and one elevator in this option.

WILLIAM AND MARY
West Stand Coaches / Press Box, Suites, and New Seating

CLASSIFICATION 1: SPECTATOR FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Spectator Seating	Approximately 5,000 seats will be provided, distributed across the following categories:				
	a. Bleacher seating (*18" min. width on 33" treads*)	2375	5.5	13,063	
	b. Club seating (*21" min. width on 33" treads*)	0	6.5	0	*future club seating*
	c. Suite seating (*22" min. width on 36" treads*)	0	8.0	0	
	d. Chairback seating	565	6.5	3,673	*below crossaisle*
	d. Temporary endzone bleacher seating	0	4.5	0	
	SUB-TOTAL - SPECTATOR SEATING	**2940**		**16,735**	
Suites	The number, seating capacity, and location of private suites should be tested by a marketing study to determine and/or verify the marketability of this product.				
	a. Private suites	10	420	4,200	*includes seating, 14' x 30' typical, 16 fixed seats + 4 bar stools*
	b. Future suites	0	0	0	
	The following non-revenue suites will be provided:				
	c. Head Coach	1	420	420	*future, 14' x 30' typical*
	d. Visiting Coach	0	420	0	*future, 14' x 30' typical*
	e. Other: Home A.D, Visiting A.D.	1	420	420	*future, 14' x 30' typical*
	f. Other: University President - seating 16 persons	0	420	0	*future, 14' x 30' typical*
	SUB-TOTAL - SUITES	**12**		**5,040**	
Club Lounge	Lounge with bar and dining tables for use by premium seat holders on game days. *Verify plumbing requirements.*				futureclub lounge
	a. Dining/bar area occupancy:	0	10	0	
	b. Bar / Servery	0	750	0	
	c. Mens toilets: 2 w.c. + 3 urinals + 3 lavs	0	50	0	
	d. Womens toilets: 5 w.c. + 3 lavs	0	50	0	
	SUB-TOTAL - CLUB LOUNGE			**0**	
Restrooms	Public restroom facilities will be provided based on 8000 permanent seats and an assumed ratio of 50:50 male-female attendance. *Note: the following ratios are based on anticipated IPC 2000 codes; check state and local requirements.*				
	a. Mens: 8 w.c. (*1:350*) + 21 urinals (*1:120*) + 16 lavs (1:150)	17	50	873	*hok recommended ratios*
	b. Womens: 67 w.c. (*1:60*) + 27 lavs (1:150)	25	50	1,225	*hok recommended ratios*
	c. Family toilets	2	80	160	
	SUB-TOTAL - RESTROOM FACILITIES			**2,258**	
Guest Services	a. First Aid Room for emergency medical treatment of spectators.	1	200	200	
	b. Satellite facilities for emergency medical treatment of	0	250	0	
	c. Information and Lost and Found Booth	1	100	100	
	SUB-TOTAL - GUEST SERVICES			**300**	
SUB-TOTAL (NET AREA)				**24,333**	

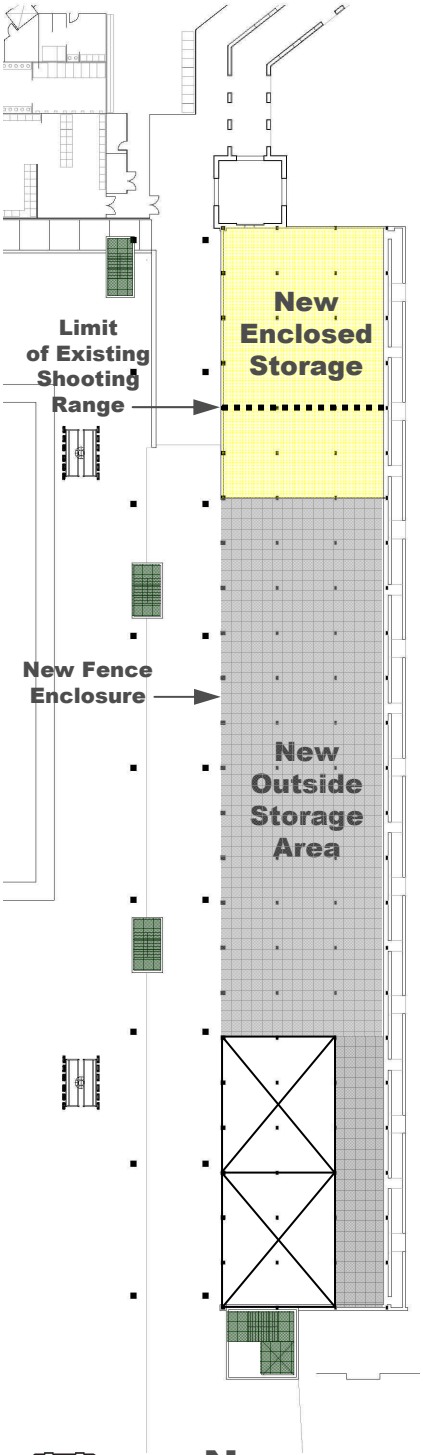
CLASSIFICATION 2: FOOD and RETAIL FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Concession Stands	Concession Stands will be distributed at regular intervals on the Concourse(s). Five linear feet of counter space is allowed per point-of-sale, with 20' depth to accommodate storage in each stand.				
	a. Permanent Concession stands are based on a ratio of 1:300 spectators	#REF!	100	#REF!	
	b. Portable specialty vendor concession stands will be provided in the Arcade area, with utility services available for temporary tap-ins.	0	0	0	
	c. Hawker Stands - facilities for food handling and storage by vendors will be distributed on each concourse	1	350	350	
	SUB-TOTAL - CONCESSIONS			**1,330**	
Kitchen / Commissary	a. Central Kitchen to support Concession Stands and Catering.	0	0	0	
	b. Commissary - centralized bulk storage for paper goods and food supplies, including climate-controlled storage rooms	1	500	500	
	c. Beverage Distribution Rooms	1	350	350	
	d. Suite Serving Pantries	0	0	0	
	SUB-TOTAL - KITCHEN/COMMISSARY			**850**	
Vendor Staff	a. Event Day Office and Counting Room	0	200	0	
	b. Lockers/Toilets - (50) half-height lockers for personal belongings	0	200	0	
	c. Uniform Distribution	0	100	0	
	SUB-TOTAL - VENDOR STAFF			**0**	
Retail Sales	a. A permanent retail store (pro shop) for sale of souvenirs, team memorabilia and novelty items	0	0	0	
	b. Permanent Novelty Sales stands to supplement novelty sales on event days.	1	150	150	
	c. Temporary Novelty Sales stands to supplement novelty sales on event days will be provided in the Concourse	0	0	0	
	d. Warehouse for bulk materials and cart storage	0	0	0	
	SUB-TOTAL - RETAIL SALES FACILITIES			**150**	
SUB-TOTAL (NET AREA)				**2,330**	

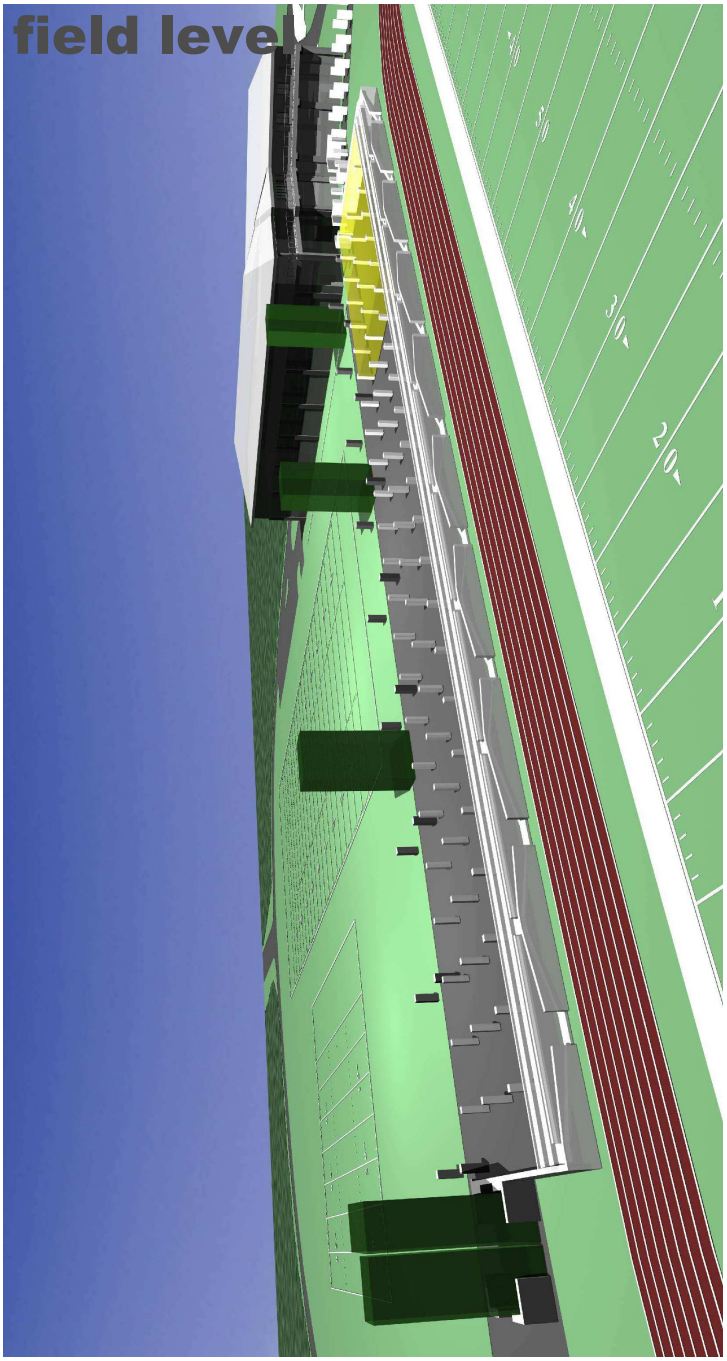
WILLIAM AND MARY
West Stand Coaches / Press Box, Suites, and New Seating

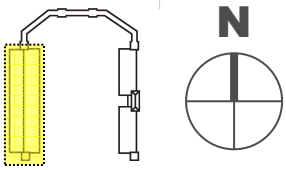
CLASSIFICATION 5: PRESS FACILITIES					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Press	a. Work Room	1	350	350	*Future*
Support	b. Dark Room / Digital Editing	0	150	0	*Future*
	c. Media Check-In and Accredation	1	250	250	*Future*
	SUB-TOTAL - PRESS SUPPORT			**600**	
Press Box	a. Writing Press Area	30	30	900	*Future*
Facilities	b. Catering Area	1	120	120	*Future*
	c. PA/scoreboard operator booth	1	200	200	*Future*
	d. Coaching booths	2	200	400	*Future*
	e. Auxiliary booth	1	120	120	*Future*
	f. Operations booth	1	200	200	*Future*
	g. Visiting Team	0	240	0	*Future*
	h. Storage Room	1	120	120	*Future*
	i. Toilets	2	150	300	*Future*
	j. Coaches Video Booths	2	200	400	
	SUB-TOTAL - PRESS BOX			**2,360**	
Broadcast	a. TV Booth	1	300	300	*Future*
Facilities	b. Radio broadcast Booth	3	150	450	*Future*
	c. Photographer's Booth	0	100	0	*Future*
	e. Auxiliary booth	0	150	0	*Future*
	d. Camera Deck	1	300	300	*Future*
	SUB-TOTAL - BROADCAST BOOTHS			**1,050**	
Interview	a. Multi-purpose room for press conferences and meetings	0	0	0	*Future*
Facilities	b. Visiting team press conference room	0	0	0	*Future*
	c. Interview "Studios"	0	0	0	*Future*
	SUB-TOTAL - INTERVIEW FACILITIES			**0**	
SUB-TOTAL (NET AREA)				**4010**	

WILLIAM AND MARY
West Stand Coaches / Press Box, Suites, and New Seating

CLASSIFICATION 7: CIRCULATION					
		Recommended Program			
Space Type	Room Description	Units	SF	Total SF	Comments
Lobbies	a. Elevator Lobby	1	400	400	*verify need*
	b. Pavilions: Covered Entranceways				
Concourses	a. Concourse	2940	3.5	10,290	
	b. Turnstile Storage	0	0	0	
Corridors	a. Corridor on Press/Suite Level	1	2880	2880	*8' typical width*
Vertical	c. Number of 4500 lb. Passenger/Service Elevators:	2	120	240	
Circulation	f. Number of Stairwells: *in net-to-gross factor*	4	200	800	
	g. Number of Escalators: *in net-to-gross factor*	0	0	0	
	h. Ramps:	0	0	0	
SUB-TOTAL (NET AREA)				**14,610**	
	SUB TOTAL SQUARE FOOTAGE			45,283	
	10% net to gross			4528	
	TOTAL SQUARE FOOTAGE			**49,811**	

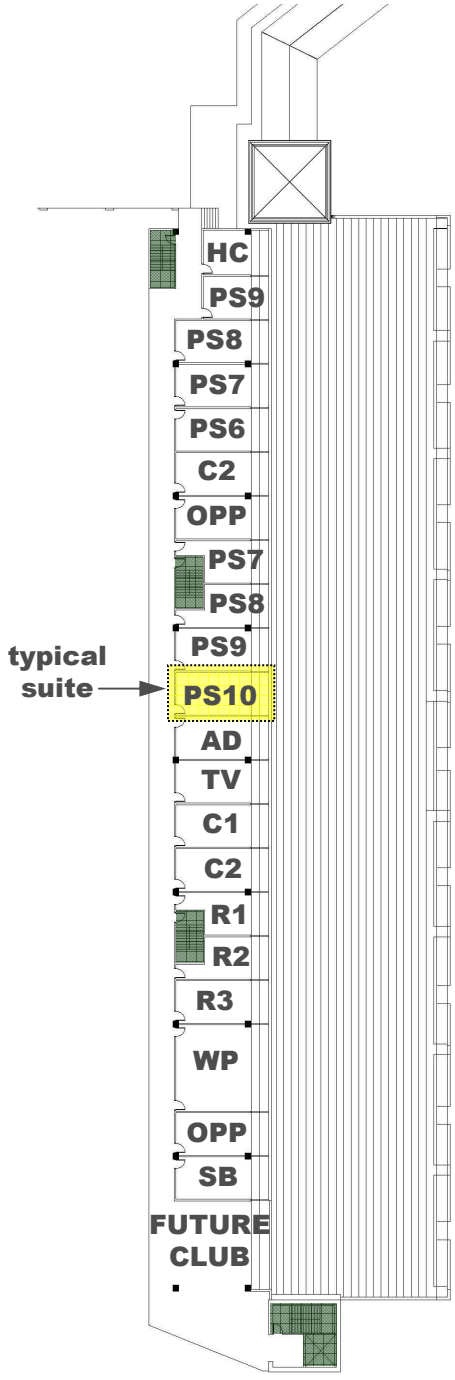


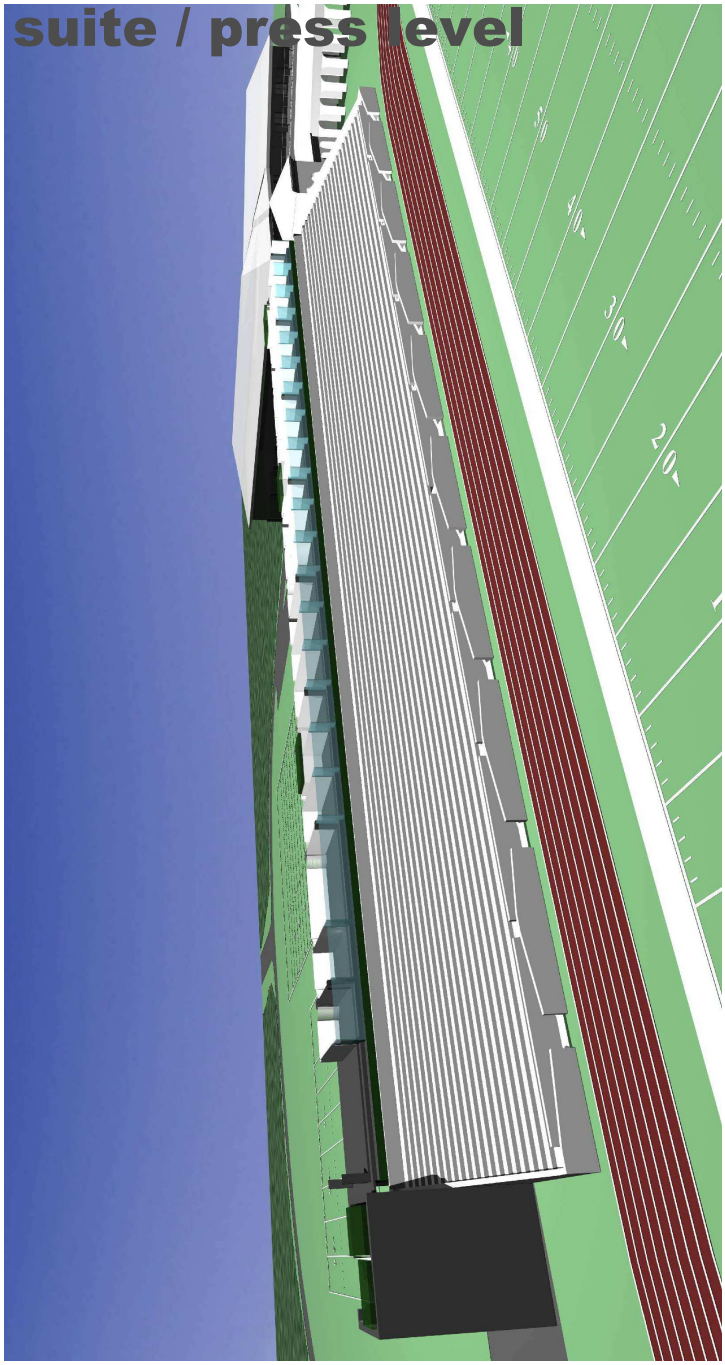


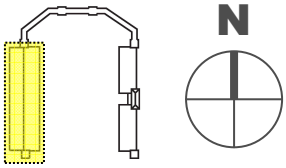


West Stands Coaches / Press Box, Suites, and New Seating

field level

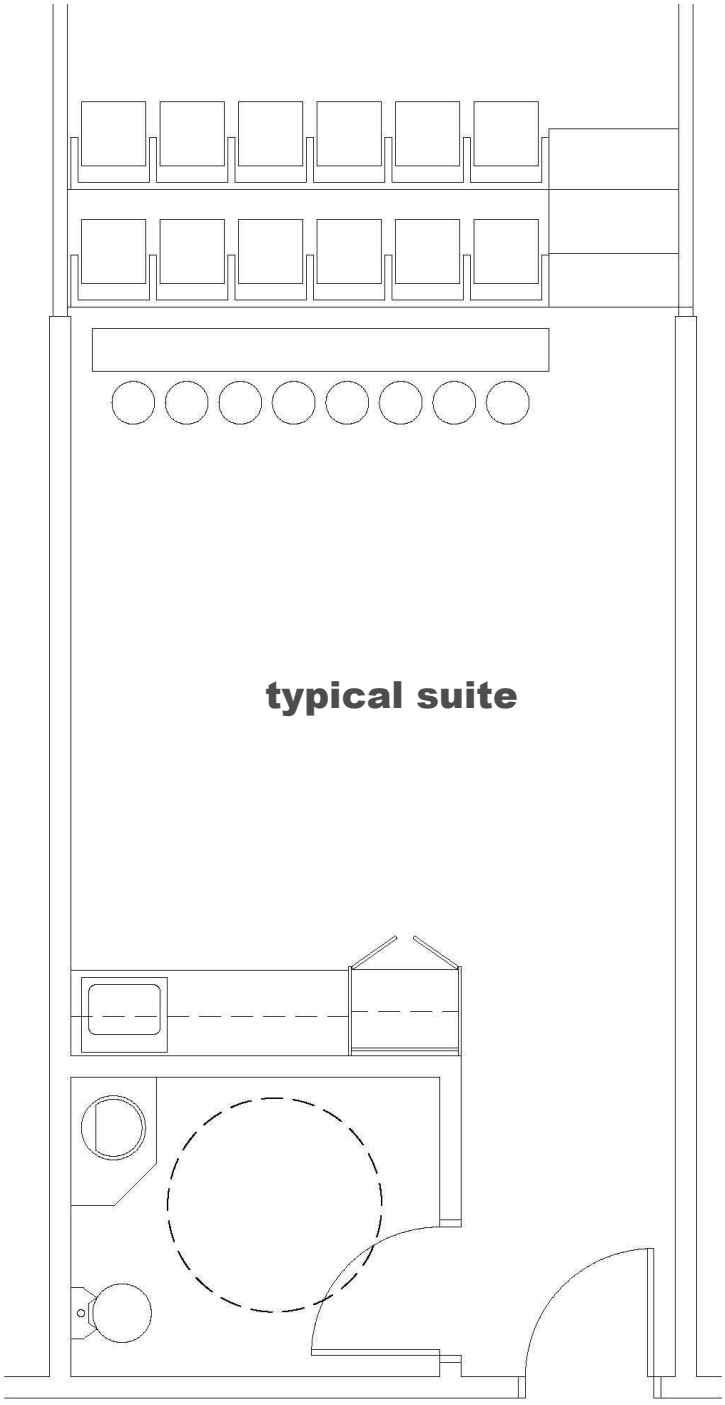


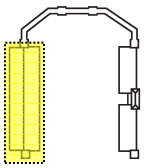




West Stands Coaches / Press Box, Suites, and New Seating

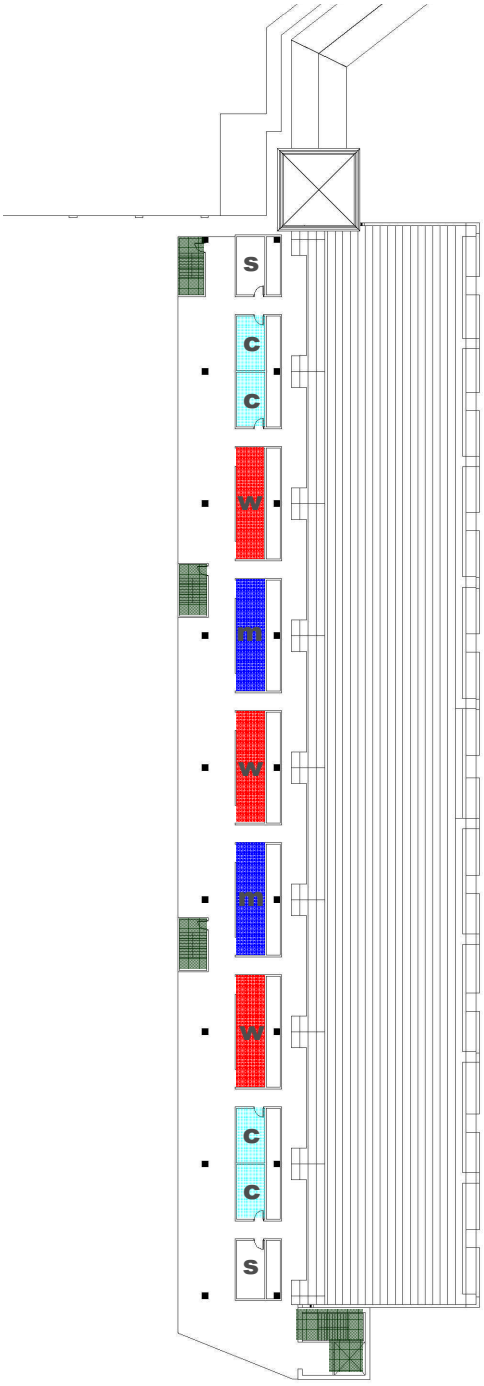
suite / press level

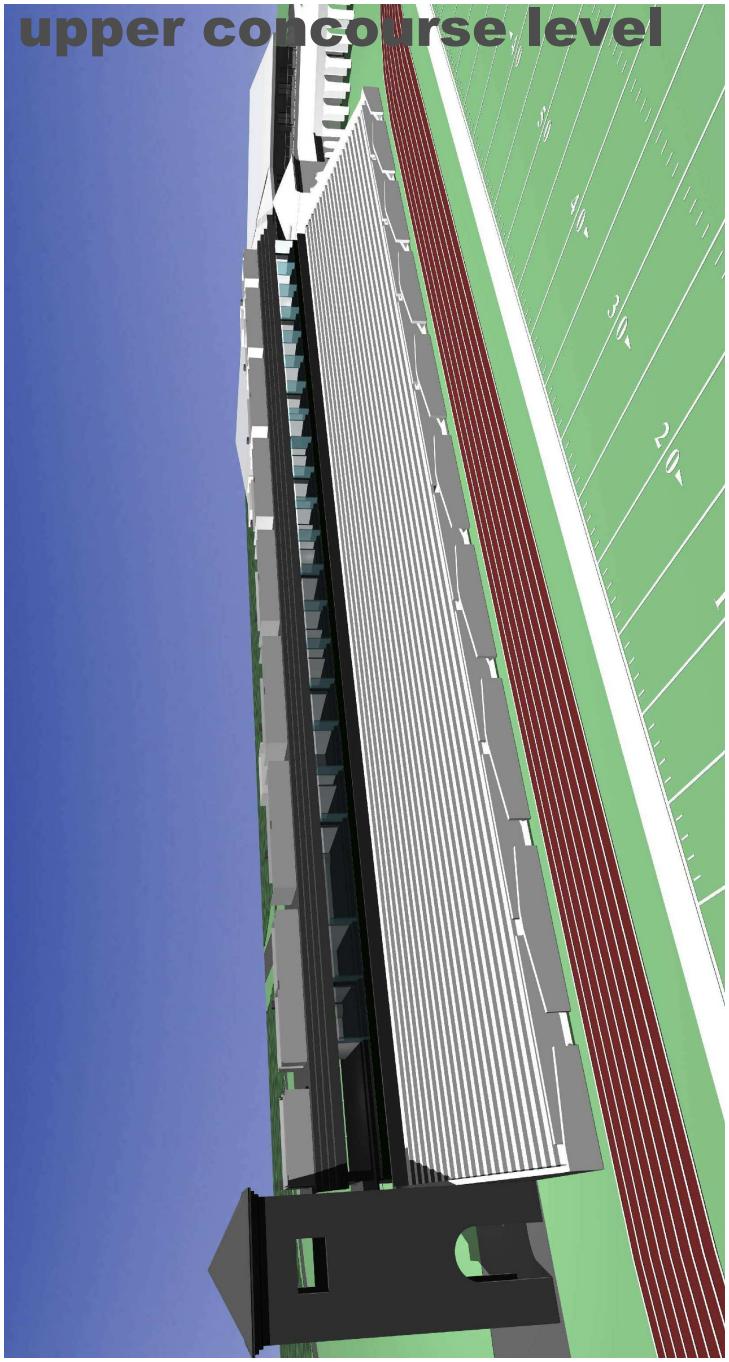


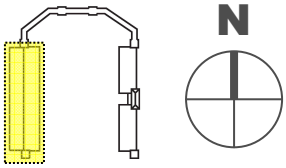


West Stands Coaches / Press Box, Suites, and New Seating

typical suite

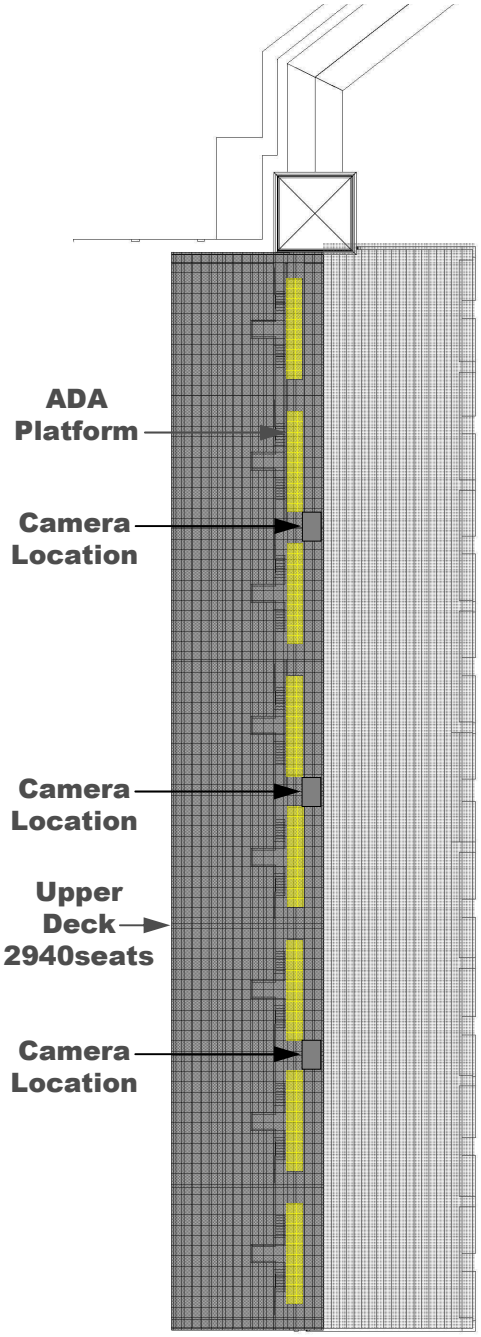


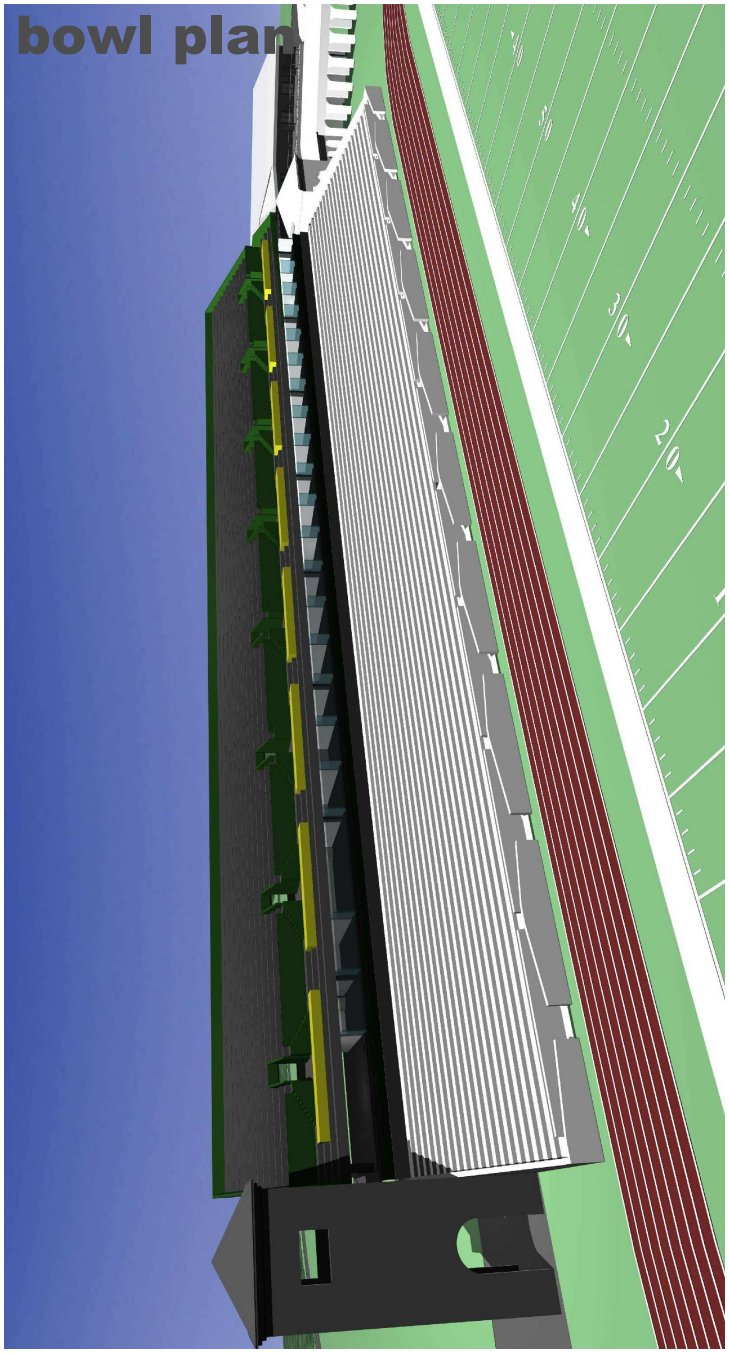


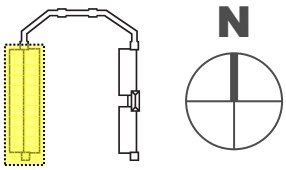


West Stands Coaches / Press Box, Suites, and New Seating

upper concourse level



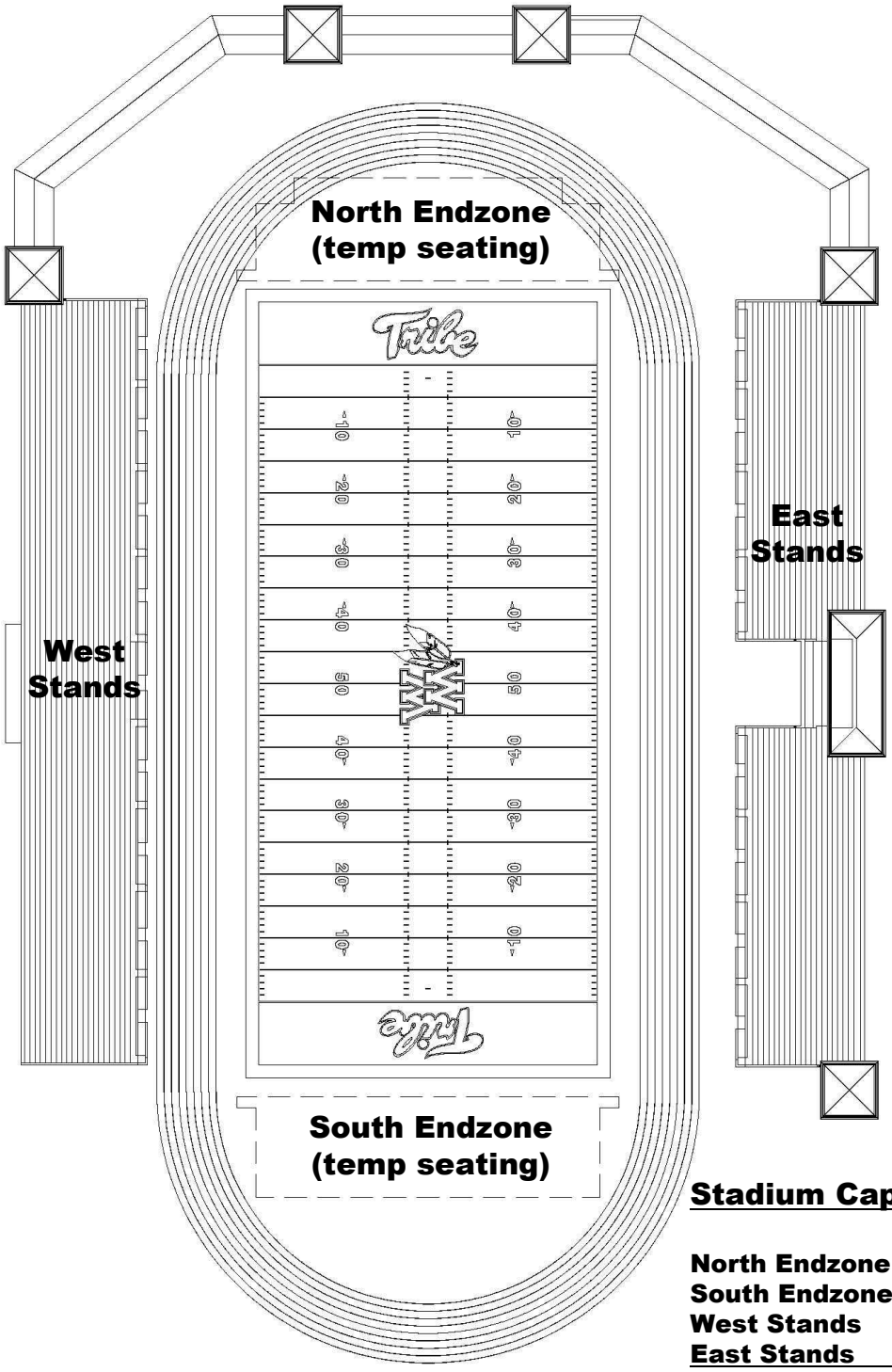




West Stands Coaches / Press Box, Suites, and New Seating

bowl plan

ZABLE STADIUM
RENOVATION PLAN
IX

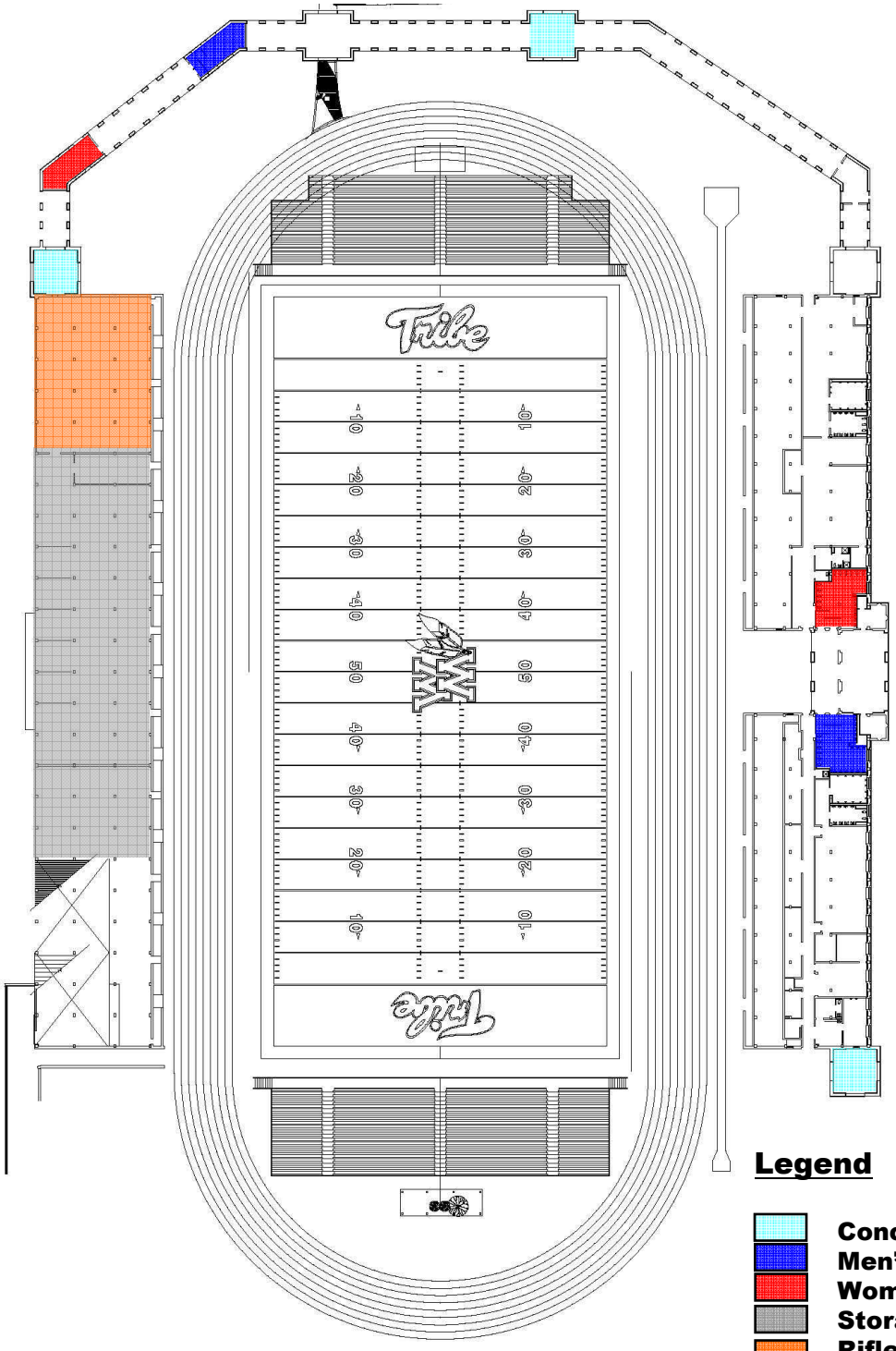


Stadium Capacity

North Endzone	1,186
South Endzone	2,127
West Stands	4,720
East Stands	4,141
TOTAL	12,174

N

Zable Stadium Seating Capacity

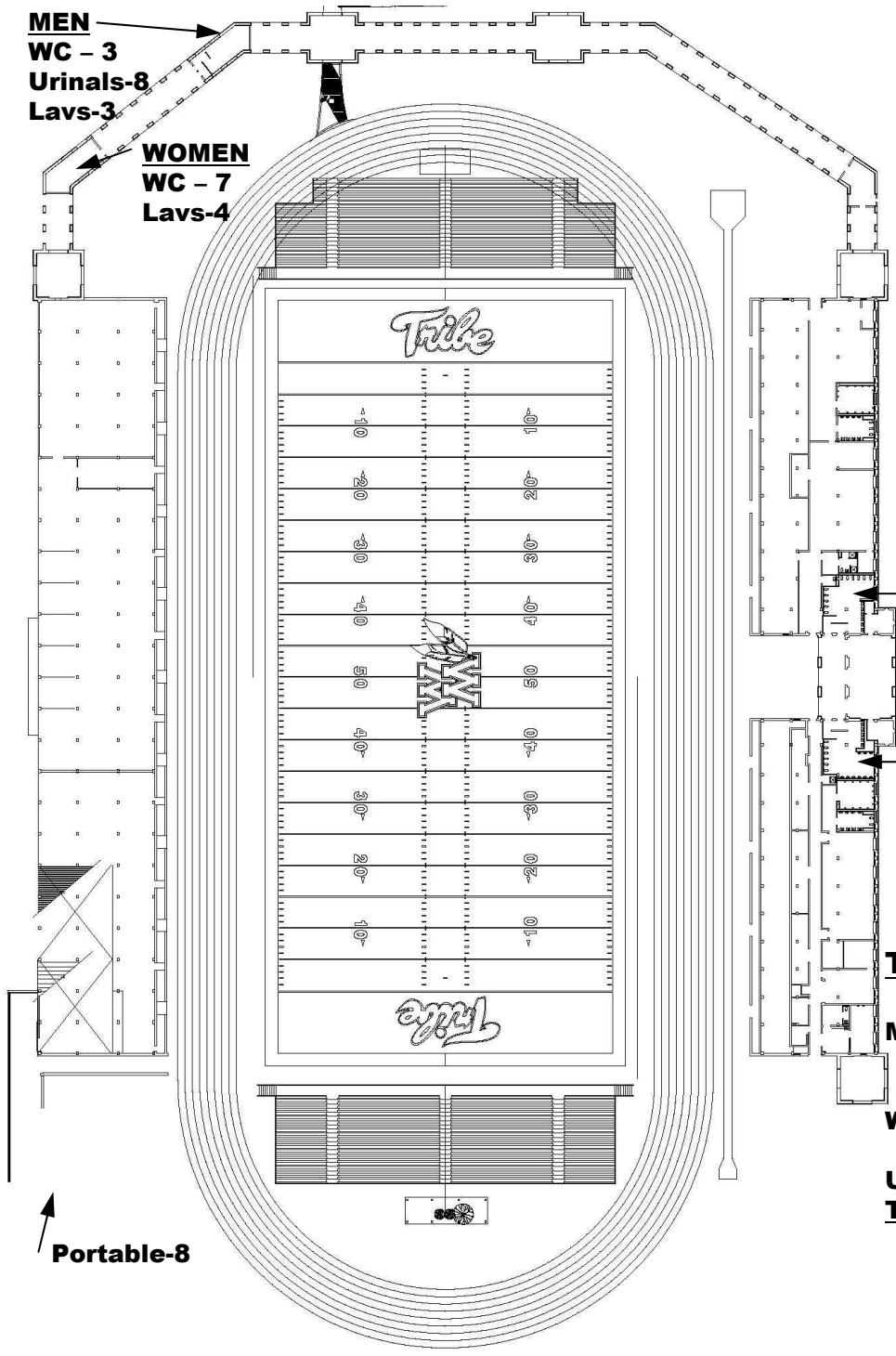


Legend

- Concession / Novelty
- Men's Restroom
- Women's Restroom
- Storage
- Rifle Range Storage

N

Zable Stadium Existing Conditions

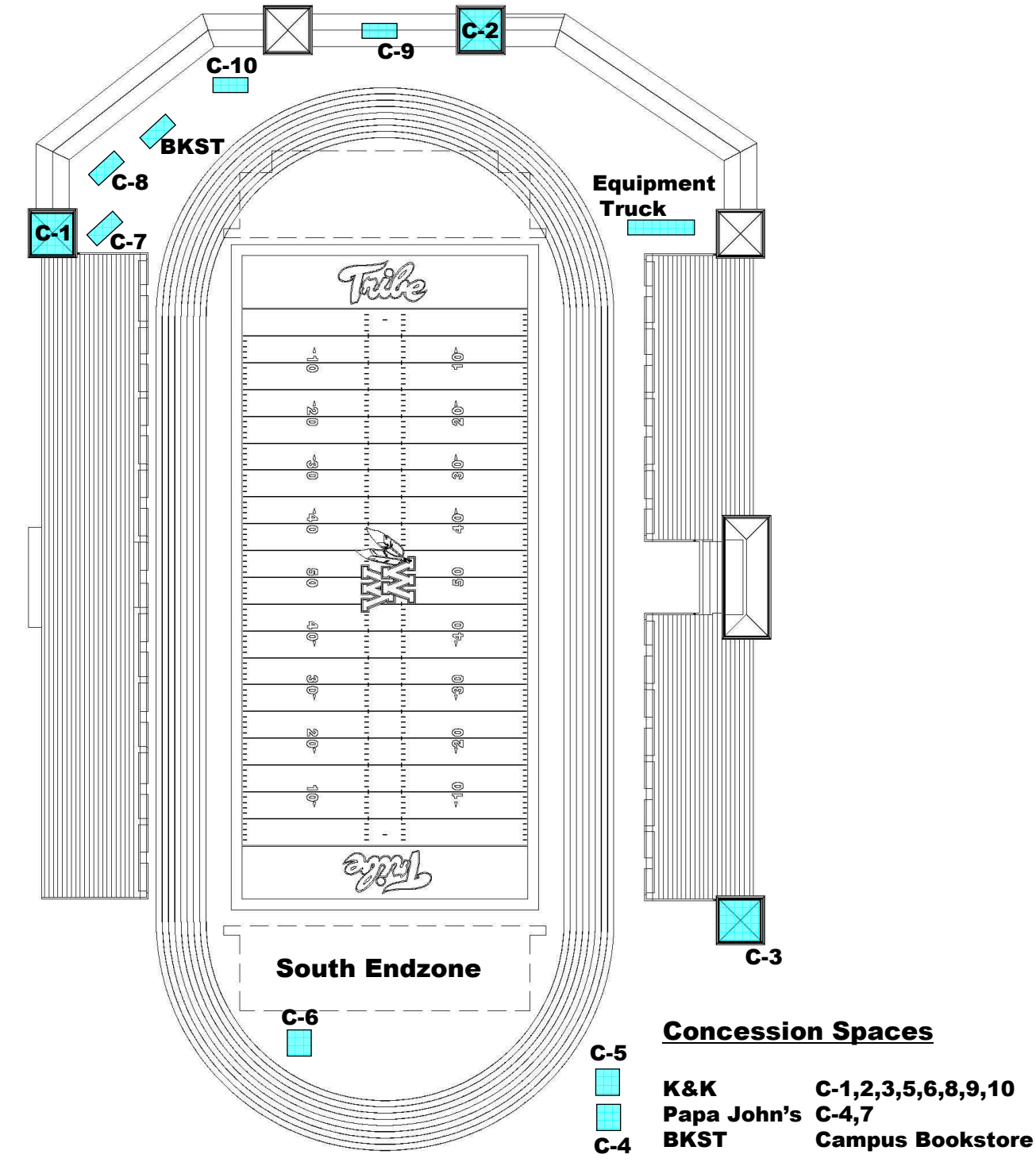


Toilet Counts

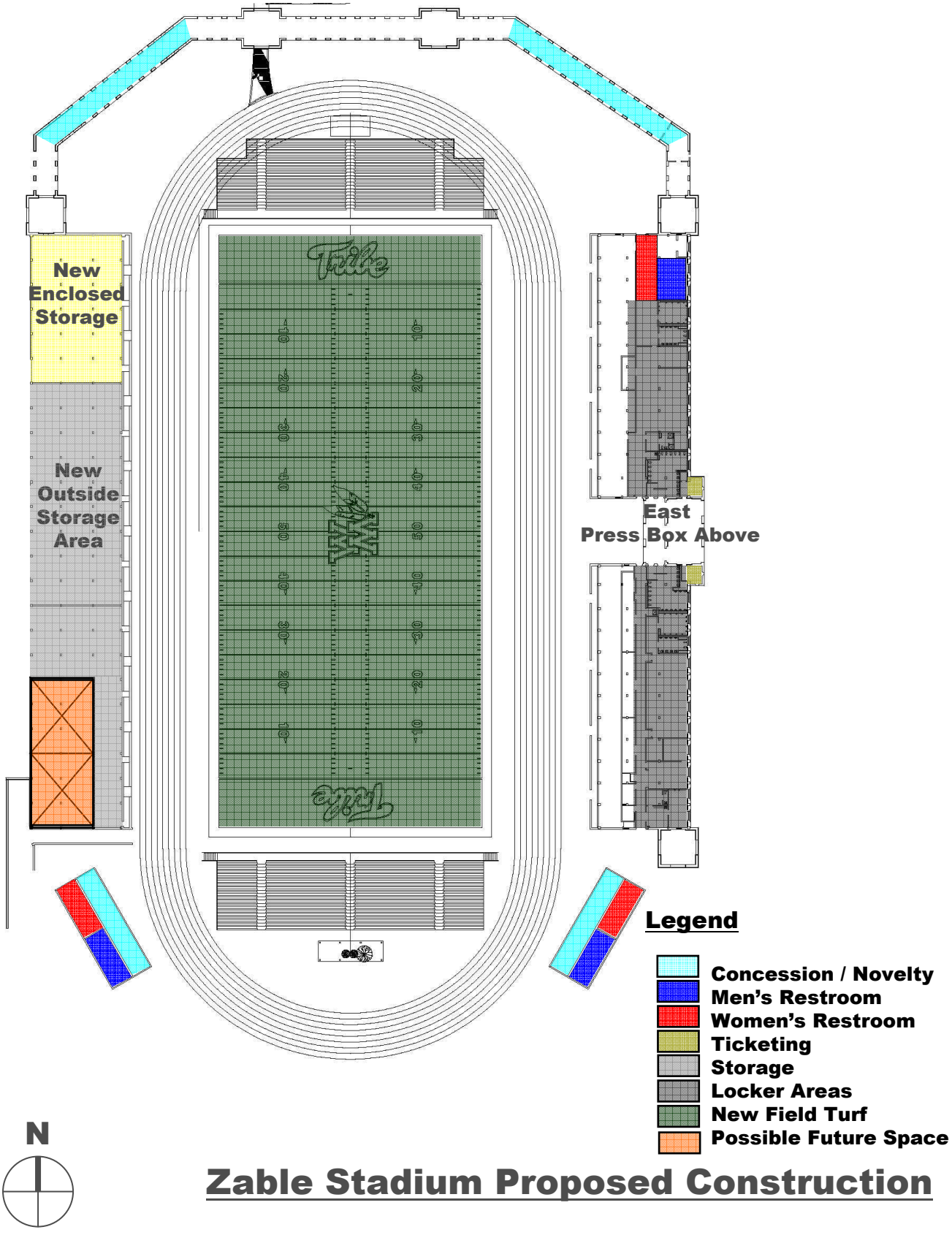
Men:	WC	9
	Urinals	17
	Lavs	8
Women:	WC	18
	Lavs	10
Unisex (portable)		8
TOTAL:		
	WC	35
	Urinals	17
	Lavs	18

N

Zable Stadium Existing Toilet Counts

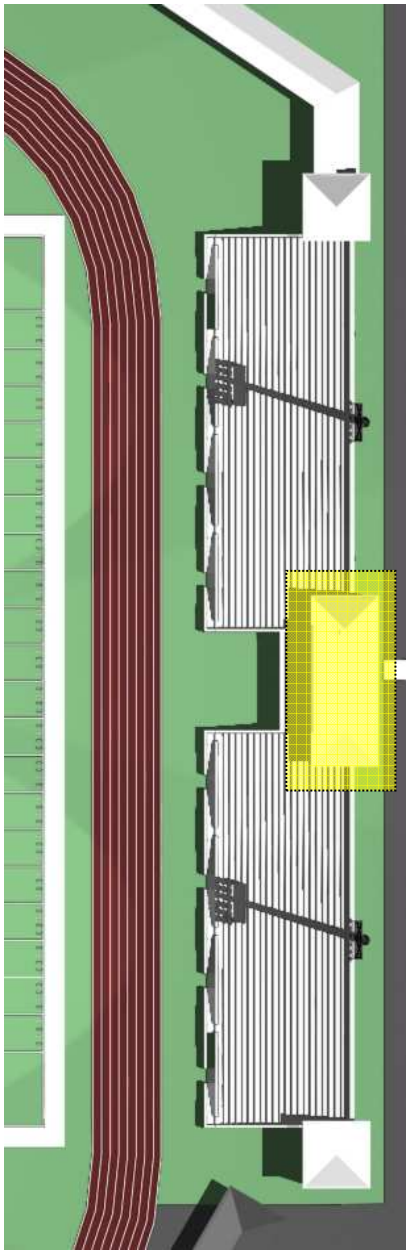


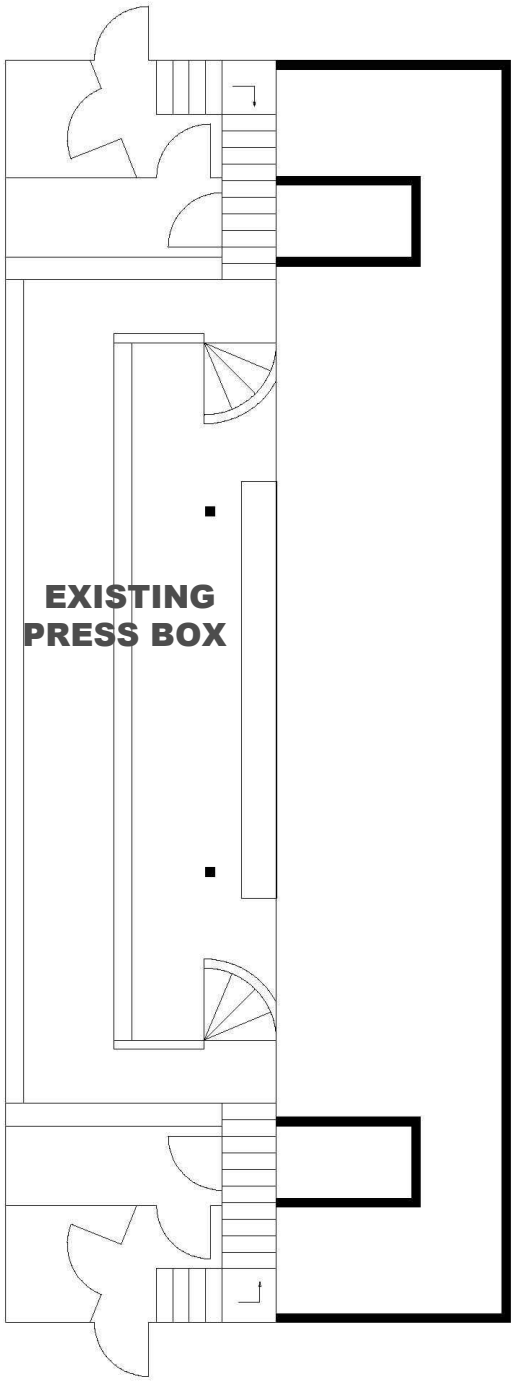
Zable Stadium Existing Concessions

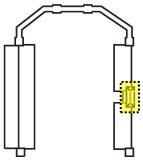


Zable Stadium Proposed Construction

EXISTING EAST STANDS
PRESS BOX RENOVATION
X



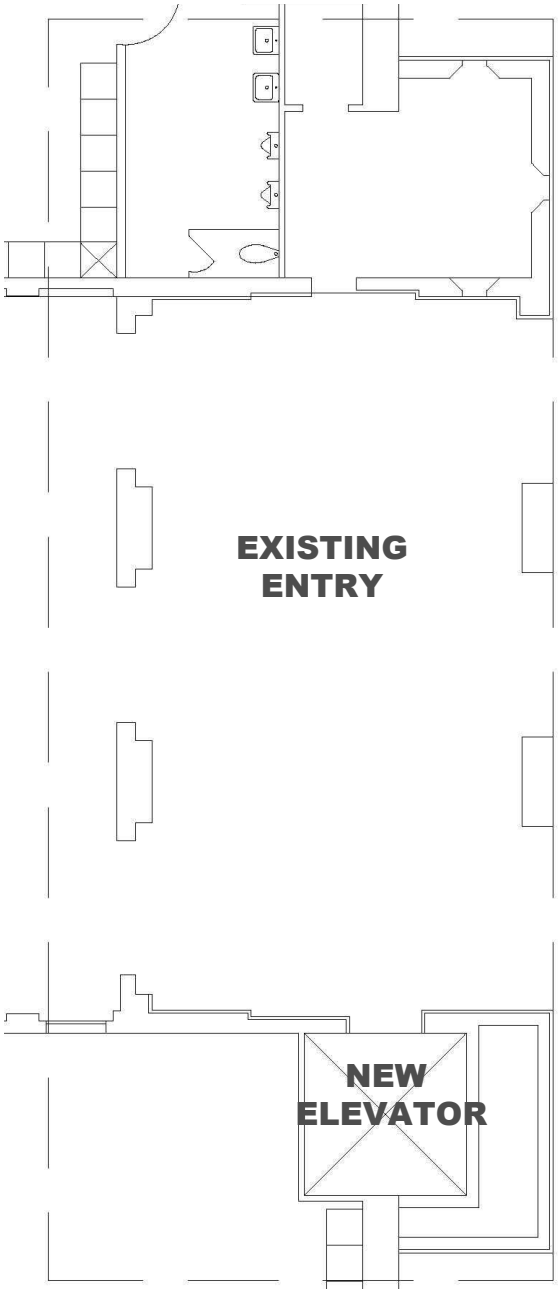




N

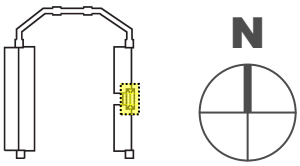
East Press Box: Interim Renovation

general press box refurbishment



GROUND LEVEL

SUITE LEVEL



East Press Box

convert to suite

ADA EVALUATION

XI

ADA Summary

The Americans with Disabilities Act (ADA) is federal civil rights legislation for the elimination of discrimination against individuals with disabilities. In addition to regulations for employment, services, accommodations, telecommunications and miscellaneous provisions, it includes design guidelines for accessibility by individuals with disabilities. The ADA requires new stadiums to be accessible to people with disabilities so they, their families, and friends can enjoy equal access to entertainment, recreation, and leisure. Stadiums constructed prior to the ADA need to meet the requirements of new construction to the extent affordable. Economic burden is a consideration for an existing stadium where it is not for new construction.

The Architectural and Transportation Barriers Compliance Board (Access Board) issued revised guidelines on July 23, 2004 and the Department of Justice (DOJ) issued an Advance Notice of Proposed Rulemaking on September 30, 2004 for the adoption of these new guidelines. However, these new guidelines are not yet the applicable standard. Therefore, the Americans with Disabilities Act Accessibility Guidelines (ADAAG), the DOJ Standard, were used as the basis for the Zable Stadium Accessibility Survey. Each of the observations in the survey would be valid under the new guidelines as well. However, differences between the standard and the new guidelines might deserve consideration when developing resolution to the observations.

The following report identifies each item observed indicating whether it is in a space used primarily by the public, team, press, in various spaces or the assembly seating. The observation is stated along with its location identified as well as the applicable section of ADAAG. Finally, comments including recommendations along with photographs showing the observation are provided. A description of the differences between the applicable sections of ADAAG, the DOJ Standard, and the revised guidelines was not provided.

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
1	Various	Typcial Condition throughout Facility	4.13.9	Door Hardware does not have a shape that is easy to grasp with one hand to operate.	Replace door knobs with levers	01
2	Public	Parking	4.1.2 (5) (a)	Between 151 and 200 parking spaces are provided and 6 accessible parking spaces are not provided.	Restripe the parking lot so that 6 accessible parking spaces in accordance with 4.6 are provided.	02
3	Public	Ticket Office	7.2 (2)	A ticket counter with a maximum height of 36" is not provided.	Either provide a ticket counter with a maximum height of 36" or provide other means for persons needing the lower counter, equivalent facilitation.	03
4	Public	Entrance queuing rails at Main Entrance near Accessible Parking	4.1.3 (1)	Sufficient clear width is not provided between queuing rails in accordance with 4.3.3.	Modify queuing rails so that one location at each entrance provides sufficient width. Permiting a person using a wheelchair to pass through the space used by the attendant space mightprovide equivalent facilitation.	04
5	Public	Service Counter near Main Entrance	7.2 (1)	A portion of the service counter with a maximum height of 36" is not provided.	Either provide a counter with a maximum height of 36" or provide other means for persons needing the lower counter, equivalent facilitation.	05
6	Various	Common Condition throughout Facility	4.13.5	Several doorways provide less than 32" clear opening.	Revise so that at least one doorway into each space provides 32" clear opening.	06
7	Various	Typcial Signage Condition throughout Facility	4.1.3 (16) (a)	Signage designating permanent rooms and spaces are not provided raised letter and braille, finish and contrast and then mounting location and height in accordance with 4.30.	Provide signs complying with 4.30.1, 4.30.4, 4.30.5 & 4.30.6 for spaces having designation signs.	07
8	Public	Condition occurs several locations along paths to various spaces throughout Facility	4.3.8	Changes in level occur that are not in accordance with 4.5.2.	Revise such locations so that a maximum vertical change in elevation is no greater than 1/4". It appears that the track is being resurfaced, resurfacing might address several conditions.	08/09
9	Public	Womens near Main Entry	4.4.1	Air Dryers exceed 4" off of wall between 27" and 80" a.f.f.	Provide something on either side of the dryers so that a visually impaired person would not pass along this wall surface.	10
10	Public	Womens near Main Entry	4.17.3	Accessible toilet stall does not provide 69" min. depth or proper width for either alternate stall.	Provide an accessible toilet stall complying with 4.17.	11
11	Public	Womens near Main Entry	4.16.3	The height of the toilet seat exceeds 19" a.f.f.	Provide a water closet complying with 4.17.	12
12	Public	Womens near Main Entry	4.22.4	An ambulatory stall is not provided and there are 6 or more water closets.	Provide an ambulatory stall.	13
13	Public	Womens near Main Entry	4.19.6	The reflective surface of the mirror is greater than 40" a.f.f.	Provide an additional full length mirror.	14
14	Public	Womens near Main Entry	4.19.2	The lavatory does not provide 29" clearance at the leading edge or adequate knee and toe clearances.	Provide lavatory complying with 4.19.2.	15

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
15	Public	Womens near Main Entry	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	15
16	Public	Womens near Main Entry	4.19.5	Lavatory faucets do not meet control and operating mechanism requirements.	Provide compliant faucet.	15
17	Public	Mens near Main Entry	4.17.3	Accessible toilet stall does not provide 69" min. depth or proper width for either alternate stall.	Provide an accessible toilet stall complying with 4.17.	16
18	Public	Mens near Main Entry	4.16.3	The height of the toilet seat exceeds 19" a.f.f.	Provide a water closet complying with 4.17.	16
19	Public	Mens near Main Entry	4.16.5	Flush controls are not located on the wide side of the toilet.	Provide flush controls on wide side or replace with automatic flush control.	16
20	Public	Mens near Main Entry	4.22.4	An ambulatory stall is not provided and there are 6 or more water closets.	Provide an ambulatory stall.	
21	Public	Mens near Main Entry	4.19.6	The reflective surface of the mirror is greater than 40" a.f.f.	Provide an additional full length mirror.	17
22	Public	Mens near Main Entry	4.19.2	The lavatory does not provide 29" clearance at the leading edge or adequate knee and toe clearances.	Provide lavatory complying with 4.19.2.	18
23	Public	Mens near Main Entry	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	18
24	Public	Mens near Main Entry	4.19.5	Lavatory faucets do not meet control and operating mechanism requirements.	Provide compliant faucet.	18
25	Public	Mens near Main Entry	4.18.2	The rim of the accessible urinal exceeds 17" a.f.f.	Provide an urinal complying with 4.18.2.	19
26	Public	Portable Toilets	4.1.2(6)	Accessible portable toilet facilities do not provide sufficient clear floor space for wheelchair turning.	Replace accessible portable toilet with compliant accessible portable toilet.	20
27	Public	Portable Toilets	4.1.2(6)	Accessible portable toilet facilities do not provide grab bars in accordance with 4.22.4.	Replace accessible portable toilet with compliant accessible portable toilet.	20
28	Public	Portable Toilets	4.1.2(6)	Accessible portable toilet facilities do not provide toilet paper dispenser in accordance with 4.22.4.	Replace accessible portable toilet with compliant accessible portable toilet.	20
29	Public	Paths to the Portico	4.3.6	The gravel walk does not meet the surface texture requirements of an accessible route.	Pave walks.	21/22
30	Public	Mens and Womens in Portico	4.8.2	The ramp between the gravel walk and the portico exceeds 1:12 slope.	Replace wooden ramp with paved compliant ramp.	22
31	Public	Womens in Portico	4.3.8	An accessible route is not provided since a change in level in excess of 1/2" occurs without a ramp.	Revise entrance so that a compliant ramp is provided this space.	23
32	Public	Womens in Portico	4.32.4	Baby changing table height exceeds 34"	Remove and reinstall baby changing table at proper height.	24
33	Public	Womens in Portico	4.17.3	Accessible toilet stall does not provide 69" min. depth or proper width for either alternate stall.	Provide an accessible toilet stall complying with 4.17.	25
34	Public	Womens in Portico	4.16.3	The height of the toilet seat is less than 17" a.f.f.	Provide a water closet complying with 4.17.	

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
35	Public	Womens in Portico	4.22.4	An ambulatory stall is not provided and there are 6 or more water closets.	Provide an ambulatory stall.	25
36	Public	Womens in Portico	4.4.1	Shelf below mirror exceeds 4" off of wall between 27" and 80" a.f.f.	Remove shelf or add another shelf 24" a.f.f.	26
37	Public	Womens in Portico	4.19.6	The reflective surface of the mirror is greater than 40" a.f.f.	Provide an additional full length mirror.	26
38	Public	Womens in Portico	4.19.2	The lavatory does not provide 29" clearance at the leading edge or adequate knee and toe clearances.	Provide lavatory complying with 4.19.2.	27
39	Public	Womens in Portico	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	27
40	Public	Womens in Portico	4.22.7	Paper Towel Dispenses paper towels in excess of 48" a.f.f.	Provide additional paper towel dispenser in compliance with 4.22.7.	27
41	Public	Mens in Portico	4.17.3	An accessible toilet stall having sufficient width and depth is not provided.	Provide an accessible toilet stall complying with 4.17.	28
42	Public	Mens in Portico	4.17.6	Grab bars are not provided an accessible stall.	Provide compliant grab bars.	
43	Public	Mens in Portico	4.16.3	The height of the toilet seat is less than 17" a.f.f.	Provide a water closet complying with 4.17.	
44	Public	Mens in Portico	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	29
45	Public	Mens in Portico	4.18.2	An accessible urinal having the rim no greater than 17" a.f.f. is not provided.	Provide an urinal complying with 4.18.2.	30
46	Public	Mens in Portico	4.22.7	Paper Towel Dispenser provides paper towels in excess of 48" a.f.f.	Provide additional paper towel dispenser in compliance with 4.22.7.	29
47	Public	Various Portable Concession Counters around the Facility	7.2 (1)	A portion of the counter with a maximum height of 36" is not provided several of the portable concessions.	Either provide a counter with a maximum height of 36" or provide other means for persons needing the lower counter, equivalent facilitation.	31/32
48	Team Spaces	Corridor South of Main Entrance	4.4.1	The bottom of rakers are less than 80" a.f.f.	Revise team spaces so that corridor provides adequate head clearances.	33
49	Team Spaces	Corridor South of Main Entrance	4.4.1	The drinking fountain exceeds 4" past the face of the wall to each side of the alcove between 27" and 80" a.f.f.	Revise team spaces so that drinking fountain is located in alcove having proper depth.	33
50	Team Spaces	Locker Room off Corridor South of Main Entrance	4.13.6	Both the north or south door provide less than 18" maneuvering clearance on the pull side of the door.	Revise team spaces so that doors have adequate manuervering clearances.	34
51	Team Spaces	Locker Room off Corridor South of Main Entrance	4.25.3	A coat hook no greater than 54" a.f.f. is not provided at least one locker.	Provide at least one locker with a coat hook no greater than 54" a.f.f.	35
52	Team Spaces	Locker Room off Corridor South of Main Entrance	4.25.4	Accessible hardware in accordance with 4.27.4 is not provided at least one locker.	Provide at least one locker with accessible hardware in accordance with 4.27.4.	35

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
53	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.23.4	Accessible toilet stall does not provide 69" min. depth or proper width for either alternate stall in accordance with 4.17.3.	Provide an accessible toilet stall complying with 4.17.	36
54	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.19.6	The reflective surface of the mirror is greater than 40" a.f.f.	Provide an additional full length mirror.	37
55	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.19.2	The lavatory does not provide 29" clearance at the leading edge or adequate knee and toe clearances.	Provide lavatory complying with 4.19.2.	37
56	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	37
57	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.19.5	Lavatory faucets do not meet control and operating mechanism requirements.	Provide compliant faucet.	37
58	Team Spaces	Locker Room Toilet off Corridor South of Main Entrance	4.18.2	An accessible urinal with the rim no greater than 17" a.f.f. is not provided.	Provide an urinal complying with 4.18.2.	38
59	Team Spaces	Locker Room Shower off Corridor South of Main Entrance	4.23.1	An accessible shower is not provided on an accessible route.	Revise so that an accessible route is provided.	39
60	Team Spaces	Locker Room Shower off Corridor South of Main Entrance	4.23.8	At least one shower in accordance with 4.21 is not provided.	Provide an accessible shower.	40
61	Team Spaces	Locker Room Shower off Corridor South of Main Entrance	4.25.3	At least one robe hook no greater than 54" a.f.f. is not provided.	Provide at least one robe hook no greater than 54" a.f.f.	41
62	Team Spaces	Locker Room Shower off Corridor South of Main Entrance	4.4.1	Air Dryers exceed 4" off of wall between 27" and 80" a.f.f.	Provide something on either side of the dryers so that a visually impaired person would not pass along this wall surface.	42
63	Team Spaces	Laundry Room off Corridor South of Main Entrance	4.13.6	The door is provided less than 18" maneuvering clearance on the pull side of the door.	Revise team spaces so that doors have adequate manuervering clearances.	43
64	Team Spaces	Locker Room North of Main Entrance	4.25.3	A coat hook no greater than 54" a.f.f. is not provided at least one locker.	Provide at least one locker with a coat hook no greater than 54" a.f.f.	44
65	Team Spaces	Locker Room North of Main Entrance	4.25.4	Accessible hardware in accordance with 4.27.4 is not provided at least one locker.	Provide at least one locker with accessible hardware in accordance with 4.27.4.	44
66	Team Spaces	Locker Room Toilet North of Main Entrance	4.22.1	An accessible toilet facility is not provided on an accessible route.	Revise so that an accessible route is provided.	45

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
67	Team Spaces	Locker Room Toilet North of Main Entrance	4.23.4	Accessible toilet stall does not provide 69" min. depth or proper width for either alternate stall in accordance with 4.17.3.	Provide an accessible toilet stall complying with 4.17.	46
68	Team Spaces	Locker Room Toilet North of Main Entrance	4.19.6	The reflective surface of the mirror is greater than 40" a.f.f.	Provide an additional full length mirror.	47
69	Team Spaces	Locker Room Toilet North of Main Entrance	4.19.2	The lavatory does not provide 29" clearance at the leading edge or adequate knee and toe clearances.	Provide lavatory complying with 4.19.2.	47
70	Team Spaces	Locker Room Toilet North of Main Entrance	4.19.4	Lavatory hot water and drain pipes are not insulated.	Provide insulation on the hot water and drain pipes.	47
71	Team Spaces	Locker Room Toilet North of Main Entrance	4.19.5	Lavatory faucets do not meet control and operating mechanism requirements.	Provide compliant faucet.	47
72	Team Spaces	Locker Room Toilet North of Main Entrance	4.18.2	An accessible urinal with the rim no greater than 17" a.f.f. is not provided.	Provide an urinal complying with 4.18.2.	48
73	Team Spaces	Locker Room Shower North of Main Entrance	4.23.1	An accessible shower is not provided on an accessible route.	Revise so that an accessible route is provided.	45/49
74	Team Spaces	Locker Room Shower North of Main Entrance	4.23.8	At least one shower in accordance with 4.21 is not provided.	Provide an accessible shower.	50
75	Team Spaces	Locker Room Shower North of Main Entrance	4.25.3	At least one robe hook no greater than 54" a.f.f. is not provided.	Provide at least one robe hook no greater than 54" a.f.f.	51
76	Team Spaces	Locker Room Shower North of Main Entrance	4.4.1	Air Dryers exceed 4" off of wall between 27" and 80" a.f.f.	Provide something on either side of the dryers so that a visually impaired person would not pass along this wall surface.	45
77	Team Spaces	Visitors Locker Room North of Main Entrance	4.25.3	A coat hook no greater than 54" a.f.f. is not provided at least one locker.	Provide at least one locker with a coat hook no greater than 54" a.f.f.	52
78	Team Spaces	Visitors Locker Room North of Main Entrance	4.25.4	Accessible hardware in accordance with 4.27.4 is not provided at least one locker.	Provide at least one locker with accessible hardware in accordance with 4.27.4.	52
79	Team Spaces	Visitors Locker Room North of Main Entrance	4.4.1	The bottom of rakers are less than 80" a.f.f.	Revise team spaces so that corridor provides adequate head clearances.	53
80	Various	Common Condition throughout Facility	4.13.11	Several interior doorways, that are not Fire Doors, require greater than 5 lbf force to open.	Replace or modify interior doors so that opneing force is no greater than 5 lbf.	
81	Press Level	Press Facilities above Main Entrance	4.1.3 (1)	An accessible route is not provided the working press level or either side of the lower level spaces.	Revise so that an accessible route is provided.	54
82	Press Level	East Press Box above Seating Bowl	4.1.3 (1)	An accessible route is not provided the press box.	Revise so that an accessible route is provided.	55
83	Seating	Presidents Box above Main Entrance	4.1.3 (1)	An accessible route is not provided the seating in the presidents box.	Revise so that an accessible route is provided.	56
84	Seating	Presidents Boxes at North End Zone	4.1.3 (1)	An accessible route is not provided the seating in either presidents box or the press box.	Revise so that an accessible route is provided.	57/58

Item No.		Location	DOJ Std./ ADAAG	Observation	Comment	Image No.
85	Seating	General Seating	4.1.3 (19) (a)	Wheelchair spaces in accordance with 4.33 are not provided.	Revise so that wheelchair spaces are provided other locations than south end zone seating.	59/60
86	Seating	South End Zone Seating	4.3.8	Change in level at the base of the ramp to the wheelchair spaces is not in accordance with 4.5.2.	Revise so that the vertical offset does not exceed 1/4".	61
87	Seating	South End Zone Seating	4.8.2	The bottom run of ramp exceeds 1:12 slope.	Revise ramp so that the slope is no greater than 1:12.	62
88	Seating	South End Zone Seating	4.8.5	The bottom run of ramp is not provided compliant handrails.	Provide the bottom run of ramp with compliant handrails.	62
89	Seating	South End Zone Seating	4.5.1	The ramp surface does not appear slip resistant.	Provide the ramp with slip resistant coating.	63
90	Seating	South End Zone Seating	4.8.5 (2)	Handrails do not have adequate extensions in several locations.	Revise handrails so that they extend at least 12" at each landing.	63
91	Seating	South End Zone Seating	4.33.3	Wheelchair spaces are not provided in more than one location.	Provide wheelchair spaces elsewhere.	64
92	Seating	South End Zone Seating	4.33.4	Wheelchair spaces are not provided lines of sight comparable to those provided the general public.	Providing compliant wheelchair spaces elsewhere would diminish the importance of this issue.	64
92	Seating	General Seating	4.1.3 (19) (b)	Provisions for an Assistive Listening System was not confirmed	Confirm that compliant assistive listening system is provided.	

image 01

image 02

image 04

image 03

image 05

image 06

image 08

image 07

image 09

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image 12

image 11

image 13

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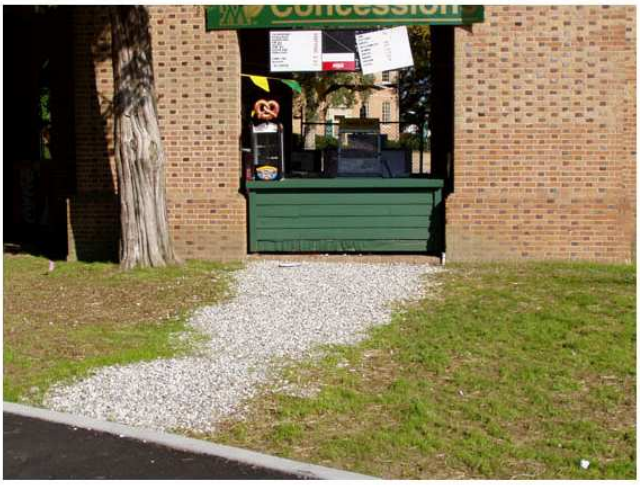

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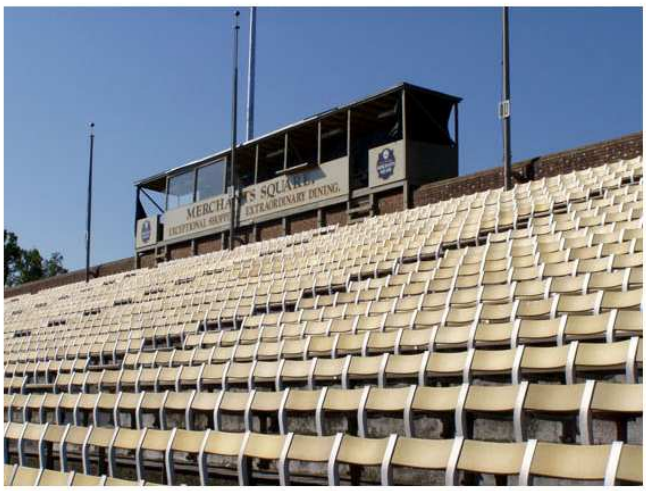

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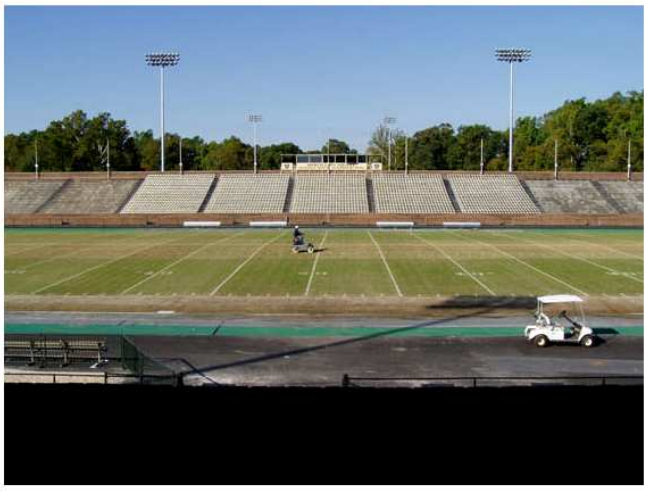

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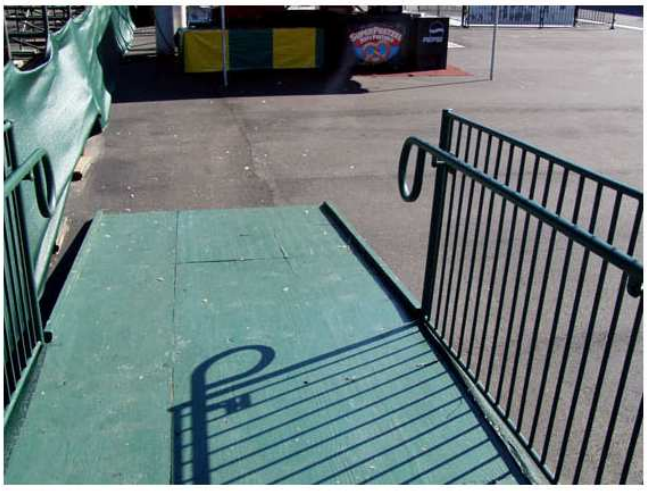

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UTILITY IMPROVEMENTS EVALUATION

XII

Utility Improvements Evaluation

Electrical Services:

Upgrade existing electrical utility service to the East Stands in support of the renovations and upgrades which includes toilet upgrades, new elevator, etc. Upgrade existing electrical utility service to the West Stands in support of the proposed expansions which will include press boxes, toilet facilities, elevator, lighting, etc. Provide power to the proposed South Pavilions which include concession stands and toilet facilities and replacement/relocated scoreboard; all field sound will be provided from the scoreboard. Power to accommodate track and field timing and finish line would be included. A 'Loop' electrical distribution service shall be implemented to minimize 'down time' around Zable Stadium. Building isolation shall be provided to allow repairs to the system on an as-needed basis. Power for future load requirements, installation of an emergency generator to support the emergency egress and safety lighting, and distribution of transformers shall be coordinated with Dominion Virginia Power.

Sanitary Sewer Services:

Upgrade the existing sanitary sewer system for the East Stands renovations which includes increased plumbing fixtures. Provide upgraded and/or expanded sanitary piping system to support the proposed South Pavilions which will include toilet facilities and concession stands. A new 6-inch sanitary line will be constructed under the Laycock Football Center construction project which is sized to support the Laycock Football Center and the proposed expansion of the West Stands. The location of the underground piping will be coordinated with the proposed structure of the West Stands expansion to avoid relocation at a future date.

Storm Sewer Services:

Upgrade the existing piping and storm water management systems on the Stadium's east side due to the poor condition and capacity of the system piping. Expand the storm sewer piping for the construction of the South Pavilions and West Stands expansion.

Water Service:

Upgrade the domestic water service for the future expansion of the South Pavilions and East Stands renovations. Water service for the Laycock Football Center will be extended to serve the future West Stands expansion, if affordable.

Natural Gas Service:

Extend and upgrade line size for the future construction of the South Pavilions and the West Stands. Gas fired appliances are likely to be incorporated into the design of the proposed construction.

Cable and Data and Communication Systems:

Upgrade and provide new service for the proposed East Stands Renovations, South Pavilions and West Stands Expansions.

APPENDIX

McPHERSON DESIGN GROUP p.c.
STRUCTURAL ENGINEERS
Structural Engineers with Practical Solutions

December 9, 2005

Mr. Gil Carpenter, AIA
Moseley Architects
780 Lynnhaven Parkway, Suite 200
Virginia Beach, Virginia 23452

RE: Walter J. Zable Stadium Structural Condition Inspection
College of William and Mary
Williamsburg, Virginia

Dear Mr. Carpenter,

McPherson Design Group, p.c. is pleased to submit the results of our structural condition inspection performed on the above-mentioned facility. The extent of our investigation consisted of a routine visual condition inspection. No destructive testing was performed and only those areas exposed were inspected. Suspect areas were sounded and probed to determine the full extent of deterioration. It should be noted that additional damage may be present to those areas that are currently covered by finishes. Please note also, the scope of our services did not include any time for structural analysis to verify the adequacy to the south wall on the West Stadium or the timber maintenance platform located under the West Stadium. These areas should be further investigated during the design phase in which time repair construction documents will be generated if required.

The existing stadium structure consists of twenty-one tiered/stepped concrete moment frames with a concrete deck spanning between the frames. Each moment frame consists of four 16-inch columns with an approximate 20-inch deep beam. The lower brick walls at the ramps are supported by a continuous concrete wall. The interior lower brick wall at the ramp is supported by a concrete beam spanning between the concrete frames. See Photographs No. 24, 25 and 27 in the West Stadium Photograph section. Each frame is stepped down to create the stadium seating as shown in Photograph No. 22 in the West Stadium Photographs. A cast in place concrete deck spans between the concrete moment frames which serves as the stadium seating. The existing drawings were not available for the inspection so we assume the stadium structure is supported by isolated spread footings or mat foundations with intermediate grade beams. The stadium walls consist of 12-inch thick brick walls, which are non-loading bearing. These walls are most likely supported by continuous spread footings. The west wall on the west stadium adjacent the practice field is open between the columns except concrete masonry infill walls were installed between column lines 20 to 25.

The connecting covered arcade and pavilions consist of load bearing brick arches with 16-inch thick walls. These walls are most likely supported on continuous concrete footings. The roof structure system consists of timber framing with plywood sheathing and slate shingles. The floors consist of a brick walkway between the brick walls.

Our inspection separated the stadium as four elements for inspection, which included:

1. The West Stadium Seating
2. The East Stadium Seating
3. The Brick Pavilions and Interconnecting Arcade
4. The Surrounding Areas around the stadium, which include items such as the brick stairs, brick and concrete retaining walls, stadium fencing and scoreboard, sign structure.

The results of our investigation are as follows:

West Stadium Findings:

Item Number:

1. General Deck Superstructure Comments:
    a. The entire deck surface has been previously coated to protect it from abrasion as a result of storm water runoff and pedestrian traffic. This coating is wearing down across the entire deck and the concrete deck has exposed aggregate due to light abrasion. See Photograph No. 1. We estimate approximate 25 percent of the exposed deck has moderate abrasion as seen in Photograph No 2.
    b. There are a few areas, which have experienced spalls particularly around the construction joints located at Column Lines 7, 13, and 19. These areas should be chipped out and repaired. We estimate approximately 50 sf of deck requiring spall repairs.
    c. The construction joints at Column Lines 7, 13, and 19 have been repaired in the past to stop water infiltration into the joints. These joints have failed and are leaking water down to the substructure.
    d. Sections II and HH have numerous temperature cracks in the top deck. These cracks have been repaired and appear not to be leaking on the underside. The remainder of the deck has temperature cracks but not to the same density as in Sections II and HH.
    e. Seven of the nine floor drains are clogged to some degree and should be repaired. The floor drainpipes under the deck between Column Line 13 and 14, and 15 and 16 are broken and should be repaired. The affects of this will be addresses later in this report.
2. There are numerous areas around the perimeter of the stadium brick wall with cracks. The majority of these cracks appear to be thermal expansion cracks due to the lack of expansion joints in the brick walls. The cracks are summarized as follows:
    a. There is a 42-inch high crack starting at the base 11 feet from SE corner. The average width of this crack is .04 inches and propagates through the wall.
    b. A large crack at the wall base has developed at the SW corner. This crack runs 8 feet horizontally to either side of the corner. The brick on the west wall has moved out at the base. This crack was previously repaired with caulk and the repair has failed. The crack runs vertically on the outside of the wall. Thermal expansion cracks can bee seen in the concrete deck and follow the line of the cracks in the brick walls. These cracks

appear to be caused by thermal expansion in the brick walls. See Photographs No. 3, 4, and 5.

c. A crack ranging from 1/8" to 1/4" thick is present in the outer most brick wall along column line D at Section FF. This crack has propagated completely through the wall and is full height of the wall.
d. Two cracks ranging from 1/8" to ¼" thick are present in the inner brick wall along column line D at Section II on each end of the wall. These cracks have propagated completely through the wall in both locations and are full height of the wall.
e. There is loose brick coping located at the NW corner brick wall at column line D in Section AA. A 1/8" thick crack has developed on the outside of the wall. This crack goes through the brick and mortar joints and is full height of the wall.
f. There is a 1/8" thick crack located at the NW inner wall at column line D in Section AA. This crack propagates completely through the wall and extends 3 feet down from the top of the wall.

3. The wood posts supporting the press box have extensive wood rot at the base and also at the bolted connections. These posts have been temporarily repaired with the addition of 4x4 pressure treated posts bolted to the sides. See Photograph No. 6. The plywood roof and side sheathing have extensive wood rot also. The existing knee bracing supporting the press box overhang have been removed and replaced with a W10x22 steel beam with two W8x31 columns. The W10 beam cantilevers out from the W8 columns and is supported by two L2x2x1/4" knee braces on either end. In addition to the steel knee bracing, additional wood knee bracing has been added to provide temporary support. See Photographs No 7, 8, and 9. The supporting W8 columns and the W10 beam exceed there recommended allowable unbraced lengths for bending as specified by the AISC 9th edition Manual of Steel Design. We recommend strengthening this structure to bring it to within current code requirements.
4. A large crack is present at the superstructure deck construction joint located at column line13. This crack is full height of the wall and propagates through the wall. See Photographs No. 10 and 11 at column line 13 and Photographs No. 12 and 13 at column line 19. This cracking is typical at each of the construction joints located at column lines 7, 13, and 19. No expansion joints were constructed into the stadium. As a result, the construction joints placed when the concrete deck was constructed are acting at expansion joints. In turn since no joints were added in the brick walls these cracks from the deck are being transmitted to the brick walls. The construction joints in the deck have been sealed but are currently leaking at each joint. These leaks have cause large spalls to the concrete frames below at the bearing points which will be explained later. See Photograph No. 22.
5. The lower walls have large cracks at the construction joints as seen in Photographs No. 14 and 15. Previous repairs have been made but additional cracks have opened up. Also, in some locations the thermal movement has caused out of plane movement in the brick walls.
6. We estimate approximate 1000 sf of brick wall will require repointing due to loss of mortar. Photograph No. 16 is a typical section of brick wall requiring repointing.
7. The thermal expansion of the upper brick walls has expanded and exerted pressure on the attached Pavilion No. 6 acting to punch through the wall. See Photo No. 17. There is approximately 6 sf of brick, which is damaged with three loose coping bricks. Previous repairs to the brick joints in the area have cracked. A full height crack has developed on the outside wall as a result of this expansion as shown in Photograph No. 18.
8. The CMU infill walls have moved outward from the frame at column line 22 located on the outside stadium walls. See Photograph No. 19. The joints between the columns and the infill walls between column lines 20 to 25 have opened up and are leaking.

9. Each of the concrete moment frames were inspected. It was observed the majority of the corner spalls on the columns were located at the construction joint on the top portion of the columns. These construction joints were not properly formed which allows the easy access of water to cause steel rust. The majority of the moment frames were in very good condition with no notable defects except for the following:
    a. The concrete moment frames at column lines 2, 3,and 4 have extensive spalling to the corbel supporting the inside spandrel beam. The spandrel beam spans between frames and bears on this corbel. It is uncertain if this beam is tied into the column or soffit in any other means. The spalling to these corbels is the direct result of water intrusion from the joint on the above deck. This water intrusion is made worst by the clogged floor drains in the slab. See the plan for the floor drain locations. See Photograph No 20 and 21. Please note this picture was taken during a rain event.
    b. Column line 6 has approximately 2 sf of spall on the inner most column.
    c. Column line 7 is located at a construction joint for the above superstructure concrete deck. The joint above has failed and is allowing water intrusion along the whole length of the beam. The presence of water has acted to severely spall the top of the beam directly at the deck bearing points. See Photographs No. 22 and 23 taken at column line 13.
    d. Column line 13 is also located at a construction joint and is in the exact condition as column line 7, moment frame. See Photographs No. 22 and 23.
    e. Column line 15 has 2 linear feet x 3-inch deep concrete corner spall on the outermost (tallest) column.
    f. Column line 16 has 2 linear feet x 3-inch deep corners spall on the outermost column.
    g. Column line 18 has 2 linear feet x 3-inch deep corner spall on the outermost column.
    h. Column line 19 has 2 sf of soffit spall on the bottom beam and 6 linear feet x 3-inch deep corner spall on the outermost column.
10. The soffit or underside of the concrete deck has rusting reinforcement due to the lack of proper concrete cover and also exposed chairs. Transverse temperature cracks were observed on the underside of the deck at the inner most deck along column line D. These cracks are leaking and have efflorescence buildup. See Photograph No. 24.
11. The flagpoles are anchored with sandwich plates through the deck. These plates are rusted in all locations with noticeable section loss to the anchor bolts in some locations. These plates were located at the highest point in the stadium and an up close inspection was not performed. Some of the flagpoles have concrete spalling around the plates.
12. The inside brick wall located along column line D is allowing water intrusion at the joint. The amount of water is affected by the clogged floor drains. The water is creating washout below the stadium. The direction of flow for the water is north to south with the greatest erosion occurring at the south end the stadium. Past remedies have been installed to collect the water. See Photograph No. 25, 26, and 27. No settlement cracks in the brick walls were observed as at result of the erosion.

    The south end of the stadium has been excavated down to the foundation system, which we believe was done to install the adjacent storage shed. As a result the south wall, which we believe was designed as a retaining structure, has additional load imparted on it. Since the original design drawings could not be located, it is uncertain if this was the original design intent. However, there were no signs of cracks or distress to the wall. We recommend performing an analysis on this wall to determine if the lateral earth pressure forces are properly resisted. This analysis will involve additional field measurements and field time to determine the mechanical properties of the wall. This analysis is outside the scope of this routine condition inspection but

will be performed during the design phase. See Photograph No. 28 and Photograph No. 6 in the Pavilion, Arcade and Surrounding Items Photograph section.

13. There is a wooden deck constructed over the exposed grade beams located on the south end of the stadium between column lines 4 and 7. See Photograph No. 29. The timber framing in this area was observed to be in good condition. The floor is heavily loaded (relative to the type of constructed material) with maintenance equipment (lawnmowers and small tractors) and building materials. It is recommended a structural analysis be performed to determine the load rating for the floor system for both uniform distributed loads and concentrated floor loads. This analysis is outside the scope of this assessment and will involve additional time for field measurement of the timber members and time to perform the analysis.
14. All of the nuts and anchor bolts were inspected on the seats. Only two bolts were missing.

East Stadium Findings:

Item Number:

1. General Inspection Comments:
    a. The windows on the east wall are in need of paint and caulking. Some window wood rot is present and should be repaired. There are window air conditioning units on some of the windows, which are dripping condensation on the window sills. See Photograph No. 1.
    b. The wood trim and wood soffit trim is chipping and needs repainting.
    c. The rainwater leaders on Pavilions 1 and 3 have holes at the top. It appears the internal gutter systems are blocked at both Pavilions causing roof leaks.
    d. A clean out has a missing cap located on the east wall between column lines 4 and 5.
2. General Deck Superstructure Comments:
    a. The entire deck surface has been coated and is wearing the same as the West Stadium. We estimate approximately 40 percent of the exposed deck has moderate abrasion in the same manner as the West Stadium.
    b. There are a number of areas, which have experienced spalls due to heavy abrasion. These areas should be chipped out and repaired. We estimate approximately 150 sf of deck requiring spall repairs.
    c. The construction joints at Column Lines 5, 10, 17 and 22 have been repaired in the past due to stop water infiltration into the joints. These joints are in much better condition and appear to be functioning properly. However, the substructure does have spalls at the bearing areas similar to the West Stadium but not as extensive.
    d. The concrete ramps at the bottom of the stadium have numerous temperature cracks in the top deck. There was no access to the underside to the deck so it could not be determined if these cracks propagated through the deck. Based upon our inspection on the West Stadium, we can conclude these cracks are leaking water also.
    e. Five of the eight floor drains are clogged to some degree and should be repaired. The floor drainpipes under the deck could not be inspected.
    f. The majority of the underside of the deck is covered with suspended ceiling and could not be inspected. Those exposed areas which were inspected were in general good condition with the following noted exceptions:
        i. There is approximately 20 sf of concrete spall to be repaired.
        ii. There is approximately 30 linear feet of soffit crack between column lines 22 to 25. These crack average .04 inches in width and are adjacent and internal CMU partition wall.

iii. The bottom of the soffit has rust stains from reinforcing chairs. In some areas rust stains were present due to lack of proper concrete cover at main reinforcement.

3. There are numerous areas around the perimeter of the stadium brick wall with cracks. The cause of these cracks appears to be thermal expansion cracks or settlement cracks. These cracks are summarized as follows:
    a. There are vertical cracks at the brick pilasters located on the east wall at column lines 24 and 25. Each of these cracks is located at midheight of the pilasters and measures about 10 linear feet with an average width of .05 inches. The cracks transverses through the mortar joints and the bricks. See Photographs No. 2 and 3.
    b. There is a rusted shelf angle at the ticket window at column line 15, which has created a mortar joint crack. See Photograph No. 4. There is also a full height joint crack at the ticket office corner, which is unrelated to the shelf angle crack. This crack most likely is a settlement crack. As seen in Photograph No. 4 there is a rainwater leader located adjacent the site and evidence of ponding water is present. See Photograph No. 5.
    c. There is corner joint crack on the opposite ticket booth located at column line 12. The exact conditions are present in this area and have created a full height vertical crack. There is an interior crack adjacent the south chimney in the Pavilion No. 2 press box. This crack is mostly likely associated with the corner crack located at the ticket office along column line 12.
    d. There is a crack in the mortar joint at the arch keystone located on the south wall at Pavilion No. 1. See Photograph No. 6. The brick keystone has moved down and the crack propagates through the wall. Previous repairs were made to the joints but the cracks have returned.
    e. A previous repaired mortar joint has reopened below both ends of the press box window. These cracks appear to be caused by the rusting steel window framing. The deteriorated steel frame expands as it rusts and exerts pressures on the brick. The brick at the corners have been pushed out slightly as a result.
    f. There is a full height vertical crack at the NE stadium corner in Pavilion No. 3. See Photo No. 7.
    g. There is a full height vertical crack located at the inner lower wall in Section B. One brick is missing. See Photo No. 8.
4. There are large cracks, which have developed at the construction joints at column lines 5, 17 and 22. As with the West Stadium, these joints are acting as expansion joints in the deck and are transferring the movement to the brick walls. The brick wall has no expansion joints. One coping brick was dislodged as a result of the cracks at column line 22. See Photograph No. 9 taken at column line 5.
5. There are stairstep mortar joint cracks located along the brick wing walls located along column lines 1, 13, 14 and 26. See Photograph No. 10 taken at the north wall along column line 26. This crack is similar to the crack in the other walls. The front substructure along the ramps up to the stadium could not be inspected due to lack of access. There is a masonry wall, which spans the whole length of the stadium. Cutting a hole in the CMU wall is required to gain access. Based upon our findings on the West Stadium, the clogged floor drains are creating water intrusion to the underside of the deck. We suspect the same condition exists on the East Stadium as with the West Stadium. Water in leaking thought the joints at the brick wall and eroding the soils. This erosion most likely has undermined the foundations on each of the wing walls thus causing the settlement cracks in the walls. See Photographs 11 and 12. These cracks have been repointed but the cracks have reopened in each case.

6. There is a longitudinal crack present along the riser located on Row L in Section F. This crack transverses the whole length of the deck between the construction joint at column line 10 and the joint at the Pavilion 2 seating. This crack appears to be a construction cold joint formed during construction.
7. There are numerous shelf angles, which are rusted and deteriorated. These angles are located as follows:
    a. There is a failed shelf angle located over the doors leading to the visitor team locker room adjacent Pavilion No. 3. See Photograph No. 13.
    b. The shelf angle at the ticket office located at column line 15 is rusted and cracking the brick. See Photograph No. 4.
    c. All three steel plate lintels at Pavilion No. 2 are rusted at the bearings. This rust has expanded and cracked the mortar joints. The repairs to the mortar joints have failed. See Photograph No. 14.
    d. There are rusted shelf angles at the bearings at each door to the women's bathroom located at Pavilion No. 2.
    e. There is wood rot with a rusted shelf angle over the corridor door leading to the home team locker room along column line 13.
8. The metal gate frames located at Pavilion 1, 2 and 3 are rusted and corroded. The frames are creating cracks and breaking out the surrounding brick on all the gates as seen in Photographs No. 15 and 16. In addition, the brick pier adjacent the ticket office along column line 14 has damaged brick from a collision.
9. The wood nailers in the brick mortar joints have pulled out detaching the wood trim. This occurs over the men's bathroom in Pavilion No. 2. There is a possible risk the entire wood trim could fall causing injury. See Photograph No. 17.
10. Similar to the West Stadium, the concrete moment frames located at the construction joints along column lines 5, 10, 17, and 22 have severe spalling at the deck bearing points. There is a water stains on the wall at column line 10. It is unclear whether these joints are actively leaking but have leaked in the past. The joint seals on the upper deck seem to be in good condition on the superstructure deck. Access was limited to most of these frames due to suspended ceilings. See Photographs No. 18, 19, 20, 21, and 22.
11. We estimate approximate 1500 sf of brick wall will require repointing due to loss of mortar. In some locations vegetation is growing in the joints, which is accelerating the deterioration.
12. All of the nuts and anchor bolts were inspected on the seats and none were missing or damaged.

Brick Pavilions and Arcade Findings:

Item Number:

1. There is a crack in the arch in Pavilion No. 3. See Photographs No. 1. The crack is located at the brick key. There is also a large crack starting at the arch bottom and propagates up the wall at a 45 degree angle to the roof. See Photograph No. 2.
2. There are various cracks and in the brick arches between Pavilion 3 and 4 and other items requiring attentions. These are summarized as follows:
    a. There are three arch cracks in the brick at the quarter point of the arch.
    b. There are two arch cracks, which start at the bottom of the arch and propagate up at a 45-degree angle from the bottom.

c. There are two arch cracks, which are located at the brick key. In particular these cracks are located at the Pavilion No. 4 East arch and the first adjacent southern arch. See the plan for locations.
d. There is wood rot with a hole in the soffit on the SE corner on Pavilion No. 4.
e. There are two gate hinges, which have pulled out from the brick walls and one broken fence.
f. The wood soffit around the perimeter of the arch and pavilions has chipping paint. It should also be checked for additional wood rot.

3. Pavilion No. 5 has a chipped/missing brick located on the NW corner.
4. There are two arch cracks located in the north wall on Pavilion No. 6. The cracks are located at the quarter point of the arch.
5. There is a large crack located in the NE inside wall on Pavilion No. 6. There is also a large 45-degree through crack located on the SE wall. See Photograph No. 3.
6. There are minor cracks located on the west brick stairs adjacent Pavilion No. 6.

Surrounding Areas Findings:

Item Number:

1. The retaining walls located on the south end of the west stadium have missing bricks on the top of the wall. See Photographs No. 4 and 5.
2. The stairs south of the West Stadium have loose and missing mortar. There was a wooden step installed at the very top of the stairs to reduce the riser height. There are cracks in the adjacent retaining walls. See Photographs No. 6, 7 and 8.
3. There are seven nuts missing on the north frame column base plates on the stadium scoreboard sign. See Photograph No. 9. The bracing is welded to the support columns and has peeling paint and signs of corrosion. One brace in bent in the north side of the support frame.

Recommendations and Cost Estimate:

A summary of our recommendation is as follows for those items deemed necessary for repair. Each items listed will be incorporated into a preliminary engineering cost estimate to be used for budgetary estimating.

West Stadium Recommendations and Estimate Items:

Item Number:

1. The upper deck concrete spalls should be repaired. A typical repair involves chipping away the loose concrete and applying a concrete repair patch. It is estimated 25 percent of the concrete deck has moderate concrete abrasion. The typical repair detail will involve chipping away the loose concrete and aggregate to sound and applying a new concrete coating system. The existing concrete deck should be pressure washed to remove the existing coating system and a new coating system should be installed. The engineering estimate breaks out spall repairs and moderate abrasion repairs separately. The estimate will also include the repairs to the existing floor drainage system. A new sealed construction joint is required to prevent future water infiltration to the substruction.

2. The cracks developed in the brick walls should be repointed with damaged brick replaced as required. Estimated quantities will be included in the estimate. We recommend monitoring these repairs for future cracks once the drainage issues have been addressed.
3. It is our understanding the wooden press box will be replaced in the near future. We recommend installing additional steel bracing between the steel columns in order to bring the steel framing up to code. We also recommend providing a more substantial connection between the L2 knee bracing to the W10 steel beam and replacing the rotten wood members should the box be left in place for an extended period of time. Currently, the addition of the wood knee bracing and 4x4 posts should be viewed as temporary repairs only. The 4x4 posts are fastened into the rotten 4x6 posts. The cost estimate reflects the costs associated with performing complete repairs to the press box.
4. The brick cracks at the construction joints in the deck will require more extensive repairs due to their nature will be addressed in the estimate. Also, the repairs should incorporate the need for thermal expansion in the brick wall to prevent future cracks. Please note the loose brick in Photograph No. 17 at the joint. This brick should be removed immediately to prevent an injury.
5. See Item No. 4.
6. The walls will be repointed assuming the estimated quantity.
7. An engineered expansion joint should be designed and will be reflected in the estimate. The cracked brick mortar joints should be repaired or repointed.
8. Bracing should be designed to prevent future movement and will be reflected in the estimate. Once the walls are braced from future movement, the walls should be caulked to prevent water infiltration.
9. Repairs to the spalls in the concrete moment frames will be addressed in the estimate.
10. No action is required for the rusting of the reinforcement due to lack of concrete cover. The concrete spalls and the temperature cracks should be repaired and will be addressed in the estimate.
11. The flagpoles bases should be replaced with new galvanized plates and bolts.
12. The joints at the lower brick walls at the concrete ramps should be sealed to prevent future water infiltration. The repairs to the floor drainage system should help to eliminate this problem. Reinforcing the south brick wall is not included in this estimate but should be checked for its structural adequacy.
13. No action taken on the wooden deck but this should be checked for its structural adequacy. No budget was assigned in the cost estimate. We recommend performing a load rating only and limiting the loading to the platform if required.
14. The missing nuts should be replaced on the seats located in Row D in Section FF and Row L in Section GG. A total of two nuts are required.

East Stadium Recommendations and Estimate Items:

Item Number:

1. The windows should be cleaned, scraped and painted to protect the wood from additional wood rot. Any wood rot should be repaired. The wood trim and soffits should be cleaned, scraped and painted. The rainwater leaders at Pavilions 1 and 3 should be repaired with positive drainage away from the structure. The internal gutters should be cleaned to ensure proper drainage. The leaks in both roofs should be repaired. Any wood rot in the ceilings should be repaired the repainted. The estimated repair quantities are indicated on the engineering cost estimate.

2. Heavy concrete abrasions or spalls should be chipped and repaired. Moderate deck abrasions should be chipped out and recoated. The entire concrete deck should be water blasted to remove the existing wore coating system and a new coating system applied. The construction joints and column lines 5, 10, 17, and 22 should be engineered with a new joint. The spalls on the undersides of the deck should be repaired. The joints at the lower walls at the deck slab should be sealed to prevent leaks. The floor drains should be repaired to allow for proper drainage of the deck. All soffit spalls should be chipped out and repaired. The associated estimated quantities are indicated on the engineering cost estimate.
3. The brick mortar joint cracks should be repointed and monitored for future cracking after the stadium drainage is repaired.
4. The cracks in the brick walls at the construction joints along column lines 5, 17, and 22 should be repaired. An engineered expansion joint should be designed in install in the brick wall at each joint to prevent future cracking.
5. The cracks on the wingwalls should be repointed with damaged bricks replaced. These cracks should be monitored to see if new cracks develop due to settlement once the drainage system has been repaired.
6. No action required.
7. The shelf angles should be replaced with new galvanized shelf angles and properly detailed to allow movement. Wood rot should be repaired.
8. The metal frames and gates should be removed. New galvanized frames should be installed. The damaged bricks should be installed with proper detailing to prevent water infiltration.
9. The wood trim should be reattached.
10. The concrete spalls should be repaired to the concrete moment frames. Estimated quantities are indicated on the engineering cost estimate. Additional quantities will be added to the estimate to account for unseen conditions.
11. The brick mortar joints should be cleaned at repointed.
12. No action required.

Brick Pavilions and Arcade Recommendations and Estimate Items:

Item Number:

1. The arch cracks particularly at the keystone should be repaired. For cost estimating, the typical repairs will involve drilling in dowels through the cracks.
2. The cracks will be repaired as mentioned. The gate hinges should be repairs with epoxy. The wood rot at the soffit should be repaired and the entire soffit should be painted.
3. The missing brick should be replaced.
4. The arch cracks in Pavilion No. 6 should be repaired at outlined in item 1 above.
5. These cracks should be repointed. We also recommend future investigation into the nature of these cracks. Access on the inside of the wall could be obtained. The nature of these cracks could be caused by settlement.
6. The brick stairs adjacent Pavilion No. 6 require repointing.

Surrounding Areas Recommendations and Estimate Items:

Item Number:

1. The missing bricks at the south end retaining wall at the west stadium should be replaced. Also a watertight cap should be detailed for the top of the retaining wall.

2. The south stairs along the West Stadium should be repointed and caulked to prevent water infiltration. A new permanent step meeting current code should replace the wooden step.
3. The base plates on the stadium sign should be repaired. The entire sign should be sandblasted and repainted. Any damaged or corroded welded connections should be repaired prior to repainting.

We thank you for the opportunity to perform this investigation. As we stated, some of the repairs are structural in nature and will require more attention that are outside the scope of this report. We will be more than happy to assist you in the engineering for these repairs as required. Please note we have included an engineering cost estimate for the anticipated repairs associated with our finding and recommendations. Should you have any questions or need additional information please call.

Sincerely,

McPHERSON DESIGN GROUP, p.c.

Timothy D. Calhoun, P.E.

CC: West Stadium Photographs
Each Stadium Photographs
Arcade, Pavilion, and Surrounding Areas Photographs
Key Plan Sketches SK-1 and SK-2

WEST STADIUM
PHOTOGRAPHS

Photograph No. 1
Typical Light Abrasion to Concrete Deck and wear to the coating system

Photograph No. 2
Typical Moderate Abrasion to Concrete Deck requiring chipping away of loose aggregate

Photograph No. 3
Horizontal crack at base of concrete deck. Notice temperature crack diagonal to wall corner.

Photograph No. 4
Full view of wall cracks at southwest corner of stadium. Cracks extend up from deck to top of wall and follow temperature crack in deck

Photograph No. 5
Crack at southwest corner. Notice brick has moved away opening at a result of thermal expansion

Photograph No. 6
Typical extensive wood rot on press box posts
(Note: 4x4 posts added later for strengthening)

Photograph No. 7
Steel shoring on wooden press box.

Photograph No. 8
Typical knee brace at each end of press box shoring
(Note: wood knee bracing added later for strengthening)

Photograph No. 9
Typical connection at knee brace consists of tack welds to 2 inch flatbar

Photograph No. 10
Crack in inside of upper wall and spall in construction joint at column line 13

Photograph No. 11
Crack on outside of wall at column line 13. Notice loose brick just above light fixture.

Photograph No. 12
Crack in upper inside wall at column line 19 construction joint

Photograph No. 13
Enlarged photo of crack in upper wall at column line 19 construction joint

Photograph No. 14
Large crack and brick movement in lower walls at column line 19 due to thermal expansion at construction joint

Photograph No. 15
Crack in lower walls at column line 13 due to thermal expansion at construction joint.
Past crack was repaired

Photograph No. 16
Typical brick mortar joints requiring re-pointing

Photograph No. 17
Thermal expansion of upper walls have “punched” through the wall at Pavilion No. 6

Photograph No. 18
The thermal expansion shown in Photograph 17 has created a full height vertical crack at the wall intersections

Photograph No. 19 CMU infill wall at column line 22 has tilted outward from frame

Photograph No. 20
Leaking joint where lower inner wall abuts deck. The transfer beam spanning between the frames supports the inner brick wall. Notice severe spalling of corbel due to water.

Photograph No. 21
Extensive spalling at concrete corbel

Photograph No. 22
Concrete spalling of bearing seats at construction joints at column lines 7, 14 and 19.

Photograph No. 23
Close up of spalling at bearing seats. Notice exposed main reinforcement due to lack of concrete cover

Photograph No. 24
Transverse temperature cracks leaking. This is the concrete ramp between the two lower walls.

Photograph No. 25
Leaking joint at lower brick wall and supporting concrete beam

Photograph No. 26
Soil erosion at inner concrete wall which support outer brick wall

Photograph No. 27
Typical soil erosion at inner wall

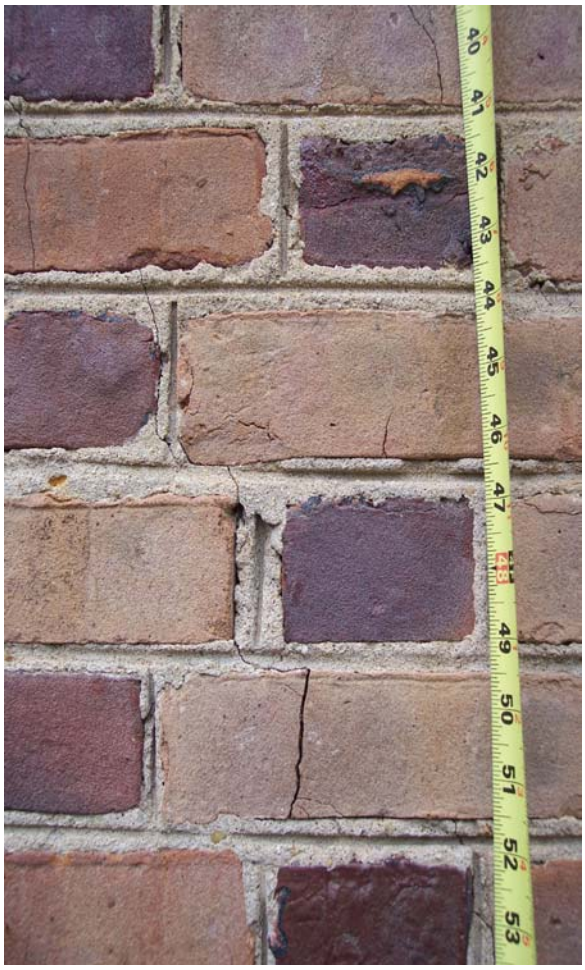
Photograph No. 28
Brick wall at south end of stadium. This wall supports the outside stairs as seen in Photograph No. 6 in the Arcade, Pavilion Photograph section

Photograph No. 29
Timber framing supporting the maintenance area

EAST STADIUM
PHOTOGRAPHS

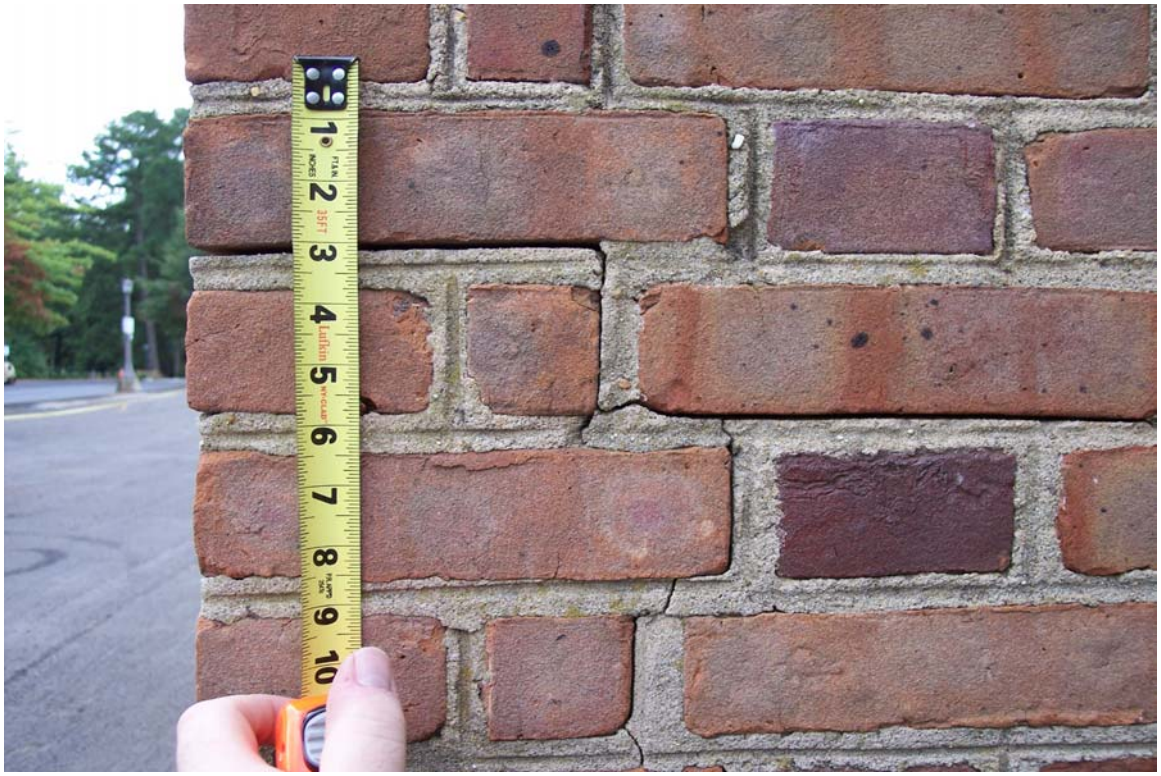
Photograph No. 1
Typical paint scale chipping at windows

Photograph No. 2
Hairline vertical crack in brick mortar joints and through bricks



Photograph No.3
Cracks extend through the bricks and follow the mortar joints

Photograph No. 4
Full view of vertical wall crack at the ticket office along column line 15. Notice presence of ponding water adjacent wall at crack. These are in close vicinity of the roof drain and rain water leader. This is typical on the opposite side

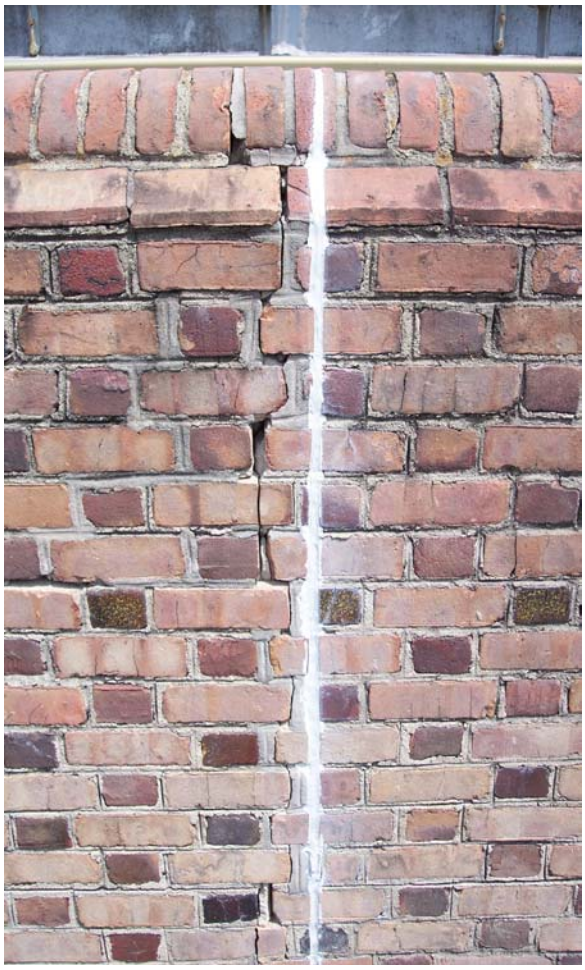


Photograph No. 5
Enlarged view of corner crack. This crack extends full height of the wall and stair steps at the mortar joints

Photograph No. 6
Vertical crack at brick key in arch. The key has dropped down. Crack continues up vertically to the soffit

Photograph No. 7
Vertical crack propagates through bricks and mortar joints. This crack is located at the Pavilion No. 3 interior wall where it intersects with the east stadium wall. Notice water stains on the wall due to roof leak. This crack is most likely produced by thermal expansion

Photograph No. 8
Large thermal crack in lower brick wall



Photograph No. 9
Large crack at construction joint due to thermal expansion

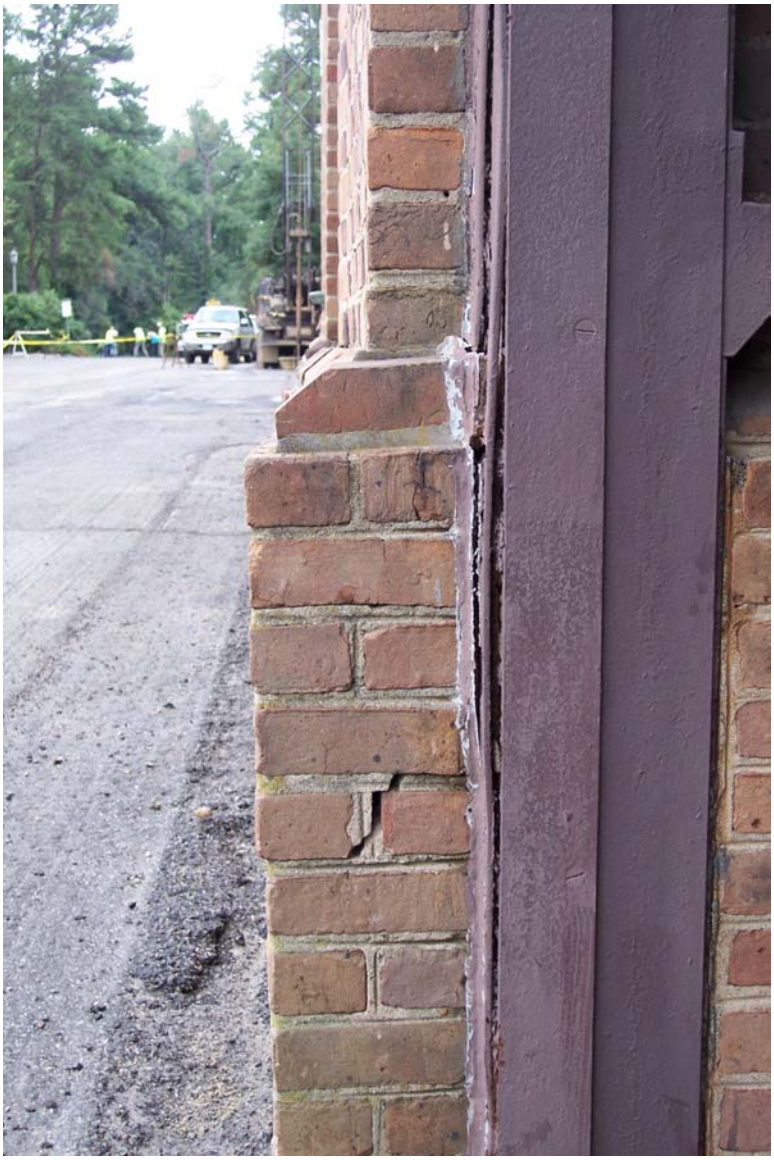
Photograph No. 10
Typical foundation settlement crack on all four brick wingwalls. Underside of deck has erosion due to water infiltration from clogged floor drains

Photograph No. 11
Washout and erosion under at lower wall directly under floor drains

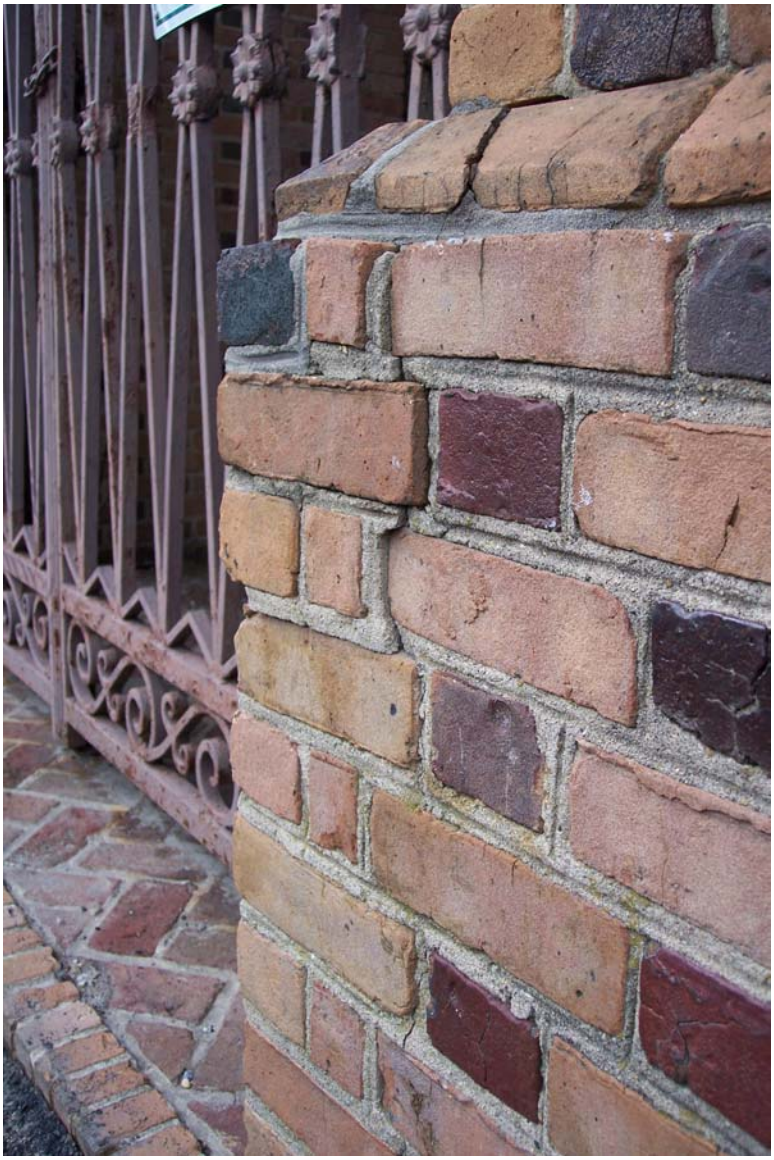
Photograph No. 12
Typical erosion/washout of interior wingwall

Photograph No. 13
Severely rusted shelf angle

Photograph No. 14
Rusted shelf angle. Notice expansion of steel due to erosion has broken out previously repaired mortar joint



Photograph No. 15
Steel frames at main gates have rusted and corroded. As a result the rusting steel is exerting pressure on the outside brick. Notice the crack and movement of brick wall. Caulking has failed also allowing water to inter the joint. This condition is also worsened by freeze thaw action in the winter



Photograph No. 16
This picture shows movement of brick at steel frame due to steel corrosion

Photograph No. 17
Wood nailers have pulled out of brick. The wood trim could pose a safety hazard should it fall.

Photograph No. 18
Bearing spalls along top of concrete frame at column line 22

Photograph No. 19
Bearing spalls along top of concrete frame at column line 17

Photograph No. 20
Interior bearing spalls along top of concrete frame at column line 17 inside the locker room. Notice no water stains are present

Photograph No. 21
Bearing spalls located at frame at column line 10. This frame is located in the boiler room. Notice condensation from the heat and humidity in the room is creating rust stains from reinforcement

Photograph No. 20
Severe bearing spalls located a column line 5. This joint appears to have a leak as seen by water stains on the side of the beam

ARCADE, PAVILION AND SURROUNDING AREAS PHOTOGRAPHS

Photograph No. 1
Typical vertical crack at brick keystone

Photograph No. 2
Typical stairstep mortar joint crack at bottom of brick arch

Photograph No. 3
Vertical crack propagates through the brick and mortar joints. This crack goes completely through the wall. SW corner of Pavilion No. 6

Photograph No. 4
Retaining wall located at SW corner of West Stadium. Missing coping bricks on top of wall allows water to penetrate down wall between cavity

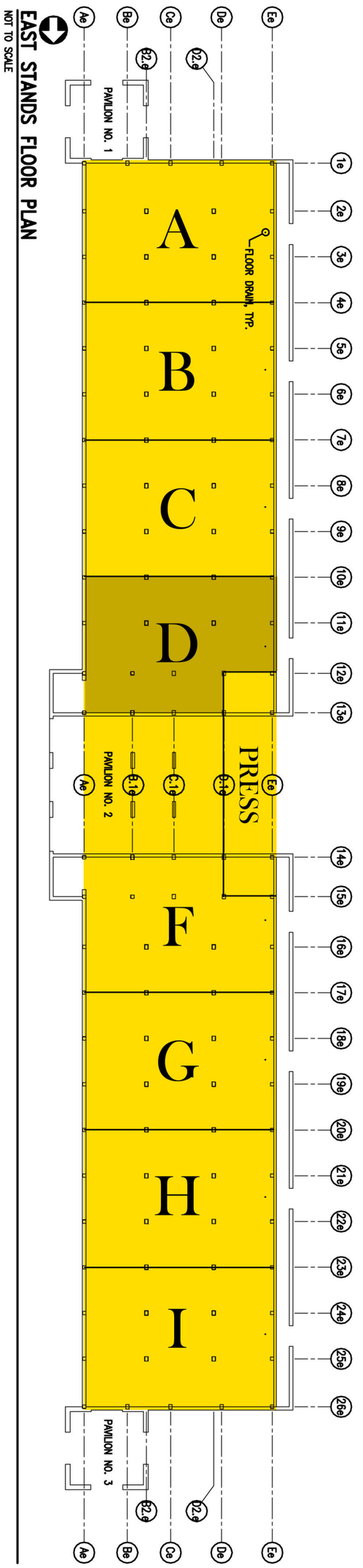
Photograph No. 5
Same retaining wall. Missing brick

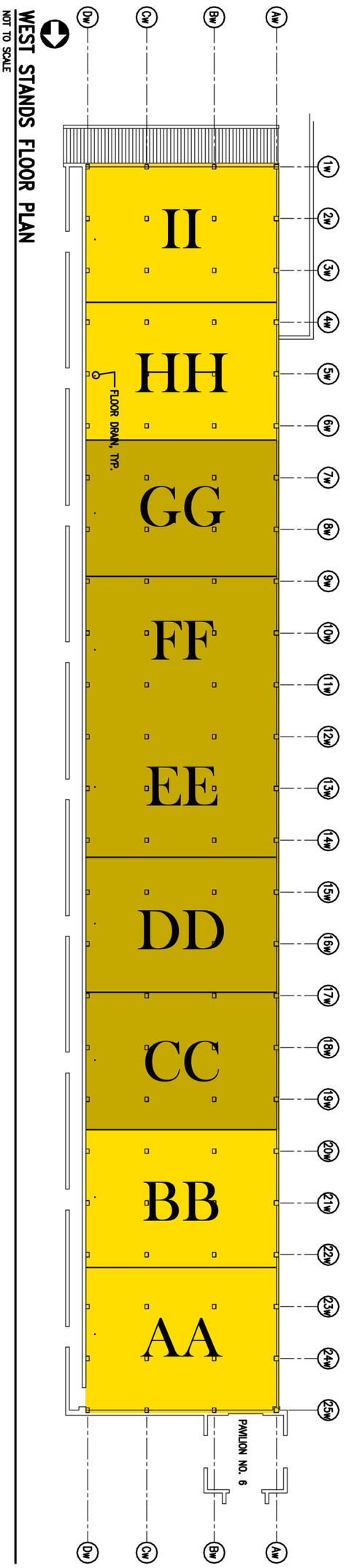
Photograph No. 6
Stairs at south end of West Stadium have cracks or opened joints. Notice the wall to the left is acting as a retaining wall to the open pit below

Photograph No. 7
Additional wood step installed to reduce riser height. No signs of settlement were present

Photograph No. 8
Crack in stair retaining wall

Photograph No. 9
Missing anchor bolt at stadium sign base plate. Also notice the rusting at the bracing connections





SK-1

ZABLE STADIUM
WILLIAMSBURG, VA

DATE:	CAD:	ENG:	JOB #:
8/12/05	SBQ	TDC	25144

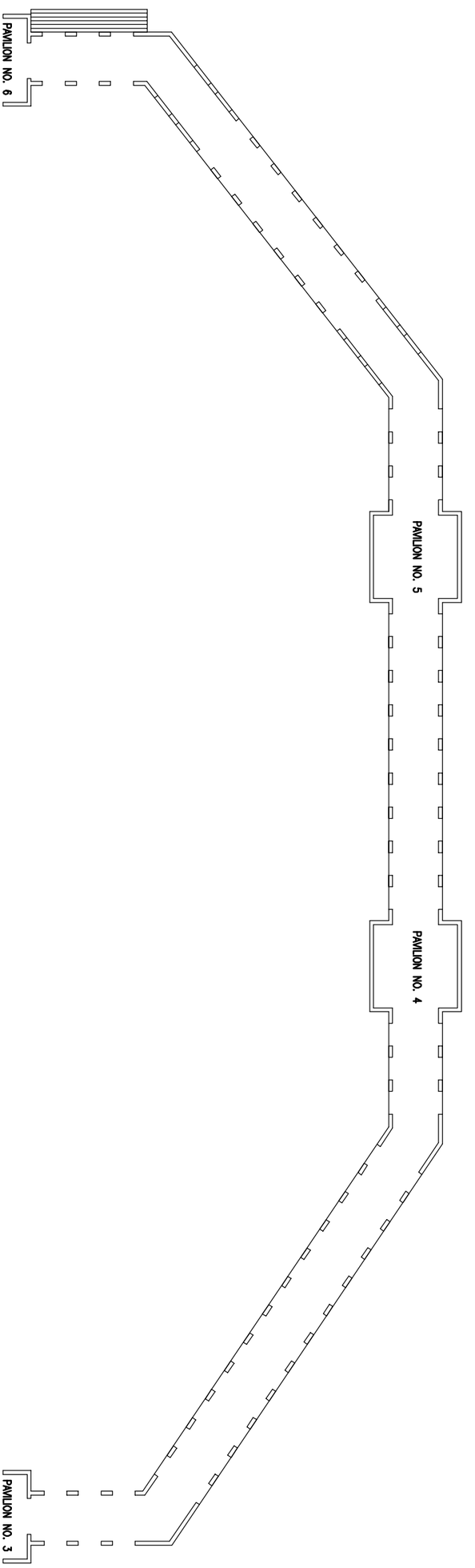
FLOOR PLANS

McPHERSON DESIGN GROUP p.c.
STRUCTURAL ENGINEERS

6371 Center Drive, Suite 100
Norfolk, Virginia 23502-4102
Phone (757) 965-2000
Facsimile (757) 965-2001
www.McPhersonDesignGroup.com

ARCADE FLOOR PLAN

NOT TO SCALE



SK-2

ZABLE STADIUM
WILLIAMSBURG, VA

DATE:	CAD:	ENG:	JOB #:
8/12/05	SBQ	TDC	25144

FLOOR PLANS

McPHERSON DESIGN GROUP p.c.
STRUCTURAL ENGINEERS

6371 Center Drive, Suite 100
Norfolk, Virginia 23502-4102
Phone (757) 965-2000
Facsimile (757) 965-2001
www.McPhersonDesignGroup.com

LINE	DESCRIPTION	BARE COST				MARKED-UP COST			
		MAT.	LABOR	EQUIP.	TOTAL	MAT.	LABOR	EQUIP.	TOTAL
	Summary								
	General Conditions ($10,000 per month for 6 months)		$ 42,000	$ 18,000	$ 60,000	$ -	$ 67,613	$ 24,608	$ 92,221
	Stadium Repairs	$ 301,697	$ 241,530	$ 29,042	$ 572,269	$ 412,445	$ 388,824	$ 39,703	$ 840,973
	TOTAL ESTIMATE	$ 301,697	$ 283,530	$ 47,042	$ 632,269	$ 412,445	$ 456,438	$ 64,310	**$ 933,193**
	Add 10% Contingency								$ 93,319
	TOTAL ENGINEERING COST ESTIMATE								**$ 1,026,513**
	COMPOSITE MARK-UP, PRIME	1.367	1.610	1.367					
	COMPOSITE MARK-UP, SUB	1.507	1.775	1.507					

QUAN.	CSI NUMBER	DESCRIPTION	U.M.	UNIT COST MAT.	UNIT COST LABOR	UNIT COST EQUIP.	EXTENDED COST MAT.	EXTENDED COST LABOR	EXTENDED COST EQUIP.
		West Stadium Repairs							
20		Deck Soffit Spall Repairs (incl. chipping and repair materail)	SF	$ 10.00	$ 25.00	$ 1.25	$200.00	$500.00	$25.00
50		Top Deck Spall Repairs (incl. chipping and repair materail)	SF	$ 10.00	$ 20.00	$ 1.25	$500.00	$1,000.00	$62.50
6000		Top Deck Moderate Abrasion Repairs (includes chipping)	SF	$ -	$ 2.25	$ 0.05	$0.00	$13,500.00	$300.00
3		Repair Corbals at column line 2,3, and 4	EA	$ 250.00	$ 500.00	$ 50.00	$750.00	$1,500.00	$150.00
23000		Pressure Wash Top Deck to remove existing overlay	SF	$ -	$ 0.50	$ 0.06	$0.00	$11,500.00	$1,380.00
23000		Recoat Top Deck	SF	$ 5.50	$ 0.50	$ 0.05	$126,500.00	$11,500.00	$1,150.00
300		Repair concrete spalls in moment frames	SF	$ 15.00	$ 25.00	$ 1.25	$4,500.00	$7,500.00	$375.00
2		Repair floor drain pipes	EA	$ 50.00	$ 150.00		$100.00	$300.00	$0.00
7		Unclog floor drains	EA	$ -	$ 50.00	$ -	$0.00	$350.00	$0.00
300		Remove existing construction joint seals (clean out joint)	LF	$ -	$ 25.00	$ 1.00	$0.00	$7,500.00	$300.00
300		Install new construction joint elastomeric seals	LF	$ 15.00	$ 50.00	$ 0.75	$4,500.00	$15,000.00	$225.00
60		Repair cracked brick joints at construction joints (install new expansion joint)	LF	$ 10.00	$ 60.00	$ 2.25	$600.00	$3,600.00	$135.00
20		Replace existing broken brick with new	SF	$ 10.00	$ 15.00	$ -	$200.00	$300.00	$0.00
1100		Repoint Walls (includes repairs to cracked walls)	SF	$ 3.50	$ 6.50	$ -	$3,850.00	$7,150.00	$0.00
30		Provide expansion sawcut expansion joint at Pavilion No. 6	LF	$ 10.00	$ 80.00	$ 0.50	$300.00	$2,400.00	$15.00
2		Add brace to tilted CMU infill wall at column line 22 for support	EA	$ 50.00	$ 50.00	$ -	$100.00	$100.00	$0.00
9		Remove existing flagpole bases and install new galvanized plates and bolts	EA	$ 100.00	$ 150.00	$ -	$900.00	$1,350.00	$0.00
310		Add sealant to lower brick walls at deck joint to prevent leakage	LF	$ 5.00	$ 7.50	$ 0.05	$1,550.00	$2,325.00	$15.50
2		Replace missing bolts on seats	EA	$ 1.50	$ 10.00	$ -	$3.00	$20.00	$0.00
4		Manlift Rental	WK	$ -	$ -	$ 800.00	$0.00	$0.00	$3,200.00
		West Stadium Press Box Repairs							
15		Install new 6x6 Posts (incl. demolition & new bolts)	EA	$ 7.25	$ 25.00	$ -	$108.75	$375.00	$0.00
1		Install new Steel Cross Bracing (incl. fabrication and installation)	LOT	$ 1,520.00	$ 950.00	$ 250.00	$1,520.00	$950.00	$250.00
2		Install new Steel Knee Braces (incl. demo)	EA	$ 450.00	$ 420.00	$ 100.00	$900.00	$840.00	$200.00
12		Replace 12 sheets of Plywood sheathing (incl. demo)	EA	$ 30.00	$ 25.00	$ -	$360.00	$300.00	$0.00
4		Replace 12 sheets of Plywood sheathing (incl. demo)	EA	$ 30.00	$ 25.00	$ -	$120.00	$100.00	$0.00
6		Replace misc framing members	EA	$ 10.00	$ 15.00	$ -	$60.00	$90.00	$0.00
		East Stadium Repairs							
30		Deck Soffit Spall Repairs (incl. chipping and repair materail)	SF	$ 10.00	$ 25.00	$ 1.25	$ 300.00	$ 750.00	$ 37.50
150		Top Deck Spall Repairs (incl. chipping and repair materail)	SF	$ 10.00	$ 20.00	$ 1.25	$ 1,500.00	$ 3,000.00	$ 187.50
8000		Top Deck Moderate Abrasion Repairs (includes chipping)	SF	$ -	$ 2.25	$ 0.05	$ -	$ 18,000.00	$ 400.00

QUAN.	CSI NUMBER	DESCRIPTION	U.M.	UNIT COST MAT.	UNIT COST LABOR	UNIT COST EQUIP.	EXTENDED COST MAT.	EXTENDED COST LABOR	EXTENDED COST EQUIP.
21000		Pressure Wash Top Deck to remove existing overlay	SF	$ -	$ 0.50	$ 0.06	$ -	$ 10,500.00	$ 1,260.00
21000		Recoat Top Deck	SF	$ 5.50	$ 0.50	$ -	$ 115,500.00	$ 10,500.00	$ -
100		Repair concrete spalls in moment frames	SF	$ 15.00	$ 25.00	$ 1.25	$ 1,500.00	$ 2,500.00	$ 125.00
1		Repair floor drain pipes	EA	$ 50.00	$ 150.00	$ -	$ 50.00	$ 150.00	$ -
5		Unclog floor drains	EA	$ -	$ 50.00	$ -	$ -	$ 250.00	$ -
400		Remove existing construction joint seals (clean out joint)	LF	$ -	$ 25.00	$ 1.00	$ -	$ 10,000.00	$ 400.00
400		Install new construction joint elastomeric seals	LF	$ 15.00	$ 50.00	$ 0.75	$ 6,000.00	$ 20,000.00	$ 300.00
60		Repair cracked brick joints at construction joints (install new expansion joint)	LF	$ 10.00	$ 60.00	$ 2.25	$ 600.00	$ 3,600.00	$ 135.00
50		Replace existing broken brick with new	SF	$ 10.00	$ 15.00	$ -	$ 500.00	$ 750.00	$ -
1700		Repoint Walls (includes repairs to cracked walls)	SF	$ 3.50	$ 6.50	$ -	$ 5,950.00	$ 11,050.00	$ -
280		Add sealant to lower brick walls at deck joint to prevent leakage	LF	$ 5.00	$ 7.50	$ 0.05	$ 1,400.00	$ 2,100.00	$ 14.00
4		Scaffolding Rental (incl. erection and dismantle)	WK	$ -	$ 100.00	$ 500.00	$ -	$ 400.00	$ 2,000.00
6		Manlift Rental	WK	$ -	$ -	$ 800.00	$ -	$ -	$ 4,800.00
22		Paint Windows (incl. scraping, and powerwash)	EA	$ 15.00	$ 80.00	$ -	$ 330.00	$ 1,760.00	$ -
800		Paint Soffit (incl. scraping,and powerwash)	LF	$ 1.50	$ 6.75	$ -	$ 1,200.00	$ 5,400.00	$ -
2		Repair rain water leaders and clean out gutters	EA	$ 25.00	$ 50.00	$ -	$ 50.00	$ 100.00	$ -
2		Repair roof leaks in Pavilions 1 and 3	EA	$ 100.00	$ 75.00	$ -	$ 200.00	$ 150.00	$ -
7		New shelf angles (incl. removing, reinstalling brick, and joint sealant)	EA	$ 200.00	$ 160.00	$ -	$ 1,400.00	$ 1,120.00	$ -
10		Misc. repairs to wood rot at windows, doors soffits etc.	EA	$ 15.00	$ 25.00	$ -	$ 150.00	$ 250.00	$ -
5		Remove/Reinstall metal gates at front entrance (incl. brick repair and new joints)	EA	$ 500.00	$ 600.00	$ 125.00	$ 2,500.00	$ 3,000.00	$ 625.00
5		Sandblast existing gate, install new galvanized framing and repaint	EA	$ 900.00	$ 1,200.00	$ 125.00	$ 4,500.00	$ 6,000.00	$ 625.00
		Arcade, Pavilion, and Surrounding Areas							
10		Repair arch cracks (incl installing rebar and repointing joints)	EA	$ 75.00	$ 150.00	$ -	$ 750.00	$ 1,500.00	$ -
1		Repair brick keystone at Pavilion No. 6 (include installing rebar and shoring)	EA	$ 100.00	$ 200.00	$ -	$ 100.00	$ 200.00	$ -
2		Repair gate hinges	EA	$ 35.00	$ 25.00	$ -	$ 70.00	$ 50.00	$ -
10		Repair soffit wood rot	EA	$ 15.00	$ 25.00	$ -	$ 150.00	$ 250.00	$ -
20		Replace damage brick with new	SF	$ 10.00	$ 15.00	$ -	$ 200.00	$ 300.00	$ -
800		Repoint brick at stairs	SF	$ 3.50	$ 6.50	$ -	$ 2,800.00	$ 5,200.00	$ -
100		Seal joints and stairs	LF	$ 1.25	$ 3.50	$ -	$ 125.00	$ 350.00	$ -
1		Install new brick step at south end stair of west stadium	EA	$ 300.00	$ 500.00	$ 50.00	$ 300.00	$ 500.00	$ 50.00
4		Repair baseplate on stadium sign	EA	$ 50.00	$ 100.00	$ -	$ 200.00	$ 400.00	$ -
1		Sandblast and paint sign	LOT	$ 5,000.00	$ 14,000.00	$ 500.00	$ 5,000.00	$ 14,000.00	$ 500.00
10		Repair welded connections on sign	EA	$ 75.00	$ 160.00	$ 50.00	$ 750.00	$ 1,600.00	$ 500.00
4		Manlift Rental	WK	$ -	$ -	$ 800.00	$ -	$ -	$ 3,200.00
6		Scaffolding Rental (incl. erection and dismantle)	WK	$ -	$ 100.00	$ 500.00	$ -	$ 600.00	$ 3,000.00

QUAN.	CSI NUMBER	DESCRIPTION	U.M.	UNIT COST MAT.	UNIT COST LABOR	UNIT COST EQUIP.	EXTENDED COST MAT.	EXTENDED COST LABOR	EXTENDED COST EQUIP.
		General Site							
4		Dumpster rental/Removal	Wk.			$ 600.00	$ -	$ -	$ 2,400.00
6		Cleanup, continuous per day during repairs	MO		$ 2,200.00	$ 100.00	$ -	$ 13,200.00	$ 600.00
1		Final Cleanup at end of project	EA		$ 2,000.00	$ 100.00	$ -	$ 2,000.00	$ 100.00
		Subtotal					$ 301,696.75	$ 241,530.00	$ 29,042.00
Crew		Rate							
1 Foreman		$40.00							
1 Carpertar		$25.00							
1 Operator		$30.00							
Average Houly Crew Rat		$95.00							

		DESCRIPTION	U.M.	%			MULTIPLIER		
				MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.
							-	-	-
		PRIME WORK:							
		TAX/INSURANCE		7.0%	26.0%	7.0%	1.070	1.260	1.070
		OVERHEAD		15.0%	15.0%	15.0%	1.150	1.150	1.150
		PROFIT		10.0%	10.0%	10.0%	1.100	1.100	1.100
		BOND		1.0%	1.0%	1.0%	1.010	1.010	1.010
		COMPOSITE MULTPLIER FOR PRIME WORK -->					1.367	1.610	1.367
		SUB-CONTRACT WORK:							
		TAX/INSURANCE		7.0%	26.0%	7.0%	1.070	1.260	1.070
		OVERHEAD		15.0%	15.0%	15.0%	1.150	1.150	1.150
		PROFIT		10.0%	10.0%	10.0%	1.100	1.100	1.100
		PRIME OVERHEAD		5.0%	5.0%	5.0%	1.050	1.050	1.050
		PRIME PROFIT		5.0%	5.0%	5.0%	1.050	1.050	1.050
		BOND		1.0%	1.0%	1.0%	1.010	1.010	1.010
		COMPOSITE MULTPLIER FOR SUB-CONTRACTOR WORK -->					1.507	1.775	1.507